

**Bangor University**

## **DOCTOR OF PHILOSOPHY**

### **Perceptions of Justice and Equity in Energy Infrastructure**

**Stakeholder perspectives on electricity transmission infrastructure planning. Where does power lie?**

Iveson, Kieron

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# Perceptions of Justice and Equity in Energy Infrastructure

Stakeholder perspectives on electricity transmission  
infrastructure planning. Where does power lie?

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July 2018

Submitted in fulfilment of the requirements of Bangor University for the degree of  
Doctor of Philosophy in Management Studies

## **Abstract**

In response to the twin challenges of climate change and energy security, the UK government's energy strategy includes new nuclear power stations. Large scale centralised generation of this type requires transmission infrastructure to carry electricity from where it is generated to where it is needed. This transmission infrastructure, specifically High Voltage Overhead Transmission Lines (HVOTLs), has met with significant community opposition, even where a new nuclear power station appears to be generally accepted. Acceptance of one major development and rejection of another suggests something other than NIMBYism.

This research seeks to unpick perceptions of new electricity transmission infrastructure within the context of whole energy system change. The research comprises a case study of Anglesey, the location of the Wylfa Newydd nuclear power station development and associated transmission infrastructure. The research examines stakeholder perceptions of the planning of this new transmission infrastructure and the consultation which forms a part of that process. The research extends common notions of energy justice to include fairness in siting infrastructure and is informed by Lukes' Radical View of Power and Rawls' Justice as Fairness.

Twenty two in depth semi-structured interviews were carried out with a range of stakeholders including community members, political representatives and electricity industry representatives.

From the interviews the following themes were identified: trust; NIMBYism; sense of place; remember Tryweryn; the white elephant in the room; it's all about the jobs; consultation, representation and democracy; together but separate / separate but together; comparison, conflation and confusion.

The fairness of the process by which transmission infrastructure is determined is called into question. Strategic decisions are made upstream of any community engagement. National Grid are viewed as a force from outside imposing their preferred solution. Power for decision making rests firmly outside the community which hosts the infrastructure and stakeholders report that they have little influence on the outcome of the development. While development may be seen as fair or just on a utilitarian basis and on a wider geographical scale, it falls short of more recent formulations of justice. Earlier deliberative engagement with community members may alleviate dissent and contribute to fairer and more just development.

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## Abbreviations

AAWT	Anglesey Against Wind Turbines
AC	Alternating Current
AEI	Anglesey Energy Island
AONB	Area of Outstanding Natural Beauty
BEIS	Department for Business, Energy and Industrial Strategy
CEGB	Central Electricity Generating Board
CEO	Chief Executive Officer
CHP	Combined Heat and Power
CPRW	Campaign for Protection of Rural Wales
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
DfEE	Department for Education and Employment
DfES	Department for Education and Skills
DNO	Distribution Network Operator
DUKES	Digest of UK Energy Statistics
EMF	Electro-magnetic field
ENSG	Electricity Networks Strategy Group
ENTSO-E	European Network of Transmission System Operators for Electricity
EPR	European Pressurised Reactor
GDA	Generic Design Assessment
GDP	Gross Domestic Product
GW	gigawatt (1000 MW = 1000,000 kW)
GWh	gigawatt hour
HDI	Human Development Index
HVDC	High Voltage Direct Current
HVOTL	High Voltage Overhead Transmission Line
IACC	Isle of Anglesey County Council
IEA	International Energy Agency
IPC	Infrastructure Planning Commission
IPCC	Intergovernmental Panel on Climate Change
kW	kilowatt
MP	Member of Parliament
Mtoe	Mega-tonnes of Oil Equivalent
MW	megawatt (1000kW)

NEA	Nuclear Energy Agency
NEF	New Economics Foundation
NIMBY	Not In My Back Yard
OECD	Organisation for Economic Co-operation and Development
Ofgem	Office of Gas and Electricity Markets
PAWB	People Against Wylfa B /
PINS	The Planning Inspectorate
QDAS	Qualitative Data Analysis Software
TAN	Technical advice note
TEV	Total Environmental Value
TPES	Total Primary Energy Supply
TSO	Transmission System Operator
TWh	terrawatt hour
UDHR	United Nations Universal Declaration of Human Rights
UK ABWR	UK Advanced Boiling Water Reactor
UK	United Kingdom
UKERC	UK Energy Research Council
US EIA	United States Energy Information Administration
US EPA	United States Environmental Protection Agency
VIP	Visual Impact Provision
WAM	Welsh Assembly Member
WAMSR	Waste Annihilating Molten Salt Reactor

# **Chapter 1. Introduction**

## **1.1 Context**

Future UK energy policy is predicated on the twin drivers of climate change and energy security (DECC 2016). Future energy scenarios predict reduction in fossil fuel use, combined with increased demand for electricity (National Grid 2015b). This demand is to be met by a combination of sources, to include new nuclear power stations as well as by a combination of other renewable or low-carbon energy generation, such as wind turbines. As well as a changing energy generation mix, with reduced dependence on fossil fuels, there will also be greater connectivity with different regions of generation, including between countries.

As new large scale electricity generation capacity is created in order to meet our future needs for a secure and low carbon electricity supply, this must be integrated into the national electricity grid. This necessarily means new transmission and distribution infrastructure. While research has been carried out into perceptions of new nuclear power generation (e.g. OECD/NEA 2010; Pidgeon et al. 2008; K. Parkhill et al. 2013; Butler et al. 2011) and perceptions of wind turbines (e.g. Devine-Wright 2005), for example, there has been little research carried out into perceptions of the transmission infrastructure which connects all this together, particularly within the context of whole energy system change. While new transmission infrastructure is essential, it is also contested, with protests against routing of High Voltage Overhead Transmission Lines (HVOTLs) (e.g. Wyn-Williams 2015a).

Energy security is rooted in fairness. Climate change is also rooted in justice and fairness, with potential impacts being felt differently by different peoples. New energy infrastructure within the UK is subject to planning controls and has obligations of public consultation. But with little understanding of the electricity infrastructure, both physically and in terms of organisation of the business, it can be questioned how fair any interaction or consultancy with the public or any other stakeholders can be.

The research examines the nature of planning for high voltage electricity transmission infrastructure. It extends the idea of energy justice, which is conventionally considered in terms of equitable provision of energy (electricity in this case), to consider the fairness of the infrastructure which accompanies electricity generation and which links electricity generation with consumption.

Siting of nuclear generation is generally coastal, typically away from large centres of population, and often in areas with limited other economic opportunity. Coastal locations also favour other sorts of low-carbon generation, such as offshore wind-turbines, marine current turbines and

tidal lagoons, as well as being sites of potential landfall for undersea interconnectors. This confluence of new generation can be viewed as an opportunity for economic development. Both the area of West Cumbria which hosts the Sellafield nuclear site and proposed new nuclear development, Moorside<sup>1</sup>, and Anglesey the location of Wylfa nuclear power station and its successor, Wylfa Newydd, have sought to develop this opportunity, branding as Cumbria Energy Coast and Anglesey Energy Island, respectively.

This research attempts to unpick perceptions of new electricity transmission infrastructure within the context of whole energy system change. In order to do this a case study approach has been adopted.

Anglesey is placed to be a nexus of new electricity generation and transmission. It is the site of a new build nuclear power station (Wylfa Newydd), a proposed 300MW biomass plant, offshore wind and proposed interconnects to Ireland and to Scotland. Bringing together the expertise and physical resources for electricity generation and transmission in one location can be viewed as an economic opportunity for the region, bringing both jobs and investment to a region of relatively low opportunity. This can be seen in the Anglesey Energy Island initiative with the region seeking to position itself as a leading area of expertise in a low carbon economy (BBC 2016; Horizon Nuclear Power 2016; Isle of Anglesey County Council 2016b)

Preliminary research indicated that although there are objections to Wylfa Newydd, acceptance is reasonably widespread. However in the face of this acceptance of the new generation capacity on Anglesey there also appeared to be widespread opposition to proposed HVOTLs which would accompany the development of the new power station. Local newspapers carried articles describing the objections and local politicians have declared their opposition to overhead transmission lines (Wyn-Williams 2015b; Wyn-Williams 2016). Acceptance of the new nuclear power station coupled with contestation of the accompanying transmission infrastructure suggests something more nuanced than simple NIMBYism.

The research examines stakeholder perceptions of electricity transmission infrastructure planning specifically in Anglesey and North Gwynedd in response to the new nuclear power station development, Wylfa Newydd, in North Anglesey. Thus this research comprises a case study in an area where new electricity infrastructure is contested, and where this infrastructure

---

<sup>1</sup> NuGeneration Ltd (NuGen) was established as a joint venture between GDF Suez and Iberdrola. It has acquired land at Sellafield, Cumbria, and is intending to build up to 3.6GWe new capacity. Nugen has named its project Moorside. In early 2014, Toshiba confirmed that it was acquiring all of Iberdrola's 50 per cent stake plus 10 per cent from GDF Suez, which will remain as operator. The deal completed in June. As the majority owner of reactor provider Westinghouse, Toshiba plans to build three AP1000 reactors at Moorside, with the first unit expected to be operational by 2025 (Nuclear AMRC 2016)

is required in response to development of new nuclear and other potential low carbon generation.

## **1.2 Aims and Objectives**

With this background of development and local dissent this research seeks to establish whether new energy infrastructure can reasonably be considered just or fair.

In doing this there are three interrelated ideas that guide the research. These are the social contract, justice and power. The social contract is a notional contract which seeks to explain how citizens come to be governed. Briefly, it is the idea that a citizen, in order to obtain certain rights or benefits, such as protection from enemies, must notionally give up some other rights, such as the right to behave any way they please. In application to energy infrastructure this contract can be seen as allowing the government or its agents to provide the benefits of a national energy supply in exchange for some loss of for example, landscape amenity. Justice has a long history from ideas of retribution to more modern conceptions of justice as fairness (Rawls 2001). In this context the research will bring to bear different notions of justice and explore energy justice in terms of justice as fairness. Power has many definitions and meanings. For the purpose of this research Lukes' model of three faces of power (Lukes, 2005) is used as an aid to discussion.

The research seeks to determine stakeholders' perceptions of the planning of new transmission infrastructure and of the consultation that forms part of this process. It seeks to determine the following:

Is there more to the dissent surrounding electricity transmission infrastructure than simple NIMBYism?

Who has power in determining transmission infrastructure? Are stakeholders truly represented? Who *should* control infrastructure development?

Is the process by which new infrastructure is determined fair? If so, why? If not, why not?

Should those affected by the new infrastructure be prepared to give up some things in exchange for the benefits it brings?

In order to address the above, the research will also explore more general perceptions of electricity transmission infrastructure planning. These include perceptions of what the planning process actually is, who is involved and when, as well as whom the process serves. Similarly, the research seeks to explore how various stakeholders perceive the consultation process, from

what the process is, the purpose of consultation, possible outcomes, how it is linked to the planning process, and how consultation for one infrastructure project relates to other infrastructure. This also links to questions of strategy and where stakeholders see responsibility for overall strategy as residing.

The research adopts an open but guided form in order to elicit information beyond the bounds of simple question and answer, whilst keeping the central themes of justice, power and the social contract to the fore.

Using the planning process as a framework, the contribution of this research will be to explore perceptions of transmission infrastructure, including notions of fairness both of the process of siting infrastructure and of the infrastructure itself. There has been little research done on public perceptions of transmission infrastructure in the context of whole energy system change. This research will fill some of that gap. The research will examine different stakeholder perspectives and so, if there are any differences in understanding, recommendations can be made which could reconcile or attenuate these differences, particularly in the planning or consultation process.

### **1.3 Thesis Outline**

This thesis consists of a further five chapters. Chapter 2 present places this research in the context of current debates surrounding energy infrastructure and infrastructure development. It describes UK Energy policy, the structure of the UK electricity industry and the planning process for large electricity infrastructure. It introduces the overarching theoretical framework of Energy Justice which underpins this research and seeks to extend it to include energy infrastructure. Chapter 3 presents the specific case used for the study, that of Anglesey, North Wales. Chapter 4 presents the methodological approach adopted and the methods used for carrying out the research, and how the methods used assists in achieving this aim. Chapter 5 presents the results of the research and Chapter 6 discusses these findings with respect to the aims of the research.

## Chapter 2. Literature Review

### 2.1 Introduction

This chapter presents the context of the research. The chapter begins with an overview of climate change and energy security as driving factor behind UK energy policy. It describes the structure of the UK electricity industry, the likely development of new infrastructure and the planning system for implementation of new electricity transmission infrastructure. It then introduces the idea of environmental justice, and argues that this can be extended to include justice with respect to all aspects of energy infrastructure. Rawls' view of justice as fairness is selected as an appropriate model with which to consider the fairness or otherwise of new energy infrastructure.

### 2.2 Climate change

The Fifth Assessment Report from the IPCC states that warming of the climate system is unequivocal

*“Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased” (IPCC 2013, p.2)*

As well as observing that the climate has changed, in attributing the cause of change the report goes on to state that

*“It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century” (IPCC 2013, p.15)*

The previous assessment report (IPCC 2007) stated that it was *very likely* that most of the observed increase in global average temperature could be attributed to man-made greenhouse gas emissions. In other words, the basic finding that there is global warming and that it largely man made remains, but is now more certain.

Despite this apparent scientific certainty climate change remains a subject of disagreement for a number of reasons (see Hulme 2009). Scientific knowledge is based upon weight of evidence and likelihood of truth. It is inherently uncertain, with competing viewpoints, which are considered and balanced over time in order to reach a consensus. The science of climate change involves predicting possible futures from multiple uncertainties. Truths are expressed with levels of certainty or confidence. However people are poor at judging uncertainty.



### 2.2.1 Risk of Climate Change

According to the classical model of rational choice, the *rational actor* chooses what options to pursue by assessing the probability of each possible outcome, weighing the utility from each and combining these two assessments (Gilovich and Griffin 2002). The Moser Report, states that *“something like one adult in five [in England] is not functionally literate and far more people have problems with numeracy”* (Moser 1999, p.1). A government report based on the most recent data available (DfES 2003) suggests that *“23.8 million adults (75% of the adult population of working age) in England had numeracy skills below the level of a good pass at GCSE.”* It estimates that *“6.8 million adults lack functional numeracy”* (the basic level of skill required to get by in life), which is equated to the level of numeracy expected of 9 – 11 year olds (Great Britain 2009, p.7). While numeracy in particular is acknowledged as a *“deeply contested and notoriously slippery concept”* (Coben 2003), the government recognises an economic and social cost of poor literacy and numeracy and has strategies in place to combat both. In England this is through the Skills For Life strategy (DfEE 2001). Similar strategies have been introduced by the Scottish Executive (Young et al. 2001) and by the Welsh Assembly (Wales 2002).

Given these levels of numeracy, it follows that a large proportion of the adult population cannot understand the complexity of probabilities and mathematics associated with the rational choice model of risk assessment.

According to Tversky and Kahneman (1974), people rely on a number of heuristic principles to reduce the complexity of risk assessment to simpler judgmental operation. In general, these heuristics are useful but sometimes they lead to severe systematic errors.

They identify three heuristics used in making judgements under uncertainty: *representativeness*, *availability* and *adjustment and anchoring*, and describe the biases stemming from these heuristics. The essential point is that we use shortcuts when making intuitive judgements of risk, and that this leads us to errors of judgement or misunderstandings of risk. Our judgement is flawed and biased; we rely on stereotypes or templates when making judgements, regardless of underlying probability; we are swayed by information that is vivid, well publicised or recent, or that can be easily retrieved; we start with a reference point and then adjust it insufficiently when making a conclusion.

Tversky and Kahneman (1974, p.1130) also note that

*“reliance on heuristics and the prevalence of biases are not restricted to laymen. Experienced researchers are prone to the same biases – when they think intuitively”.*

Gilovich and Griffin (2002, p.15) acknowledge several critiques of the heuristics and biases idea and but nevertheless accept that

*“the [heuristics model] has weathered its various critiques and remains a vigorous and still developing perspective on human judgement.”*

Whatever the mechanisms underlying risk assessment, it is clear that risk assessment is subject to biases. When considering the risk of siting a new waste incinerator, public opinion will be swayed by readily recalled images of belching smokestacks far more than by the scientific assertion that the air leaving a modern incinerator is actually cleaner than that going in (Porteous 2001). The inability to objectively assess scientific information means that people are susceptible to the sort of ‘Bad Science’ that Ben Goldacre (2008) rails against. Goldacre (2008, chap.14) traces the MRSA scare to the repeated reporting of the findings of an unqualified microbiologist conducting experiments in a garden shed. He also traces the recent MMR vaccination scare - largely isolated to Great Britain - to a single misreported and badly written scientific paper (2008, chap.15). These stories become *available*, and in their ubiquity the drama of the story far outweighs any rational evaluation. The effect of the initial dramatic storyline will also eclipse that of any subsequent amendment or retraction - if the research is later discredited, for instance. While these cases can be attributed to negligent, ignorant or misguided reporting, scientific ignorance can also be deliberately exploited.

Michaels (2008) shows how industries have deliberately sought to create doubt about the risks of a product so that they may continue to profit from it. He documents how literature has been manipulated and how scientific uncertainty can be exaggerated or manufactured. As a cigarette executive perhaps unwisely committed to paper:

*“Doubt is our product since it is the best means of competing with the ‘body of fact’ that exists in the minds of the general public. It is also the means of establishing a controversy” (quoted in Michaels 2008, p.x)*

The science behind climate change is subject to the same tactics. There is a strong global consensus that anthropogenic climate change is a fact and that a precautionary approach is the most sensible i.e. we should act to control fossil fuel emissions. Even if it is not correct, the consolation prize of this action would be a more energy-efficient global economy and a cleaner environment (Michaels 2008, pp.196–202). However, according to an ExxonMobil memo entitled “*Global Climate Science Communications Action Plan*”,

*“[v]ictory will be achieved when ... average citizens ‘understand’ (recognise) uncertainties in climate science; recognition of uncertainties becomes part of the conventional wisdom.” (quoted in Michaels 2008, p.198)*

The important point is that this concerted and deliberate manipulation makes reasonable evaluation of risk almost impossible, particularly for the layman. It is the *doubt* itself that becomes available. This doubt in turn may render acceptance of policies predicated on a relative certainty of anthropogenic climate change and its effects difficult to accept.

### **2.2.2 Valuing Climate Change**

Even having accepted the orthodoxy of climate change, opinion may still differ in how we place a value on intervention or otherwise. The Stern Review, which forms an important foundation of UK energy and climate change policy, states that

*“the benefits of strong, early action considerably outweigh the costs”*  
(Stern 2006, p.i)

Stern attempts to perform a cost-benefit analysis for climate change, - the cost of reducing emissions with benefit of doing so. However Stern has been criticised for placing too much value on future generations at the expense of current or near generations. In his cost-benefit analysis Stern applied a near-zero (0.1%) time-discount rate combined with a per capita growth rate of 1.3% to give a social discount rate of 1.4%, where a more conventional range would be 3 - 6%. The review also adopted a relatively high estimate for the social cost of carbon. Using a similar cost-benefit analysis others may place different emphasis, choose different values, and come to different conclusions. The Copenhagen Consensus Centre for example, determined that given a constrained budget that intervening on climate change was not the best way of advancing global welfare, and that resources would be better directed elsewhere. They sought to maximise welfare today in the belief that future generations will be richer than the current generation and therefore better able to cope with climate change. As well as the arguments within mainstream economics about the cost of climate change in terms of damage and who should bear this cost, there is a further argument that climate change cannot be about the number of percentage points lost from GDP, but about the *rights* of future generations. Even when trying to put a price on loss, the use of GDP as a measure can be contested, as it does not capture many of the things that we consider important, such as natural capital or aesthetics. In attempting to estimate a Total Environmental Value (TEV) of environmental assets the TEV could be considered thus:

$$TEV = Use\ Value + Option\ Value + Existence\ Value$$

where *Use Value* represents the practical use to which the asset may be put, *Option Value* represents the value we place on the asset *now* with respect to some *future* exploitation or value, and the *Existence Value* represents a value we place on an asset as it is without considering any use for it. Clearly there are difficulties in placing reliable estimates on these values, but *option* and *existence* values placed on environmental assets often far exceed their *use* value (Griffiths and Wall 2001, pp.228–229), showing a strong tendency towards preservation rather than exploitation.

More radical analyses, such as those offered by ecological economics, challenge the whole welfare economics framework of the Stern report, arguing that loss or change to the world cannot be compensated for by money, but represents an absolute and irretrievable loss which cannot be measured by conventional means. Under this reasoning one cannot simply put a price on loss for future generations. (Hulme 2009, chap.4).

Compounding the controversy about the economics of climate change, there is uncertainty surrounding the consequences of climate change and how these consequences can be compared around the globe, both in terms of current generations and in development for future generations..

The Brundtland Report (1987) defines sustainable development as

*“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”*

*(World Commission on Environment and Development 1987, chap.2 para 1)*

Development since the war has focussed on economic growth with the underlying premise that social goals are achieved through raising global living standards. One measure of human development is given by the Human Development Index (HDI) which is a composite of life expectancy, income and education indices. Moran et al (Moran et al. 2008) determine that only one of ninety-three countries surveyed met their criteria for sustainable development, namely an HDI of less than 0.8 and a per capita ecological footprint less than the globally available biocapacity per person. They also found that, in higher income countries, an improvement in HDI comes at a disproportionately large increase in ecological footprint.

Accepting differing opinions on how climate change may be subject to economic analysis or whether this is even appropriate at all, we may consider climate change in terms of rights.

The United Nations Universal Declaration of Human Rights (UDHR) (UN General Assembly 1948) Article 3 states that:

*“Everyone has the right to life, liberty and security of person”*

Article 28 states that

*“Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized”.*

It can be argued that, especially for smaller island nations which may be threatened with inundation perhaps, climate change threatens both of these stated fundamental rights; this is the position adopted by Greenpeace (2009). But given the rights of the minority not to be affected by or bear the brunt of climate change, the question shifts to who is responsible and who should therefore take action or bear the cost of mitigation. Should responsibility be borne by individuals or should it be borne systemically? In seeking rights for all and just solutions to climate change we could choose a market based solution by commodifying carbon, and allowing the right to pollute to be traded globally, but this it could be argued prolongs the sort of unsustainable consumption which has caused the problems in the first place. A more just solution is put forward in Contraction and Convergence, whereby at a future date all people have an equal right to emissions at a certain level and all countries have the same per capita allowance. In order to meet the per capita targets, nations would be allowed to trade allowances, with higher emitting nations paying lower emitting nations. A further solution lies in personal transformation, reducing rampant consumerism and opting for a simpler life and seeking well-being in terms of happiness rather than in terms of material wealth. The New Economics Foundation (NEF 2009), for example, advocate moving beyond simple measures of GNP and bringing measures of well-being into national accounts. The Happy Planet Index (NEF 2006) seeks to show the extent to which countries produce long, happy and sustainable lives for the people that live in them.

Conflicting messages with respect to climate change and the contested nature of science, economics and beliefs surrounding climate change mean that the narrative surrounding climate change can be driven in any direction. The *deficit* model of science communication presumes that if the public are resistant to scientific messages (about climate change) then it is because they lack sufficient information, and that by providing more information the rational public will reach the desired conclusion. However, this notion of rational actors has already been indicated as inadequate for scientific or risk evaluation. Stories about climate change are actively shaped by newspapers and other media according to the editorial bias or belief of that organisation. Newer media such as those enabled by the internet fragment and dilute the authority of traditional institutions, meaning it is difficult to find a single authoritative voice. Messages about

climate change are framed according to a world view and reframed to take into account ideologies or norms or even audience preferences. Risk is not absolute but is a cultural phenomenon and we all perceive risk differently, thus have different notions about what is *dangerous* for example with respect to climate change. These perceptions of risk are also subject to social amplification or attenuation.

Climate has been subject to many frames, including as a development issue or as an economic issue. These frames serve to emphasise certain elements of the issue while de-emphasising others. Climate change was indisputably framed as a matter of international security in 2007 when the UN Security Council held a debate on the security implications of climate change. The debate was convened by the UK Government, who held the presidential chair at the time. Margaret Beckett, the then UK Foreign Secretary, justified the meeting because climate change was security issue not in the narrow national sense but about *“our collective security in a fragile and increasingly interdependent world”* (UN Security Council 2007). Although not all countries saw the Security Council as an appropriate forum, with some wishing to frame climate change as a sustainable *development* issue, albeit with security implications (Hulme 2009, chap.9; UN Security Council 2007; UN Security Council 2011; UN General Assembly 2009). The use of the UN Security Council and General Assembly as the forums for this debate frames climate change as a matter to be governed by nation states through international agreement, and through mechanisms such as the Kyoto Protocol.

### 2.3 Energy security

Having framed climate change as a matter of international security, we now consider security of energy. The International Energy Agency (IEA) defines Energy Security as *“the uninterrupted availability of energy sources at an affordable price”* (International Energy Agency 2013). Energy security therefore encompasses both the idea that energy should be available but that also it can be accessed - both physically and financially.

The need for energy is relentless. At a basic level, access to modern energy services is crucial to human well-being and an essential part of human development. Energy is essential for the provision of clean water, sanitation and healthcare; for the production and distribution of food. It is essential for the provision of light and heating, for transport and communication. Worldwide, 1.3 billion people lack access to electricity and around twice this number do not have access to clean or efficient cooking fuels, relying instead on burning wood or animal dung (IEA 2013). Energy is a *critical enabler* and access is regarded as key indicator of living standards. As such, *Sustainable Energy for All* is a key development aim for the United Nations, with three linked objectives: universal energy access, renewable energy and energy efficiency (United Nations 2013).

Energy goes beyond the provision of what could be regarded as the basics for development. Developed nations are increasingly dependent on reliable and secure electricity supplies for economic growth and prosperity, whether this is through manufacturing, telecommunications or other infrastructure. Modern life depends on a secure supply of energy.

When calculating energy use, for a given country or region the International Energy Agency (IEA) defines energy use, or Total Primary Energy Supply (TPES) as

$$\begin{aligned} & \text{production of fuels} + \text{inputs from other sources} + \text{imports} - \text{exports} \\ & - \text{international marine bunkers} + \text{stock changes} \end{aligned}$$

For the world total, international marine and aviation bunkers are not deducted.

Between 1973 and 2011, the world total TPES has more than doubled, from just over 6109 Mtoe to over 13113 Mtoe (International Energy Agency 2103). This energy is predominantly supplied from fossil fuels, with over 80% being supplied from oil, natural gas, coal or peat.

Electricity generation has increased by an even larger proportion than energy use. Over the same period global electricity generation has increased from 6 115 TWh to 22 126 TWh, with around 68% of global electricity generation from oil, natural gas, coal or peat (International Energy Agency 2103). 2011 world coal consumption was 904 Mtoe, world oil consumption 3 633 Mtoe and natural gas consumption 1 380 Mtoe.

In 2012, the UK used around 360,000 GWh (360TWh) of electricity – this represents around 1.5% of 2011 global electricity use. Breaking this electricity generation down according to fuel used, 19% of this electricity was generated using nuclear fuel, 28% from gas and 39% from coal. This use of coal shows a marked increase on previous years, which can be attributed to high gas prices and relatively low coal prices for the period. 11.3% of electricity was generated from renewables and 2.5% from other sources, including oil and pumped storage. The vast majority of electricity (over 90%) was generated by Major Power Producers.

The US Energy Information Administration (US EIA) predicts that world energy consumption will continue to rise, by over 50% between 2010 and 2040, and that it will continue to be dominated by fossil fuels, with still almost 80% of global energy used provided by this sector (US EIA 2013). However, they also predict that there will be adequate oil to meet future demands for at least the next 25 years. They also provide a less conservative but acknowledged also less reliable estimate based on current consumption and known reserves of about 50 years. Reserves of fossil fuels are not static. Reserves can be used, new discoveries can be made and the economics of extraction can change, either because the market price for the fuel changes, making formerly uneconomic fields economic to develop, or because extraction techniques improve allowing access to previously unobtainable reserves. This can be seen with the global reserves of shale oil and shale gas. The US EIA estimates that shale oil adds approximately 11% to recoverable oil reserves and that shale gas adds about 47% to global gas reserves. According to an analysis by Pricewaterhouse Coopers (PwC) *“shale oil has the potential to reshape the global economy, increasing energy security, independence and affordability in the long term.”* (PwC 2013, p.15). They also comment however that this must be balanced with broader global and local environmental objectives. However, while the reserves may be larger than previously thought, this does not change the fact that the resources are still finite and thus will by definition mean that if they continue to be exploited they will be depleted. Scarcity may mean that an increase in price changes what can be economically extracted but also will mean that the fossil fuels may become unaffordable for many people. The fact that current *reserves* may change, even increasing, but that *resources* are finite is a central principle of *Limits to Growth* (Meadows et al. 2004). *Limits to Growth* models future scenarios which demonstrate that unchecked growth and ecological ‘overshoot’ i.e. exceeding the planet’s carrying capacity could lead to collapse of society.

In terms of energy security, reserves have to be present and affordable. This also means that the reserves have to be located conveniently both geographically and politically. Crude oil production is dominated by a few countries in regions such as those in the Middle East or the



Russian Federation, for example (International Energy Agency (IEA) 2013). Even the United States which produces some 9% of the world total of crude oil is a net importer and so must rely on other regions to satisfy its demands. The Russian Federation is also a dominant exporter of natural gas. This position can lead to fragility of supply to neighbouring countries. In 2009 the Russian gas company Gazprom cut off supplies of gas to neighbouring Ukraine following a dispute. Other countries reported a loss of gas pressure in their pipelines and resorted to compensating by using their reserves or increasing supply from elsewhere. Hundreds of thousands of homes were left without heating. At the time Russia was responsible for around 25% of EU gas supply with several countries entirely dependent on Russia for gas (for example BBC 2009b; BBC 2009a).

Jared Diamond considers five main factors to have contributed to previous societal collapse: environmental damage, climate change, hostile neighbours, friendly trade partners and finally, how a society responds to its environmental problems (Diamond 2006). It is clear that from the example of Ukraine that any society which is largely dependent on a neighbour for energy and which falls foul of that neighbour for whatever reason can be very vulnerable.

EU Energy Security policy is linked to a market-based approach with the EU seeking open markets for trading of energy across international borders, with increased interconnectivity facilitating this. Although the EU has strategies related to sectors of the energy industry, such as types of generation, the UK House of Lords has been critical of EU policy, expressing alarm at the level of *“uncertainty, complacency and inertia about how an affordable supply of secure and low carbon energy will be provided in the European Union (EU)”* (House of Lords 2013).

## **2.4 Electricity in the UK**

The twin drivers of anthropogenic climate change and energy security inform current UK energy policy. The common thread between energy and climate change policy was clearly indicated in the UK by a common governmental department, the Department for Energy and Climate Change (DECC). DECC was created in 2008 but became a part of the Department for Business, Energy and Industrial Strategy (BEIS) in 2016. The abolishment of DECC can have been viewed as either a removal of climate change as a frontline government policy or a statement that climate change is now so well integrated into government policy that it no longer requires a specific department (for example Macartney 2016).

Leaving climate change to one side for the moment, in the longer term conventional fossil fuel and non-renewable resources will by definition become scarcer. Fossil fuels as finite resources will necessarily run out or become uneconomic. Global reserves may become depleted or the

available reserves may be located in undesirable or inconvenient places. This could be either in terms of difficulty of extraction or in terms of political boundaries. It could be argued that energy security alone is sufficient reason for the UK to radically reshape its electricity generation and distribution.

Much of the UK's existing inventory of nuclear power stations is coming to the end of its life and will be decommissioned. Coal, while providing a relatively secure fuel resource with large reserves, is also a relatively 'dirty' fuel, emitting twice as much CO<sub>2</sub> as natural gas. Largely because of the high emissions, coal fired power stations are also being decommissioned. The coal-fired power station, Drax is credited as being the largest single emitter of CO<sub>2</sub> in the UK. Drax is now converting to become a predominantly biomass fuelled generator, burning sustainable biomass in place of coal. However as the source of wood pulp biomass is largely imported from the United States it could be argued just how sustainable and also how energy secure this is. Drax is also the site of a planned Carbon Capture and Storage scheme, which will mitigate CO<sub>2</sub> emissions.

Future energy scenarios predict an increased use of electricity for e.g. domestic heating and also for vehicles. As well as large scale transformation of the generation of electricity, the network which connects the electricity will be subject to substantial change.

The Climate Change Act 2008 established a legally binding target to reduce UK greenhouse gas emissions by at least 80% below base year (1990) levels by 2050. The Act introduced a series of legally binding carbon budgets which legislate for the maximum permitted greenhouse gas emissions by the UK in successive five year periods. Under this legislation, emissions must be reduced by 34% below base year levels by 2020 and by 50% by 2023-2027. The proposals on how to achieve this reduction in carbon emissions, to meet the carbon budgets and to transition to a low carbon economy is set out in the Carbon Plan (HM Government 2011b). The plan covers sectoral policies, such as the shift towards energy-efficient buildings, with low carbon heating, and low carbon transport through ultra-low carbon vehicles. The plan outlines a main future scenario and three additional scenarios for possible energy futures, recognising that they represent a starting point for achieving the carbon budgets. The core scenario proposes an energy supply which is a mix between nuclear (33GW), renewables (45GW) and fossil fuel with Carbon Capture and Storage (CSS) (28GW). This is accompanied by a large reduction in demand through adoption of energy efficient technologies, such as district heating and fuel cell vehicles. The three further scenarios adjust this mix by considering higher use of renewables, but even greater energy efficiency; higher use of CSS (with imported and shale gas for instance) and increased use of sustainable biomass; and higher use of nuclear with lesser energy efficiency.

### 2.4.1 Structure of UK Electricity Industry

Since privatisation in the latter part of the 20<sup>th</sup> century the UK electricity industry has operated as a regulated market. Full competition was introduced into the UK's electricity retail market in 1999, allowing consumers to choose their supplier.

The UK electricity industry can be defined in terms of four sectors: generation, transmission, distribution and supply.

**Generation** Generators are responsible for the production of electricity. This sector includes the power stations running on gas, coal, or nuclear fuels and also renewable generation such as from wind farms or hydro power. Electricity is generated and sold to meet demand.

**Transmission** The bulk supply of high voltage generated electricity from power stations to distribution supply points is the responsibility of the Transmission System Operator (TSO). The transmission system is owned and operated by the TSOs. There are currently four TSOs in the UK, with by far the largest both in terms of ownership of infrastructure and share of transmission being National Grid, which is responsible for the transmission network for England and Wales. National Grid is a private company limited by shares and one of the largest investor owned energy companies in the world. National Grid reported a regulated asset base of £38.8bn in 2015/2016 and an operating profit of £4bn. The TSOs are responsible for balancing supply of electricity with demand across their network, which can be on a minute by minute basis, or through longer term contracts. TSOs must manage generation output to make sure that it matches demand and that voltage and frequency are kept within acceptable limits.

**Distribution** The transport of electricity at a regional level to customers, domestic or commercial, with voltage reduced accordingly is carried out by the Distribution Network Operators (DNOs). Distributors must pay the TSOs for the right to connect to the TSOs' networks and for the use of that system to transport electricity. In turn they will receive payment from the suppliers for distributing electricity to customers.

**Supply** Suppliers buy electricity in bulk, either from the wholesale market or direct from generators, and supply to final customer using and paying for access to the transmission and distribution networks in order to do this.

While the transmission and distribution of electricity operate as regulated monopolies, the generation and supply of electricity operate as competitive markets. Although as companies may operate in more than one sector the true competitiveness of the markets may be called into question. National Grid do not own or operate any of the UK's electricity generation assets, or

electricity distribution infrastructure. They do not buy or sell electricity either in the electricity markets or direct to end consumers.

<b>Transmission System Operators</b>	
National Grid Electricity Transmission plc System Operator for Northern Ireland Ltd Scottish Hydro Electric Transmission plc Scottish Power Transmission plc	
<b>Distribution Network Operators</b>	<b>License Areas</b>
UK Power Networks	London, East England, South East England
Southern Electric Power Distribution	Southern England
Western Power Distribution	East Midlands, West Midlands, South Wales, South West England
Scottish Power Energy Networks	North Wales Merseyside and Cheshire, South Scotland
Electricity North West	North West England
Scottish Hydro Electric Power Distribution	North Scotland

**Table 2-1 UK Electricity Network Operators**

The electricity and gas markets in the UK are regulated by Ofgem. Ofgem sets a series of price controls for the companies that operate Britain's gas and electricity networks (Ofgem 2013b). There are separate price controls for transmission of high pressure gas and high voltage electricity (RIIO-T1); for distribution of lower pressure gas (RIIO-GD1), and for distribution of lower voltage electricity (RIIO-ED1). Within these mechanisms there is provision for investment in larger scale new infrastructure such as an undersea electricity cable linking Scotland to England and Wales, and for smaller innovation projects. The TSOs have a statutory obligation to develop the transmission network to meet national demands for electricity supply. This includes installation of new HVOTLs (High Voltage Overhead Transmission Lines) and substations, where existing assets cannot be upgraded to meet demand. DNOs have an obligation to connect any customer within their region and to maintain that connection. The DNOs cover fourteen licensed areas based on the geographical areas of the original pre-privatisation Electricity Boards. At present these fourteen licenses are held by six company groups. TSOs and DNOs are listed in Table 2-1 above.

The transmission and distribution networks will have to cope with a change in the generation mix of UK electricity, while maintaining capacity. Quite what this energy mix will be is still under discussion. In the shorter term this may be shift towards renewables and new nuclear plants, with gas still providing flexibility. The network must also account for increased interconnectivity

across Europe, with new interconnectors such as from wind generation in the Irish Sea and the proposed Greenwire infrastructure which connects onshore-wind generated electricity from central Ireland to the UK (GreenWire 2013). In the longer term it is envisaged that there will be a greater shift to electricity, and less reliance on immediate use fossil fuels - replacing gas in the home for heating for instance, and with a move towards electrification of vehicles, perhaps through use of hydrogen fuels cells.

For 2014, the Digest of UK Energy Statistics (DUKES) listed around 440 power stations in Great Britain with a capacity of 1GW or above, from Drax in Yorkshire at 3870 MW Drax to a hydro scheme at Nostie Bridge in Scotland of 1MW, giving a total generation capacity of around 81GW (see HM Government 2014). These power stations are operated by around 70 different companies. In addition there are unitemised smaller capacity power stations (using renewable resource, or combustible waste), CHP (Combined Heat and Power) plants and other auto-generators adding a further 12GW, along with interconnects to France, The Netherlands, Northern Ireland and the Irish Republic giving another 4.6GW.

The above serves to illustrate some of the size and complexity of electricity generation within the U.K. The national grid at the moment remains dominated by large scale centralised generation. Power stations such as Drax were situated close to the fuel resource they use to generate electricity. In the case of Drax, this meant the large coal fields of Yorkshire. Nuclear power stations in the UK are typically sited away from large centres of population and on the coast. Plants are sited both where population density does not exceed certain thresholds, and also where the growth of that population can be monitored and controlled, through use of land planning policies. Coastal locations are in part preferred because of access to large quantities of water for cooling (Health and Safety Executive, Nuclear Directorate 2008).

In trying to predict or plan for the future energy mix and requirements for electricity generation and distribution National Grid uses scenarios. These scenarios are subject to change over time. In 2014 National Grid used two scenarios: Slow Progression and Gone Green. These two scenarios reflect different levels of development in low carbon and renewable generation. They are purposefully different and one scenario is not considered more likely than the other. The Slow Progression scenario represents the case where development is comparatively slow, and although the carbon reduction target for 2020 is met, further targets are not. The Gone Green scenario reflects the case when environment targets are met, including 15% of all generation from renewable by 2020, and greenhouse gases meeting carbon budgets through to 2050. A previous scenario, Accelerated Growth, - which posited a greater development of technology - has been withdrawn. Under the Gone Green scenario, that is when the UK's environmental

targets are met, electricity use is predicted to increase (from 61GW peak demand in 2012 to 63GW in 2030) with the capacity increasing substantially (from 92GW in 2102 to 154GW in 2030) (National Grid 2013). In visualising possible energy futures for the UK a number of different electricity generation methods are considered. There is 'traditional' large centralised electricity generation offered by new nuclear build, extending the life of existing nuclear plants, or by natural gas fired power stations. To this mix can be added fossil fuel plants using Carbon Capture and Storage; possibly including shale gas and coal bed methane for example. Added to this potential mix are biomass generation, wind generation, either onshore or offshore – and wave and tidal generation. As well as this mix of larger scale centralised generation, smaller more decentralised generation must be considered, such as for solar PV, wind or hydro power. This diversity of supply, while potentially ensuring resilience, also creates complexity for the transmission infrastructure and supply management. Not only will the infrastructure have to connect the large potential variety of type and scale of generation, it must also allow the generation to be balanced and to meet demand. In the future Smart Grids could be deployed. Smart Grids are electricity networks which allow digital two-way communication within the transmission and distribution network. This communication allows information to be gathered for and about users of the grid – supplies and consumers. In turn this could permit improved management of the electricity network, such as through automated demand-side management for instance, such as turning off non-critical appliances at times of excess demand.

It is clear that future energy scenarios for the UK involve large changes to the role of electricity on the energy mix, to the methods of generation of electricity and transmission and distribution of electricity. This in turn means that the national grid is subject to substantial change, through installation of new capacity or upgrade of existing capacity. While Ofgem is responsible for capacity assessment and for providing funding for new infrastructure, it is the Transmission System Operators who are responsible for providing this infrastructure. National strategy for electricity networks is governed by the Electricity Networks Strategy Group (ENSG) jointly chaired by DECC and Ofgem. Given the (deliberate) disconnect between electricity suppliers and the transmission and distribution operators and the further layers of bureaucracy given by regulators and government departments it could be predicted that the public may have difficulty in understanding the roles of the different actors within the electricity industry. While suppliers may be familiar, from electricity bills for instance, network operators and generators will be less so. This is confirmed by Devine-Wright and Devine-Wright (2009), who find that members of the public have poor understanding of the working of the electricity network and only a vague idea of who was responsible for the national grid. Participants in the study expressed surprise, for

instance, that the national grid was owned by private companies rather than by the state. They showed a “noticeable absence of familiarity with distribution network operators” and further

*the workings of the network [were] largely unknown, but also ... the institutions responsible for management, operation and upgrade of the transmission and distribution network were invisible or unclear. (Devine-Wright and Devine-Wright 2009, p.365)*

Following from this lack of familiarity there is the likelihood that the public may conflate the roles of the energy supply companies to include that of distribution and transmission. Extensive recent publicity concerning energy prices in the UK and the return of fuel poverty to the political agenda may engender a lack of public trust in energy supply companies as rapacious profiteers and lead to lower levels of trust in other sectors of the electricity industry. In their study on public values, attitudes and acceptability within transformation of the UK energy sector, UKERC find that justice and fairness are important values. These values represent specific concerns which underlie perceptions of energy companies and government as untrustworthy (K. Parkhill et al. 2013). Energy companies are perceived to “operate in opaque ways” and in general the members of the public see the energy market as something akin to a monopoly, with little difference between energy companies in terms of either cost or service. Government is also regarded with suspicion and is seen as inconsistent.

Thus far we have examined the twin drivers of UK energy policy: climate change and energy security; we have briefly reviewed government energy policy; have outlined the structure of the UK electricity industry and have introduced energy system change, including to the transmission and distribution system.

While UKERC’s study (K. Parkhill et al. 2013) examines values, attitudes and acceptability of energy system change, they observe a lack of research in some related areas. These include in perceptions of decentralised energy systems, including distributed energy generation, district heating and electricity schemes and international interconnections. There is also a lack of understanding of the perception of energy transmission and distribution infrastructure, specifically in the context of whole energy system change. This includes, for example, pylons, transformers and sub-stations, and also international interconnections. Parkhill et al also identify a lack of research into the public perception of ownership of energy system infrastructure and what alternative models may provide.

When considering energy infrastructure, the electricity grid can be compared with other networks or infrastructure. The ‘hard’ infrastructure of the electricity network can be defined in terms of the physical networks necessary to generate, transmit and distribute electricity across

the nation. As previously stated this infrastructure is currently characterised by large centralised generation facilities, connected to the customers through a network of High Voltage and lower voltage transmission and distribution cables and substations. Generation is far more spatially concentrated than consumption. Conversely transmission and distribution are necessarily more diffuse. If we compare this type of network with ports for physical goods arriving and leaving the country, ports act as hubs from which all the connecting infrastructure radiate, as road or rail connections, to distribution centres or direct to customers. However unlike the road and rail network, members of the public have little reason to interact with the electricity network other than at the point of consumption. Roads, for example, are used regularly by most of the population. They have very obvious impacts on their users, facilitating journeys of all kinds. They also have a large physical presence with overt and obvious impacts such as noise, dust and other pollution. Aircraft, while lacking the physical networks of road or rail, are perhaps similarly engaged with through holidays or business, often in combination with the road and rail networks. A more diffuse physical network is that used for mobile telephony. Much of the network is invisible, in that beyond the radio masts, there is no physical link between the network and its consumers. So that, while the radio masts may offer a visual intrusion and there may be concerns about the harmful effects of radio signals, for instance, the physical network does not have a clear form for its connections.

#### **2.4.2 Energy Island or Coast or Hub**

If we consider centralised generation rather than small scale distributed generation of electricity, as with previous resources such as coal, there are geographical preferences in siting new low carbon electricity generation plants. New nuclear plants, for instance, are preferably located at or adjacent to existing nuclear facilities, which - as previously stated - are generally coastal. This means that nuclear power stations may be physically located close to large scale renewable energy generation, such as offshore wind; they may also be convenient for interconnects. These locations effectively act as hubs for electricity, bringing together several generation sources at a single point or area and then transmitting it on to the rest of the nation. Existing services such as roads and existing expertise combine to promote this hub. However, this density of generation requires physical transmission infrastructure such as more High Voltage Overhead Transmission Lines, with large parts of this infrastructure crossing, but not used by, the area which hosts it. This is the case for Wylfa nuclear power station on Anglesey, North Wales. Anglesey brings together the new nuclear build, Wylfa Newydd; offshore wind; a 300MW biomass plant; Irish interconnects, and is nearby to the Western interconnect from Scotland. Bringing together the expertise and physical resources for electricity generation and transmission in one location can



be viewed as an economic opportunity for the region, bringing both jobs and investment to a region of relatively low opportunity. This can be seen in the Anglesey Energy Island initiative and also in the similar branding of West Cumbria – the location of the Sellafield<sup>2</sup> nuclear site - as the Energy Coast, with both regions seeking to position themselves as leading areas of expertise in a low carbon economy.

However, while it can be seen that potential benefits such as jobs and supply chain income may be gained from the generation industry and co-located support industry it may not be so readily the case for the connecting infrastructure, particularly the HVOTLs of the transmission networks. These may be viewed as an imposition which carries an invisible product to distant consumers, with no benefit along the way. HVOTL and the supporting pylons can be considered to have a substantial visual impact and there are public concerns about EMF (Electro-Magnetic Field) effects on health and well-being. The conflict with areas of scenic beauty is recognised by provision of a fund within Ofgem's Price Control mechanism to underground existing lines within areas of outstanding natural beauty, national parks and scenic areas (Ofgem 2013a). On the other hand, the Technical Advice Note (TAN) which relates to land use considerations of renewable energy, TAN8, does not cover connections to the grid. The cost of undergrounding transmission lines is considerable and must be balanced against any perceived loss of amenity from the landscape.

## **2.5 NIMBYism**

Originating as an acronym for Not In My Back Yard, the term NIMBY dates from the 1980s but has developed rapidly from an acronym to a term in common parlance<sup>3</sup>. As a term to describe local opposition to the siting of development, NIMBYism may carry connotations of selfishness and parochialism and is often used with a pejorative tone, irrespective of the motivation for opposition (Burningham et al. 2006).

Writing in the context of urban development within the United States, Dear (1992) describes NIMBY as a term used to label the protectionist attitudes and oppositional tactics used by those facing an unwelcome or 'noxious' development within their neighbourhood. These developments include but are not limited to those providing social services such as prisons or

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<sup>2</sup> The Sellafield site is owned by the Nuclear Decommissioning Authority and operated by Sellafield Ltd, a wholly owned subsidiary. The site is complex, and includes nuclear decommissioning and nuclear fuel reprocessing. Calder Hall, the world's first commercial nuclear power station is located on the site. The Windscale nuclear power station site was integrated into Sellafield in 2008. Calder Hall ceased generating in 2003, Windscale in 1981. (Office for Nuclear Regulation 2017)

<sup>3</sup> Other related acronyms include LULU (locally unwanted land use); NIABY (not in anyone's backyard); NIMTOO (not in my term of office), BANANA (build absolutely nothing near anywhere near anyone), NOPE (not on planet Earth), and CAVE (citizens against virtually everything).

half-way houses or drug treatment centres, or waste facilities such as incinerators. While residents concede that such facilities are necessary they do not accept that they are necessary near their homes – (hence NIMBY). In this context principle objections to new developments are concerns over property values, personal security and loss of neighbourhood amenity. According to Dear, although the nature of protest may vary, a universal factor among NIMBY protests is one of proximity, with residents closer to an unwanted facility more likely to protest than those more distant. Other factors such as the nature of the development, the size and number of facilities, operating procedures and the reputation of the development or management organisation are also significant.

NIMBY protest should not be characterised as a simple protectionist stance however. Claims made by local protester may shift over the course of a dispute, as interactions proceed with developers and is influenced by solutions offered by those with power. Initially residents seek information rather than simply opposing. Opposition comes only later and as a reasonable reasoned response. NIMBY responses should not therefore be seen as individuals maximising their own interests, and NIMBYism is not an automatic reactive position.

NIMBYism may be seen as a rational economic response to development. An owner-occupied home is an unusual asset as it cannot be diversified among locations and because it is the only sizeable asset that most owners possess. Devaluation of property values following nearby development in uninsured risks of home ownership (Fischel 2001). But local resistance to developments is only partly economic in its relation to property prices; it is also non-economic and relates to protection of aesthetic values, the home and community (Lake 1993 cited in Burningham et al 2006).

Many developments will be to an extent predicated on a wider benefit to society. This idea of this wider benefit compared with a local harm can also be called into question. Taking the example of hazardous waste incineration, it could be argues that an incinerator benefits wider society by getting rid of waste, however this is just one solution and disputes about a particular local facility can hide other strategies such as reducing waste. Similarly, demand for deployment of renewable energy technology may be seen as a response to a business as usual approach from industry with the assumption that developers and Government are working in the national interest and that local interests are contrary to this. Locally unwanted developments may not represent an inherent societal need, but rather a constrained solution that privileges the economic 'need' (Wexler 1996 cited in Burningham et al 2006).

Much of the research on opposition to renewable energy technology deployment relates to opposition to wind farms. In general, objections to wind farms tend not to come from those who accept the technology in principle but are opposed to local projects. In this sense the objections are not strictly NIMBY. Furthermore, even if local concerns revolve around financial impacts such as decreases in house value or loss of tourism income, this does not mean that these are selfish or unreasonable complaints. Projects of this type tend to be planned first and acceptance requested subsequently. This *decide-announce-defend* model is problematic as it tends to offend or cause irritation among the community around the development. NIMBYism tends to be used as pejorative term and further, use of this shorthand may well not be accurate and may conceal or leave the cause of any objections unexplained. Casting opposition as NIMBYism may serve to vilify certain groups and favour others. NIMBYism can be used to dismiss protesters as selfish or ill-informed and in turn for community groups thus accused to reject the label. This type of characterisation sits at odds with notions of encouraged community participation in planning (McClymont and O'hare 2008).

The pejorative nature of NIMBYism has prompted some to recommend that the concept be abandoned, and that the concept be reconceived as place-protective actions, based in place attachment and place identity. Thus the negative image of NIMBYism is reconsidered as a positive emotional connection with home, a community or neighbourhood (Devine-Wright 2009b; Devine-Wright 2009a)

For a given development, differing levels of place attachment, and other factors such as education and length of residence, intersect with project factors such as positive or negative impacts, trust in the developer and procedural justice, and are found to have significant effects on the likely acceptance of the development (Devine-Wright 2012).

When considering possible community objections to renewable energy development Rural Community Network and Community Places, in Northern Ireland (2016)<sup>4</sup> among other measures recommend early and meaningful consultation keeping all stakeholders adequately informed; a shift away from adversarial planning towards a more discursive and participative approach, to reduce conflict and imbalances of power; plan-led rather than developer-led development; assessment and verification of supporting information to ensure trust in the planning decision-making process; guidelines for community engagement to encourage best practice; and to rethink the NIMBYism label, being careful not to dismiss what may be legitimate and real concerns. Indeed what may be labelled as NIMBY protest or conflict can ultimately result in

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<sup>4</sup> This work in turn draws on the work of Devine-Wright (e.g. Devine-Wright 2009b)

innovation and improvements to developments and to better decision making (Schively 2007; Hager and Haddad 2017, pp.9–11).

In many ways High Voltage Overhead Transmission Lines (HVOTLs), the subject of this research, represent a different type of development from other renewable energy or low-carbon energy projects. All large scale centralised generation such as nuclear or tidal requires transmission or distribution and HVOTLs are the principle means by which electricity generation developments transmit energy to the communities beyond the community which hosts the generator. Thus new transmission is directly linked to the provision of large scale low-carbon generation and as such links directly the wider societal good of helping to reduce climate change and to improve energy security. Unlike generators, which have a relatively limited physical bound, HVOTLs have a diffuse impact over a long corridor. In addition they may have larger localised impacts at points of transition such as from over-ground to underground or undersea. HVOTLs are also a development made in response to another development which may have already met with acceptance. But the transmission is a means to an end and of and in itself does not generate low-carbon electricity or provide local benefits, such as employment, that a generator may provide. When considered in isolation HVOTLs can be seen to have a high visual impact on the place they are sited, but with little tangible benefit for the community which hosts them.

## **2.6 Planning**

In common with other construction or land development, energy projects, whether for generation, transmission, distribution or storage of electricity, are subject to planning control. Thus in addition to engineering, project or financial planning which are part of any infrastructure development, permission to develop or controls on development must also be considered. Planning in this sense is a means by which the state retains control over development or use of land in the wider public interest.

Planning control is used to manage the development of land and buildings in order to both preserve heritage and to improve infrastructure upon which we depend. Most new buildings, major changes to existing buildings or to the local environment require consent from a planning authority (Planning Portal 2018a; Planning Portal 2018b).

In the United Kingdom, modern statutory planning can be traced back to the Town and Country Planning Act 1947. While existing use rights for land and property remained with the owners, with this Act the development rights for that land or property were ceded to the state. In this context, planning is control exercised by the state over land use and development through the agency of planning authorities by means of planning permissions or development consent.

Planning may therefore serve a political purpose reflecting the agendas of successive political administrations. In the decades since the Planning Act, planning has seen a shift in purpose from a strategic means to modernity and social reform of the post war period to one framed within the neo-liberal agenda where the state is rolled back in favour of the market. In this context, planning can be categorised as having an administrative role rather than one of broad strategy seen previously with planners responding to rather than shaping development markets (Blackman 1997; Johnston et al. 1997, pp.653–656; Tewdwr-Jones 2008; Heurkens et al. 2015).

While the central task of planners is to serve the interests of the public in cities, suburbs and the countryside, it can be questioned whether planners can know what is in the interest of the public or indeed whether there is a single unified public that can have an interest. Indeed what is portrayed as the public interest may in fact privilege the interests of the privileged (Fainstein and DeFilippis 2015, pp.11–12).

More recently planning has seen a shift in emphasis from simple permissions towards spatial planning, which goes beyond traditional land use planning and attempts to integrate land use development policies with other policies which influence the nature of places and their function. Spatial planning may also include policies which influence the need for development or impact on land use but which are not implemented solely through planning permissions (Planning Portal 2018c). Spatial planning can encompass land use planning, urban planning, and regional planning.

Devolution within the United Kingdom has led to a shift of planning power to the devolved administrations. All four countries (England, Wales, Scotland and Northern Ireland) have a planned planning system – that is, national and local planning policy is set out in formal development plans and decisions on development are made on the basis of these plans. Although the structure of the systems in each country is broadly similar they do differ in detail and England, Scotland, Northern Ireland and Wales each have their own primary planning legislation (Winter et al. 2016). The UK Government has an expressed desire to see planning decisions made at the lowest level possible. In general much of the planning system is administered and enforced by local planning authorities such as district councils or a National Park Authority. However, some aspects of planning are administered at a national level. In England the planning system as a whole is overseen by the Secretary of State for Communities and Local Government. In Wales this role is taken by the Welsh Government. As an executive agency of the Department for Communities and Local Government and also of the Welsh Government, the Planning Inspectorate for England and Wales plays a role in planning appeals, but more significantly for this research has a key role in determining planning matters related to Nationally Significant

Infrastructure (Department for Communities and Local Government 2015). Planning permission may come with obligations such as construction of additional infrastructure or of environmental impact assessment for large developments or developments of a nature likely to have significant environmental impacts.

A summary of key aspects of the planning regimes in England and Wales is provided in Table 2-2 below. Those of Scotland and Northern Ireland are beyond the scope of this research but Winter et al (2016) offers a useful summary of land use planning policy for all four countries with the United Kingdom.

It can be seen that planning operates at different scales or scopes. While the intent of government may be that planning decisions are taken at a local level, the appeals process is elevated to national level. For larger projects the planning process is also administered at a national level. For Developments of National Significance in Wales planning is administered through the Welsh Government and the Planning Inspectorate as its executive agency. Nationally Significant Infrastructure Projects (NSIPs) in either England or Wales are administered at a United Kingdom level, also through the Planning Inspectorate, but as an executive agency of the UK Government. Large energy infrastructure developments fall under the mantle of NSIPs.

A key part of planning is consultation, and this operates across different scales of administration. Consultation can enhance decision making by understanding the people's needs and preferences, and increase the legitimacy of decisions. In principle, community involvement should be at a level appropriate to the level of planning; should be front loaded and should use methods relevant to the communities involved, with clear opportunities for continued involvement (Baker et al. 2007). Consultation also is a key part of strategic developments such as those considered NSIPs. However, while local communities will be consulted on large energy developments, ultimately the decisions are made outside that community. This sort of separation can lead to the view of planning as a political resource, with the planning system serving the benign dictatorship of state policy, or as a form of neo-liberal governance built upon consensus, with conflict from planning removed both by consultation and use of different scales of administration (Allmendinger and Haughton 2010; Allmendinger and Haughton 2011; Metzger 2011).

It can be seen that planning within the United Kingdom operates at several scales and across political and administrative boundaries. The administrative bodies vary in both location and scale depending on the nature of the development and where it is to take place.

Planning for High Voltage Overhead Transmission Lines as a Nationally Significant Infrastructure Project is considered further in 2.7.

<b>Comparison of Key Aspects of the Planning Regimes in England and Wales</b>	
<b>England</b>	<b>Wales</b>
<b>Legislative framework</b>	
<p>Town and Country Planning Act 1990: consolidated previous town and country planning legislation and sets out how development is regulated.</p> <p>Planning and Compulsory Purchase Act 2004: changes to development control, compulsory purchase and application of the Planning Acts to Crown land.</p> <p>Planning Act 2008: sets out the framework for the planning process for nationally significant infrastructure projects and provided for the community infrastructure levy.</p> <p>Localism Act 2011: provides the legal framework for neighbourhood planning powers and the duty to cooperate with neighbouring authorities.</p>	<p>Most parts of the town and country planning system in Wales are devolved. However the primary legislative framework is broadly the same as in England, although there are some differences in both primary and related subordinate legislation as it applies to Wales. The Planning (Wales) Act 2015 introduced further differences. Before the 2015 Act, the system operated at two levels: nationally, through the Welsh Government and the Planning Inspectorate; and locally, through Local Planning Authorities. The 2015 Act provides for a third 'regional tier', where parts of Wales may be identified as Strategic Planning Areas and for these areas Strategic Planning Panels will be established.</p> <p>The principal legislative framework for the planning system in Wales is now provided by:  Town and Country Planning Act 1990;  Planning and Compulsory Purchase Act 2004;  Planning Act 2008;  Planning (Wales) Act 2015</p> <p>The majority of executive functions and secondary legislative powers contained in the first two acts were transferred to the National Assembly for Wales by the National Assembly for Wales (Transfer of Functions) Order 1999. These powers have subsequently been transferred to Welsh Ministers as a result of the Government of Wales Act 2006. Since 2011 the Assembly has had competence to pass Acts in the general area of Town and Country Planning. The Planning (Wales) Act 2015 is the first such Act.</p>
<b>National Planning Policy and Guidance</b>	
<p>The National Planning Policy Framework (NPPF) (published March 2008) sets out the government's planning policies and how these should be applied. The NPPF must be taken into account in the preparation of local plans and is a material consideration in planning decisions. The online Planning Practice Guidance (PPG) accompanies the NPPF and gives guidance on how the framework should be used in practice</p> <p>There are no specific policies for Nationally Significant Infrastructure Projects in the NPPF or PPG. These are determined by the Secretary of State in accordance with the Planning Act 2008 for major infrastructure in the fields of energy,</p>	<p>Planning Policy Wales (PPW) was originally published by the Welsh Government in 2002 and sets the context for planning in Wales, under which Local Planning Authorities prepare their statutory Development Plans. It is the principal and authoritative source of national planning policy.</p> <p>The Planning (Wales) Act 2015 introduced a new National Development Framework (NDF) that sets out national spatial planning policies.</p>

transport water, waste water and waste.	
<b>Regional Spatial Strategies</b>	
Former Regional Spatial Strategies were revoked and replaced with a duty to co-operate across administrative boundaries by the Localism Act 2011.	There is no regional planning across Wales although the Planning Wales Act (2015) allows the Welsh Government to identify strategic planning areas larger than single local authorities, which will then produce a Strategic Development Plan (SDP).
<b>Local Development Plans</b>	
The NPPF directs that each Local Planning Authority should produce an aspirational but realistic Local Plan for its area. The Local Plan is subject to examination by an independent inspector and the Secretary of State may modify the plan before it is adopted. The Secretary of State may also intervene to ensure a local plan is written.	There is a statutory requirement for each Local Planning Authority within Wales to produce a Local Development Plan (LDP). This must have regard to both the NDF and any SDP (see above). This plan is subject to examination by the Planning Inspectorate on behalf of the Welsh Government and any changes required are binding on the Local Authority.
<b>Neighbourhood / community plans</b>	
Neighbourhood forums and parish councils can establish general planning policies for development within a neighbourhood through a Neighbourhood Development Plan. This cannot be contrary to the Local Development Plan but must be taken into account in planning decisions.	There is no equivalent to Neighbourhood Development Plans; however Place Plans allow translation of policy within LDPs for local implementation.
<b>Nationally Significant Infrastructure Projects</b>	
<p>The Planning Act 2008 introduced a new development consent process for Nationally Significant Infrastructure Projects (NSIPs) – usually large scale developments relating to energy, transport, water, waste water or waste. Following changes made by the Localism Act 2011 responsibility for decisions on these projects now rests with the relevant Secretary of State in that field, informed by recommendations from The National Infrastructure Directorate of the Planning Inspectorate. Decisions on these projects should be made in line with the relevant National Policy Statements (NPS) approved by the UK Parliament.</p> <p>The 2008 Act sets out thresholds above which certain types of infrastructure development are considered to be nationally significant and require development consent. Minor associated development is also usually dealt with through the same decision making process.</p> <p>The UK Government announced an additional change to the energy consenting regime in May 2015, to transfer decisions on all applications for onshore wind generation back to the town and country planning regime, to be taken by Local Planning Authorities in England. Provision for this is now part of the Energy Bill 2015-16.</p>	<p>In Wales the development consent process for NSIPs established by the Localism Act 2011 applies to types of development where responsibility had previously been reserved by the UK Government. These are energy projects of over 50 Megawatts onshore/over 100 Megawatts offshore, major electricity lines, cross-country pipelines, underground gas storage and some types of harbour development. In Wales consent for ‘associated development’ (for example an electricity substation associated with a new power station) is dealt with by the Local Planning Authority rather than the Planning Inspectorate.</p> <p>Following recommendations from the Silk Commission, the Wales Act 2017 increases the threshold for energy generation projects which are considered within Wales to up to 350MW. The Planning (Wales) Act 2015 introduced Developments of National Significance (DNS) in Wales. These are planning applications for some types of development over certain thresholds that will in future be submitted to the Welsh Ministers, rather than to Local Planning Authorities.</p>
<b>Appeals / Planning Inspectorate</b>	
The Planning Inspectorate is a joint Executive Agency of the Department for Communities and	The Planning Inspectorate as it operates in Wales is effectively a branch of the Executive Agency as a



<p>Local Government (DCLG) and the Welsh Government.</p> <p>Where an application has been rejected by a Local Planning Authority, the applicant has the right of appeal to the Secretary of State. In practice, the normal procedure is for the appeal to be decided by a planning inspector in the name of the Secretary of State, either after considering written representations, holding an informal hearing or holding a full inquiry. The choice of procedure will depend upon the complexity of the case and will be determined by the planning inspector. The Secretary of State also has powers to “recover” an appeal, to take the decision himself. There is no third party right of appeal, nor any further right of appeal beyond a decision by the Secretary of State (even if taken in his name by a planning inspector).</p>	<p>whole.</p> <p>In Wales the Planning Inspectorate duties include responsibility for the processing of planning and enforcement appeals, holding public examinations into LDPs and reporting on planning applications called in for decision by the Welsh Ministers.</p> <p>The Planning Inspectorate also considers certain NSIPs in Wales and will be considering DNS planning applications on behalf of the Welsh Ministers.</p>
(Adapted from Winter et al. 2016)	

**Table 2-2 Comparison of Key Aspects of the Planning Regimes in England and Wales**

## **2.7 HVOTLs and Nationally Significant Infrastructure Projects**

Planning for large infrastructure projects in England and Wales falls under the 2008 Planning Act (HM Government 2008a), subsequently amended by the Localism Act 2011 (HM Government 2011a).

The 2008 Planning Act identified certain types of large scale infrastructure projects as Nationally Significant Infrastructure Projects (NSIPs). Nationally Significant Infrastructure Projects are within the six general fields of energy; transport; water; waste water; waste and business and commercial. These projects include for example power stations; railways and major roads; reservoirs; harbours; airports; offshore wind farms and sewage treatment works (Planning Inspectorate 2012). Specifically within the field of energy, onshore electricity generation projects with a capacity greater than 50MW, offshore generation with a capacity of greater than 100MW and the High Voltage Overhead Transmission Lines used to connect these sorts of generators into the national grid are considered to be Nationally Significant Infrastructure Projects.

With the introduction of the 2008 Planning Act, applications for NSIPs were handled by the newly formed Infrastructure Planning Commission (IPC). Under the IPC, Commissioners independent of government and other interests examined evidence for and against each project in accordance with government policy as given in National Policy Statements. Energy policy, for example, is described in a series of policy statements covering the overarching policy along with technology specific statements (Table 2-3 below). Overarching energy policy is given by policy

statement EN-1, nuclear policy by EN-6 and policy for electricity networks infrastructure by EN-5. EN-1 recognises new nuclear generation as an important contributor to the UK's electricity generation capacity (DECC 2011c, p.27).

EN-1	Overarching National Policy Statement for Energy
EN-2	National Policy Statement for Fossil Fuel Electricity Generating Infrastructure
EN-3	National Policy Statement for Renewable Energy Infrastructure
EN-4	National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines
EN-5	National Policy Statement for Electricity Networks Infrastructure
EN-6	National Policy Statement for Nuclear Power Generation

(Source: DECC 2011b)

**Table 2-3 National Policy Statements for energy infrastructure**

IPC Commissioners would consider, for example, the environmental impact of a proposed project and decide if a project should go ahead and under what conditions. The intent of this system was to simplify the planning process for all those involved; to avoid protracted public enquiries but also to allow the public, local authorities and interest groups greater opportunity to get involved and to express their views on an infrastructure project; to promote better planning and sustainable development to respond effectively to climate change; to apply professional and technical judgement independent of government and all other interest; to reduce the average time for major applications, from application to final decision, to under a year; and to significantly reduce the overall cost of the planning system for national infrastructure (HM Government 2008b; Infrastructure Planning Commission 2008). Following the introduction of the 2011 Localism Act the IPC was abolished, and its role absorbed by The Planning Inspectorate, with the decision as to whether a project should go ahead reverting from independent Commissioners to the appropriate Secretary of State.

Under the Government of Wales Act 2006 certain areas of competence or subjects were conferred to the Welsh Government. Energy was not a conferred matter and thus remained legislated by the Westminster Parliament (HM Government 2006). More recently, the Wales Act 2017 (HM Government 2017) introduced a reserved powers model of devolution, where anything not specifically reserved to Westminster is considered to be within the Welsh Assembly's legislative competence. As a result of this Act some areas of energy policy are now devolved to the Welsh Government. Specifically, Wales was given power to consent to energy projects up to 350MW for both onshore and inshore<sup>5</sup>, and also power of consent for 'associated

<sup>5</sup> Inshore is 0-12 nautical miles off coast. Offshore region begins at 12 nautical miles.

development' for energy projects, for example transport links and overhead power lines to the same body that is responsible for the main project (Senedd Research 2017). Although this will make a difference for small and mid-sized energy developments, for the larger developments such as new nuclear power stations, and their associated overhead transmission links, the consenting regime will remain outside Wales.

In order for a Nationally Significant Infrastructure Project to go ahead the developer must obtain a Development Consent Order (DCO). The 2008 Planning Act introduced a six-stage process for national infrastructure planning. This process is described in Table 2-4 below and further summarised in Figure 2-1. As can be seen, the developer has a statutory obligation to carry out consultation on their proposals for the development and this consultation must take place at the start of the application process in the **pre-application** stage, before the process is accepted for examination. Following **acceptance** of the application, and before the proposal is examined, (**pre-examination**) members of the public can register as an interested party to submit their opinions on the proposed development. During the **examination** of the application, registered parties may be asked for further details or information and these submissions will be taken into account along with other evidence before a recommendation is made to the Secretary of State (**recommendation and decision**). Following the decision by the Secretary of State there is a further **post-decision** period in which the decision may be challenged in the High Court.

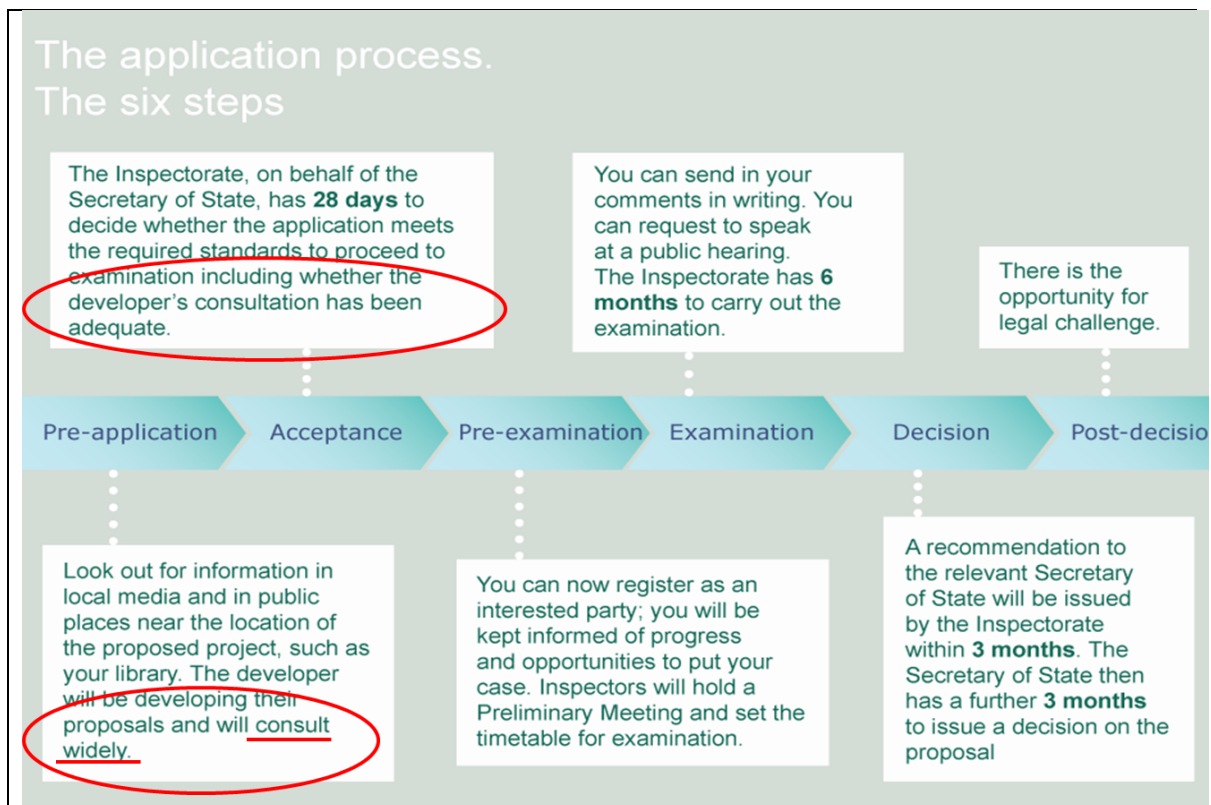
As far as members of the public or those living within a community affected by a Nationally Significant Infrastructure Projects are concerned a key part of the application process is the duty of community consultation.

This consultation has to take place before the application is submitted for a Development Consent Order and must be judged to be adequate. It is at this stage that members of the public have the greatest opportunity to influence the course of the development. Local Authorities have a key role to play in the pre-application consultation as they are seen to have expert knowledge of the local community and it is for the Local Authority to advise on and approve the developer's approach to community consultation. This Duty to Consult is legislated in sections 42 and 47 of the Planning Act, where Section 42 applies to statutory consultees, local authorities, landowners and significantly affected persons and Section 47 to the local community.

1	Pre-application	<p>Before submitting an application, potential applicants have a statutory duty to carry out consultation on their proposals. The length of time taken to prepare and consult on a project will vary depending upon its scale and complexity. Responding to an applicant's Pre-application consultation is the best time to influence a project, whether you agree with it, disagree with it, or believe it could be improved.</p> <p>The Planning Inspectorate cannot consider representations about the merits of a proposed application at the Pre-application stage of the process.</p>
2	Acceptance	The Acceptance stage begins when an applicant submits an application for development consent to the Planning Inspectorate. There follows a period of up to 28 days (excluding the date of receipt of the application) for the Planning Inspectorate, on behalf of the Secretary of State, to decide whether or not the application meets the standards required to be accepted for examination.
3	Pre-examination	At this stage, the public will be able to register with the Planning Inspectorate to become an Interested Party by making a Relevant Representation. A Relevant Representation is a summary of a person's views on an application, made in writing. An Examining Authority is also appointed at the Pre-examination stage, and all Interested Parties will be invited to attend a Preliminary Meeting, run and chaired by the Examining Authority. Although there is no statutory timescale for this stage of the process, it usually takes approximately three months from the Applicant's formal notification and publicity of an accepted application.
4	Examination	The Planning Inspectorate has up to six months to carry out the examination. During this stage Interested Parties who have registered by making a Relevant Representation are invited to provide more details of their views in writing. Careful consideration is given by the Examining Authority to all the important and relevant matters including the representations of all Interested Parties, any supporting evidence submitted and answers provided to the Examining Authority's questions set out in writing or posed at hearings.
5	Recommendation and Decision	The Planning Inspectorate must prepare a report on the application to the relevant Secretary of State, including a recommendation, within three months of the close of the six month Examination stage. The relevant Secretary of State then has a further three months to make the decision on whether to grant or refuse development consent.
6	Post decision	Once a decision has been issued by the relevant Secretary of State, there is a six week period in which the decision may be challenged in the High Court. This process of legal challenge is known as Judicial Review.

(Source: The Planning Inspectorate 2012)

**Table 2-4 Six stage Development Consent Process for Nationally Significant Infrastructure Projects**



(Source: The Planning Inspectorate 2012)  
emphasis by the author

**Figure 2-1 Summary of Application Process for Development Consent Order**

As the Transmission System Operator in England and Wales, National Grid is responsible for developing new transmission infrastructure when needed. HVOTLs to connect a new generator such as a nuclear power station are considered a Nationally Significant Infrastructure Project and their development falls under the planning regime of the 2008 Planning Act and 2011 Localism Act as described above. National Grid's development process for such projects sits alongside the planning regime for NSIPs.

National Grid have an obligation to provide cost-effective, value for money solutions for new infrastructure and also an obligation to protect or conserve landscape and to mitigate any effect of the development on the landscape, whether this is within a National Park, an Area of Outstanding Natural Beauty or other region. This balance of requirements is illustrated by the legislation cited by National Grid in documenting their approach to developing new transmission infrastructure (National Grid 2012b). See Table 2-5 below.

Section 9(2) of the Electricity Act 1989 (General duties of licence holders)	<i>"It shall be the duty of the holder of a licence authorising him to transmit electricity: (a) to develop and maintain an efficient, co-ordinated and economical system of electricity transmission;..."</i>
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Section 38 and Schedule 9 of the Electricity Act 1989	<p><i>“(1) In formulating any relevant proposals, a licence holder or a person authorised by exemption to generate, transmit, distribute or supply electricity:</i></p> <p><i>(a) shall have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and</i></p> <p><i>(b) shall do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”</i></p>
Section 11A(2) of the National Parks and Access to the Countryside Act 1949 (Duty of certain bodies and persons to have regard to the purposes for which National Parks are designated).	<p><i>“In exercising or performing any functions in relation to, or so as to affect, land in a National Park, any relevant authority shall have regard to the purposes specified in subsection (1) of section five of this Act and, if it appears that there is a conflict between those purposes, shall attach greater weight to the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage of the area comprised in the National Park.”</i></p>
Section 85 of the Countryside and Rights of Way Act 2000 (General duty of public bodies etc)	<p><i>“(1) In exercising or performing any functions in relation to, or so as to affect, land in an area of outstanding natural beauty, a relevant authority shall have regard to the purpose of conserving and enhancing the natural beauty of the area of outstanding natural beauty”</i></p>
Section 40 of the Natural Environment and Rural Communities Act 2006	<p><i>“Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”</i></p>

(Source National Grid 2012b, p.20)

**Table 2-5 Statutory obligations relevant to developing new infrastructure as identified by National Grid**

National Grid’s process for design and routing of transmission lines involves the development of projects from early stage of identifying high-level options through to submission of detailed proposals (see National Grid 2012b). This process is also a six stage process.

The first stage of a new transmission development is that of identifying **Strategic Options**. This stage begins with identification of what is needed on the network, for example a connection for a new generation source such as nuclear power station, or to create greater capacity in the existing network. In the first instance, the existing network is assessed to determine whether it can accommodate the required need. If new infrastructure is required then a number of strategic options are generated; this may include different technologies, different end point

connections or a combination of the two. Options are assessed as to whether they would work on the network and any which would not meet technical standards are rejected. In this Options Appraisal the options are compared and analysed for relative costs and benefits. This includes environmental, socio-economic and technical issues along with capital and life-time costs. As there are potentially many similar ways by which the identified need could be met, the options are reduced so that each potential strategic option has some benefit over another. It is at this stage that National Grid consults with core stakeholders, such as the Local Authority and English Nature or CADW, which represent statutory interests. These stakeholders are consulted as to which considerations should inform National Grid's judgements based on locally important considerations. From this, preferred strategic options are identified to be further assessed. This may be the identification of end-points for a connection, or a choice of technology. At this stage, if a predominantly overhead solution is identified there will still be opportunities for mitigation at later stages. National Grid state that they *"have no inherent preference for either overhead or underground approaches and we will always seek to deliver the best balance"* (National Grid 2012b, p.2).

The second stage is of **Outline Routeing and Siting**. In this stage routeing studies are carried out to identify potential broad route corridors for all the strategic options being considered. This also includes siting studies for substations and other infrastructure if required. Overhead lines are routed according to the Holford Rules (Holford 1959). See Table 2-6 below. These guidelines remain the key guidelines for routeing of HVOTLs to this day and serve to minimise the impact of HVOTLs within the landscape. Other technologies are also subject to constraints. For example sub-sea cables may be affected by constraints at landfall or by shipping lanes. Underground options may be constrained by the local topography or existing land use. Core stakeholders are consulted again and this is followed by a more detailed Options Appraisal. It is at this stage that public consultation first takes place. This consultation examines the options considered and seeks feedback on the preferred strategic option and potential route corridors identified. Following this the preferred route corridor is identified. At this stage a predominantly overhead option may still be partially undergrounded, depending on constraints identified, for example through sensitive or highly values landscape (such as an AONB) or where overhead lines are difficult to construct.

Rule 1	<i>"Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the first line in the first place, even if the total mileage is somewhat increased in consequence."</i>
Rule 2	<i>"Avoid smaller areas of high amenity value, or scientific interests by deviation; provided that this can be done without using too many angle towers, ie the more massive structures which are used when lines change direction."</i>
Rule 3	<i>"Other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers."</i>
Rule 4	<i>"Choose tree and hill backgrounds in preference to sky backgrounds wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees."</i>
Rule 5	<i>"Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees."</i>
Rule 6	<i>"In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concentration or 'wirescape'."</i>
Rule 7	<i>"Approach urban area through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of the undergrounding, for lines other than those of the highest voltage."</i>

(Source Holford 1959)

**Table 2-6      The Holford Rules**

The third stage is **Detailed Routeing and Siting**. As the name implies this is a more refined route alignment which minimises any visual or environmental impact. HVOTLs are routed according to the Holford Rules and mitigation such as undergrounding or screening is considered. During this stage stakeholders and communities are consulted further.

The fourth stage is **The Proposed Application**. National Grid hold a public consultation on their draft proposals. This is to aid preparation of their application to The Planning Inspectorate for a Development Consent Order. The consultation falls under Sections 42 and 47 of the 2008 Planning Act and includes communities, expert consultees, and those who may be affected by



National Grid's proposals. Following this consultation there may be further amendment to the proposals. This may include further appraisal for alternative solutions.

The fifth stage is **Application for Development Consent**. Following the public consultation and any subsequent changes to the proposals the application for a Development Consent Order is submitted to The Planning Inspectorate. In England additional associated development is also included in the application. In Wales this consent is determined by the Local Authority.

The sixth and final stage is **Consideration and Hearing**. At this stage interested parties may still influence the decision through written representation and by giving evidence at a hearing. For HVOTL projects this is the Examination stage of the NSIP regime under the 2008 Planning Act.

As previously stated, a key part of the 2008 Planning Act is the Duty to Consult when developing Nationally Significant Infrastructure Projects. Consultation is built into National Grid's approach to development. However, what is apparent is that although consultation with core or expert stakeholders occurs from early in the development process, consultation with the community occurs significantly further downstream. While core or expert stakeholders are involved in evaluating strategic options, members of the public and local communities are not consulted until after these broad strategic options have been determined. Within this process the public may offer feedback but this is largely limited to the scope of the route options already decided before the formal public consultation begins. This, it could be argued, privileges the technological and economic view over that of those communities which will host the new infrastructure.

## 2.8 Justice and Fairness

Having identified justice and fairness as important values in the context of energy systems (K. Parkhill et al. 2013) it is salient to expand on this. Several related themes emerge when considering energy infrastructure in these terms. This section will introduce ideas of justice, power and the social contract. It will explain what may be meant by environmental justice and energy justice. It will then introduce Rawls' contractarian view of justice as fairness.

### 2.8.1 Justice

The notion of justice has had various meanings and has varied over time. Whereas ancient ideas of justice may embrace *“stark hierarchies of power, status and wealth as embodiments of a just political and social order”* or may exhibit a *“preoccupation with retribution and in some cases unbridled vengeance”* (Johnston 2011, p.15), more modern ideas of justice have a different emphasis.

The Shorter Oxford English Dictionary (Shorter OED 1973) defines justice as the administration of law or equity, an agent of this administration, or the quality of being just (i.e. justness). Thus justice carries within its definition the notion of equity or fairness as well as that of law. These twin ideas of distributive and corrective justice can be traced to Aristotle and persist today as social and legal justice.

In Christian (Catholic) doctrine, justice is considered one of the four cardinal virtues, along with Prudence, Fortitude and Temperance. Human virtues are *“attitudes, stable dispositions, habitual perfections of intellect and will that govern our actions, order our passions, and guide our conduct according to reason and faith. They make possible ease, self-mastery, and joy in leading a morally good life”* (Vatican City [no date], para.1804). The cardinal virtues are pivotal and all other virtues group around them. As a cardinal virtue justice is clearly considered important. The Church describes justice as the *“moral virtue that consists in the constant and firm will to give their due to God and neighbour”* and distinguishes between justice towards God and justice towards men. Justice towards men *“disposes one to respect the rights of each and to establish in human relationships the harmony that promotes equity with regard to persons and to the common good”*. A just man is distinguished by his right thinking and upright behaviour towards his neighbour. However while this may be laudable, and introduces the idea of treating others equally, while stating that man should not be *“partial to the poor”* or *“defer to the great”* the same text also entreats that Masters should *“treat ... slaves justly and fairly”* (Vatican City [no date], para.1807).

Justice is often personified as carrying scales and may be blindfolded to represent fairness and impartiality in weighing evidence. There may also be included a reference to divine judgement in the weighing of sins.

Since the 18<sup>th</sup> Century Western ideas of justice in the sense of *what is right* have been broadly divided into two camps or schools of thought. In the first, morality is located in certain strict duties or rights, which cannot be overridden by other considerations. Morality is concerned with what people do and not with the consequences of those actions; actions are '*categorically*' right or wrong regardless of consequence. This type of reasoning where the moral rightness or wrongness of an action depends on its intrinsic qualities is known as *deontological* and is exemplified by Immanuel Kant (1724 - 1804).

In contrast to this type of reasoning, *teleological ethics* or *consequentialism* locates morality in the consequences of an act. The rightness of an act is determined by its end, thus an act can be considered good if it has good consequences. Utilitarianism is a form of consequentialism proposed by Jeremy Bentham (1748 – 1832) in which the moral worth of an action is solely to be judged on its utility, measured by the maximisation of pleasure and minimization of pain. It is the total utility of all people which is important –the greatest good for the greatest number of people. Bentham proposed a *felicific calculus* by which the degree of happiness experienced by an individual can be expressed. He regarded all sources of pleasure as of equal worth, assuming a human equality and happiness being accessible to all, regardless of class or ability. John Stuart Mill (1806 – 1873) regarded happiness rather than pleasure as the measure of utility and stated that all people should have the freedom to pursue happiness. Unlike Bentham he did not regard all pleasures as equal, but distinguished between higher, intellectual pursuits and baser, physical pleasures. Pleasure and happiness can be contrasted thus: pleasure leads to gratification and may be pursued in its own right; happiness leads to satisfaction which is as an indirect product of another activity. Mill's utilitarianism is perhaps better suited to consideration of overall human well-being. In pursuit of happiness, no-one has the right to impinge on other people's happiness. The happiness of everyone is important. Justice is not as basic as we may otherwise suppose, rather it arises from the standard of rightness given by the best consequences.

### **2.8.2 Environmental Justice**

Having defined what may be meant by justice in broad terms, we now consider Environmental Justice. The United States Environmental Protection Agency (US EPA) define environmental justice as

*“... the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” (US EPA 2016)*

The EPA’s goal is to achieve this for all communities across the United States. They go on to say that their goal will have been achieved when *“everyone enjoys the same protection from environmental and health hazards”* and has *“equal access to the decision making process to have a healthy environment in which to live, learn and work.”* (US EPA 2016)

In the United States the environmental justice movement is firmly linked to ideas of race and discrimination.

*“Whether by conscious design or institutional neglect, communities of color in urban ghettos, in rural ‘poverty pockets,’ or on economically impoverished Native-American reservations face some of the worst environmental devastation in the nation.” (Bullard 1992 cited by US EPA 2016)*

Although Bullard frames his argument in terms of race and talks of ‘*environmental racism*’ it is clear that environmental justice can equally be framed in terms of poverty and powerlessness irrespective of race. This is the frame used in the UK, tying environmental justice to patterns of income and class rather than specifically to race. Thus environmental justice was introduced by reference to the US frame and recast with different emphasise (Walker 2011, chap.2).

Although environmental justice has historically been associated with inequity of distribution of environmental bads, in the United States in particular, as Schlosberg (2013) argues, although the *focus* may have been on the maldistribution of environmental harm, the term was never *only* about this. More recently the environmental justice has expanded to both include a broader range of issues and also to encompass the global nature of environmental injustice. Thus environmental justice has been expanded beyond consideration of equity of distribution of harm, but now may also include access to goods such as green space; transportation, water quality and distribution; energy development and jobs. It has also expanded to include global issues such as climate change.

Equity in distribution of harms and goods is central to environmental justice claims, but ideas of what constitute injustice or produces injustice creates is more complete when ideas other than simple distribution are introduced. In terms of distribution, we may consider both the harms to be distributed and the benefits. Relating this specifically to the planned electricity transmission infrastructure in North Wales, at first sight, the harm of visual intrusion and industrialisation of a rural landscape must be balanced against the ability to transmit electricity from the new Wylfa

power station; the trade-off for electricity and jobs is the loss of landscape amenity. How these harms and benefits are to be distributed is open to discussion. It is not possible to distribute the harm equally as the harm comes from a point-to-point connection which almost by definition will only directly affect those close to the route it takes.

In addition to distributive justice is procedural justice. Thus not only the outcome or consequences should be just or fair but the procedure by which the ends are reached should also be just. Distribution should not ignore the contexts which affect these distributions.

Finally, recognition justice demands that some people are not devalued in comparison to others; that all people are valued. This may emphasise racism, but does not necessarily relate to race rather to a general disenfranchisement of some groups (Walker 2011, chap.3).

While a strictly utilitarian viewpoint may permit imposition of negative social and environmental costs or harm on some of the population in order to benefit the majority, this may not sit well with intuitive ideas of justice. However, we may balance many impositions of new energy systems against the right of those most affected by climate change, or at a more local scale we may balance the imposition of new energy systems against the benefit those systems bring to the wider population. From a deontological perspective, however, some things are inherently right or wrong. So it may be considered wrong to impose an environmental burden on some to benefit others, particularly if that burden affects the health or well-being of those upon whom it is imposed. In common with ideas of universal human rights, it can be considered a right not have your well-being compromised in order to benefit others (see previous chapter).

### **2.8.3 Energy Justice**

Bickerstaff et al (2013, p.2,3) describe energy justice as one of the most critical and yet least developed concepts associated with theories and practises of low carbon transitions. While describing work on energy justice as ‘undeveloped’, they note it as having ‘*crystallised*’ around the social and spatial distribution of energy poverty and on the justice dimensions of particular low-carbon systems. Thus much energy justice research is concerned with energy poverty and access to affordable warmth. In terms of low-carbon energy systems they suggest that most attention has been paid to “*systematic inequities concerned with located energy components*” and the distribution of costs and risks associated with siting of energy infrastructure. As many of the concerns are related to extraction and disposal of waste related to energy generation this has a clear link to established views of environmental justice. They also highlight criticisms of the mechanisms used to fund climate policies through electricity and gas bills and how this leads to a disproportionate impact on lower income customers. Having expressed commonalities

between energy justice and environmental justice, it should be noted that energy justice is clearly linked to energy security, which along with climate change is at the core of UK government energy policy. Both energy security and energy justice demand that all people, regardless of social status should have access to energy, where accessible is equated also to affordable. Whether this is translated into reality is a different matter as fuel poverty remains a growing concern.

McCauley et al (2013) link energy justice to a foundation in environmental justice and more recently, climate and atmospheric justice, and the distribution of benefits of ills and goods across society. In common with notions of environmental justice (e.g. Walker 2011, chap.3) they explicitly restate distributional justice, procedural justice and recognition justice as the three tenets of energy justice. Although they largely limit their definition of distributional justice to spatial distribution of ills and benefits of energy systems, this spatial distribution can be taken to include an implied societal distribution. Procedural energy justice manifests as a call for equitable procedures in the development of energy systems that engage all stakeholders in a non-discriminatory way. Within this notion of engaging all stakeholders is the idea of recognition justice: that people are fairly represented, with equal political rights, and are free from threat or coercion.

Much of the systematic engagement with justice concepts and debates within energy research relates to the social dimensions of nuclear power, addressing the distributive inequality of particular phases of the nuclear cycle, notably disposal of nuclear waste (McLaren et al. 2013).

Retaining the link to environmental justice and linking energy justice to the practice of generating electricity, energy justice can be applied at any stage in the generation of electricity. This could reasonably encompass the extraction of fuel, such as natural gas or uranium; the planning of and building of generation facilities, from wind turbines to a large nuclear power station; the running of these facilities and the disposal of waste product from the generation, whether this is emissions from a gas-fired power station or waste from a nuclear power station. Particularly salient to the nuclear industry perhaps, but also applicable to other forms of energy production, energy justice can also be applied to decommissioning and final disposal of whatever energy infrastructure is in place.

To this already large scope we should add in the infrastructure that accompanies generation. Thus energy justice can reasonably include equity in choosing and siting the means to transmit and distribute electricity once generated.

#### 2.8.4 Power

Related to justice are notions of power. Although power may be considered an 'essentially contested concept' (Lukes 2005, pp.14, 110), with different and contested meaning in different contexts, in order to proceed we must have some idea what is meant by power.

At an individual level power can be considered the ability or capacity to do something or act in a particular way. In a political sense power becomes power over an outcome, a decision process or another person or group, that is, the ability to influence an outcome even if it is contrary to the desires of others. Thus power is the power of one *over* another. This does not necessarily mean coercion or force however, and power need not be exercised in order for it to exist. Observable behaviour may not take account of power not exercised or used.

Lukes (2005) identifies three dimensions of power. In the first dimension power is overt or open. This type of power is typically shown in the presence of conflict within decision-making situations, "*where power consists in winning, that is prevailing over another or others*" (Lukes 2012). This is the most public of three faces of power and how the powerful would most like to be seen.

The second dimension consists of control over what gets decided by "*ignoring or deflecting existing grievances*". This is the power to control agendas. This '*mobilization of bias*' serves to reinforce the powerful by excluding threatening issues from discussion in public forums. Bias of the system can be mobilized, recreated and reinforced. This may include both coercion and manipulation and decision making and non-decision making. Decisions are made between alternatives but these alternatives can be manipulated, unknown to decision making individuals or groups. The second dimension of power can be observed through concrete decisions and the activities bearing down on them. Power may also be exerted by influencing social and political values which have a bearing on decisions.

The third dimension of power can be '*the most insidious*'. It is the most hidden from view and the least accessible to observation. This invisible power is the power to influence people's wishes and thoughts, to shape desires and beliefs. This power can be at work despite apparent consensus between the powerful and the powerless. It can induce people to want things which may oppose their own interest, and also to fail to want what they would recognise to be in their real interest, were it not for such power. The relatively powerless may come to internalise and accept their condition. Whereas power may be associated with actual conflict, this sort of manipulative power, the power to shape desires and beliefs averts both conflict and grievances altogether.

That Lukes' idea remains valid is evidenced by its continued use in a more recent model, the powercube (Gaventa 2011). Acknowledging the multiplicity of conceptions of power, the powercube retains Lukes' visible, hidden and invisible faces or dimensions of power and expands on them to add *spatial* dimensions referring to the potential arenas for participation and *action* dimensions for the differing layers of decision-making and authority held on a vertical scale. Spaces or arenas may be closed, invited or claimed. Layers of decision making includes local, national and global. Thus the powercube conception is a cube where one axis corresponds to Lukes' three faces of power, the second to three types of spaces and the third to three scopes or sizes of decision making.

### **2.8.5 Social Contract**

The social contract is a model to explain the emergence of and legitimacy of the authority of the state. Although some authors seek to extend this lineage further back, the idea of a social contract can be traced in recognisable form to Thomas Hobbes (1588-1697) and was subsequently developed by John Locke (1632 – 1704), Jean-Jacques Rousseau (1712 – 1778), and Immanuel Kant (1724 – 1804). Having fallen somewhat out of favour the idea of the social contract was revived more recently by John Rawls (1921 – 2002) (Boucher and Kelly 1994).

Writing at the time of the English Civil War, Thomas Hobbes (1588-1697) famously described man as in "*continual fear and danger of violent death*" and life as "*solitary, poor, nasty, brutish and short*". He argued that it was in response to these dangers that man banded together and ceded certain natural rights to a sovereign, who has absolute authority in determining and enforcing civil law. The social contract arises when citizens give up certain rights in exchange for protection of other rights.

John Locke argued that legitimate government is instituted by the explicit consent of those governed. This contract is made between individuals and they give their right up to the community rather than to a sovereign. Rather than the single Leviathan of Hobbes, authority rests with the government of the commonwealth and is grounded in the agreement of the majority. Locke argued for inviolate freedom under law rather than the absolute state authority of Hobbes.

Rousseau imagined a society which is governed according to the *general will* of the people with legislative power given to the people as a whole, for the benefit of all; freedom to participate in the legislative process would eliminate injustice.

Kant seeks to limit the sovereign as a legislator by stating that no law shall be "*a whole people could not possibly give its consent to*" and the sovereign must recognise the (hypothetical)



original contract as an idea of reason which forces the sovereign to *“give his laws in such a way that they could have arisen from the united will of a whole people and to regard each subject, insofar as he wants to be a citizen, as if he has joined in voting for such a will”* (Rauscher 2012).

Through the social contract the state is given the right to govern and those who are governed rescind some of their power and rights in order to *be* governed. It can, of course, be argued whether individuals really do agree to collectively enforced social arrangements, and whether these arrangements are then legitimate or just (D’Agostino et al. 2014).

Although used to describe the emergence of and legitimacy of states, the idea of a social contract may also be applied in other contexts. For instance it may also be used to describe the *“tacit agreement between members of a community or group which guides individual behaviour and establishes personal rights and responsibilities”* (BusinessDictionary.com 2014). By extension, social contracts can also be established between corporations and individuals or groups. This contract perhaps becomes particularly relevant when the corporations are effectively agents of state policy, such as in the case of the regulated monopolies in the UK electricity industry. In addition to any implied contract a corporation may have with others, these corporations, almost by definition, take on some of the mantle of the state’s part of a social contract, as they are acting as a mechanism by which the government can provide essential services.

#### **2.8.6 Justice as Fairness**

Having introduced ideas of justice, the social contract and power we can now turn to Rawls’ *Theory of Justice* and justice as fairness. In the 20<sup>th</sup> Century Rawls argued for a re-evaluation of justice in terms of *‘justice as fairness’*, where he sought to go beyond the social contract and utilitarianism and to find a new conception of justice. Rawls argues that the key to a fair society is a just contract between the state and individuals; that for a contract to be just the needs of all individuals party to it must be treated equally; that to ensure equal treatment social institutions must be just, they must be accessible to all and redistributive where necessary. Only just institutions can produce a fair society. Justice is the first virtue of social institutions. Utilitarianism fails to take seriously the distinctness of persons. For instance, an individual may choose to undergo some a sacrifice or burden in certain parts of their life so that their life overall is better; however it is not fair to impose suffering on individuals in order that the majority of people have a net gain.

*“Justice is the first virtue of social institutions, as truth is of systems of thought. A theory however elegant and economical must be rejected or revised if it is untrue; likewise laws*

*and institutions no matter how efficient and well-arranged must be reformed or abolished if they are unjust. ... Justice denies that the loss of freedom for some can ever be made right by a greater good shared by others.” (Rawls 1999, p.3)*

Thus Rawls gives priority to the “right” over the “good”—to claims based on the rights of individuals over claims based on the good which might result from violating those rights. Rawls’ justice as fairness has its starting point as a rights-based social contract, which recognises the inviolability of basic civil and political rights and our ability freely to choose our own ends, and regarding people as ends in themselves not simply as a means to an end.

Rawls sought a formulation of justice that allowed us to further our own interest, but with rules that are fair and just and applied equally to all, regardless of social status. He explicitly removed power and any knowledge of our own circumstance from the process by which we might choose the principles of justice by use of a thought experiment, ‘The Veil of Ignorance’, where people have all the knowledge required to make a decision but are deprived of knowledge of their own circumstances, social and economic. Persons behind the veil of ignorance do not even have a view of their own abilities, desires, and values. From this ‘original position’ a social contract is made which forms the basis of justice as fairness. He argues that it is only rules which could be agreed by all parties that genuinely honour impartiality.

*“...no one knows his place in society, his class position or social status, nor does anyone know his fortune in the distribution of natural assets and abilities, his intelligence, strength, and the like. I shall even assume that the parties do not know their conceptions of the good or their special psychological propensities. The principles of justice are chosen behind a veil of ignorance.” (Rawls 1999, p.11)*

Rawls contends that participants in the ‘original position’ would pursue a low risk strategy and agree to egalitarian principles. In contrast to a utilitarian viewpoint he suggest we would choose principles which guarantee the highest possible minimum levels of freedom, wealth and opportunity, even at the cost of lower average levels. From this Rawls suggests we would choose two principles of justice, the first concerning liberty and the second, the distribution of wealth and power.

In the first principle, the liberty of every person is taken to be inviolable. This ‘*liberty*’ principle takes precedence over the second principle. In the second principle, opportunity is fair and equal and economic disparities will only be permitted if they serve to the advantage of the least well off in society. This is the ‘*difference*’ principle.

Rawls developed and reformulated his theory of justice over time. This may lead to inconsistencies in the detail of what is being referred to by others. For example, Sovacool and Dworkin (2014) actually refer to an incomplete, initial formulation of Rawls' principles of justice (Rawls 1999, p.53), which forms the basis for Rawls' subsequent reasoning and development within the same work (Rawls 1999, p.266).

In *Theory of Justice*, Rawls' final version is stated as below

*First: Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all.*

*Second: Social and economic inequalities are to be arranged so that they are both:*

*(a) to the greatest benefit of the least advantaged, consistent with the just savings principle, and*

*(b) attached to offices and positions open to all under conditions of fair equality of opportunity.*

*(Rawls 1999, p.266)*

In this statement, the just saving principle refers to the idea that current generations may save (money) in order to achieve or maintain justice over subsequent generations.

Several criticisms may be levelled at Rawls' Theory of Justice. For example, advocates of strict equality may object to the distribution even if it does benefit the worst off; utilitarians may object that the difference principle does not produce maximum utility; libertarians may object to restriction on liberty and argue that redistribution to the poor is immoral. Some may object that the difference principle ignores 'desert', that is, it ignores what people may earn through work, although it could be argued that the capacity for work is a natural good.

Sandel argued that Rawlsian liberalism rests on an overly individualistic conception of the self and that in reality we are social, with ties to family and to groups. He argues that we lay aside our personhood behind the veil of ignorance, not just our station in life but our values and morals, before we reason about what is just. That is, after the abstraction of the veil of ignorance there is no person remaining. Sandel argues that Rawls ignores the strong obligations and loyalties to communities, traditions and to religious faith, and that we are in fact inescapably entangled with our communities, our pasts and our sense of the possible future (Sandel 2010, p.220).

Rawls' justice as fairness has also been criticised for its focus on perfecting the institutions of the social contract; for being utopian in its approach. Sen (2010) refers to this as '*transcendental*

*institutionalism*’ and argues instead for *‘realization-focused comparison’*. Sen further doubts that there is only one impartial argument and therefore doubts whether we would in fact derive the two principles of justice as described by Rawls, and that if this is not the case that the strategy of *‘transcendental institutionalism’* is flawed.

*“If a diagnosis of perfectly just social arrangements is incurably problematic , then the entire strategy of transcendental institutionalism is deeply impaired” (Sen 2010, p.11)*

Sen favours agreement, based on public reasoning, on ranking of alternatives which can be realised. Sen’s approach focusses on the moral significance of individuals’ capability of achieving the kind of lives they have reason to value. This is in contrast to the subjective well-being or the availability of resources to lead a good life. A person’s capability to live a good life is defined in terms of the set of valuable ‘beings and doings’ like being in good health or having loving relationships with others to which they have real access. In this context poverty is the deprivation in the capability to live a good life. This is in contrast with economic utilitarianism, which focuses on the literal resource distribution without heed of the ability to use that resource. There is an assumption that from behind the veil of ignorance the contract that would be developed would necessarily benefit those least well off as persons constructing or agreeing to the contract would be unwilling to be poor and would desire to construct social institutions to protect against this. This may be true, but the economic nature of the question does not take account of capability as defined by Sen. Sen makes the distinction between goods being available and their being affordable, referring to the man-made famine in Bengal in 1943, where there was ample food available but ordinary people simply could not afford to eat (Sen 2010, chap.16). For any practical purposes, if a commodity is not affordable then it is also not available. Affordability and availability are central to the definition of energy security.

Sen further states that Rawls does not take account of plurality of justice, and how different cultures may approach justice. He suggests that instead of theorising about and searching for the ideal, utopian institutions we should focus on comparative assessments between pairs of alternatives, allowing a ranking of outcomes. Through this we may continuously improve the outcome without ever searching for the utopian institution.

Criticisms of liberal capitalism as a mechanism to ensure Rawls’ principles are adhered to does not mean they are not valuable or a useful way of thinking about justice, and does not devalue the attempt to theorise a distributive form of justice which goes beyond utilitarianism.

While the contract may be criticised for being at an interpersonal level, and thus not paying heed to outside groups, such as those from other nations, or future generations, it is at all times a

*hypothetical* contract, and is not really ever negotiated at all. The veil of ignorance, principle of liberty and difference principle remain a useful way of viewing the world. Even if Rawls' vision of justice is unrealistic, utopian, and focussed on an unattainable institutional ideal - as suggested by Sen - it nevertheless gives us a benchmark by which to compare other formulations or arrangements of justice and society. Rawls' ideal may form part of the comparison Sen advocates.

Rawls sought a conception of justice that provides a reasonably systematic alternative to utilitarianism and to the weaknesses of utilitarianism as a basis for the institutions of constitutional democracy.

*"[Utilitarianism cannot] provide a satisfactory account of the basic rights and liberties of citizens as free and equal persons, a requirement of absolutely first importance for an account of democratic institutions"(Rawls 1999, p.xii)*

He sought *"a philosophical conception for a constitutional democracy"* (1999, p.xi), and in his later restatement he states that justice as fairness is to be understood as *"a political conception of justice rather than as part of comprehensive moral doctrine"* (Rawls 2001, p.xvi).

In Rawls' words, he hoped that *"justice as fairness will seem reasonable and useful, if not fully convincing"*.

In the author's opinion, justice as fairness lives up to this hope. While we may argue about the details and accept criticisms such as those levelled by Sandel and Sen, the principle of liberty and the difference principle remain powerful ideas, and a useful lens through which to view issues of justice. Justice as fairness has withstood many of its criticisms. It retains its aspiration to fairness and remains a different model to utilitarianism, with elements of rights.

Sovacool and Dworkin (2014) in their work on energy justice, acknowledge the complexity of Rawls' work and choose to reduce it to its main concepts or principles: the *equality of opportunity principle*; the *difference principle*; notions of *primary goods* and the *veil of ignorance*. While linking energy efficiency to ideas of virtue, the imposition of burdens on some to the benefit of others in the form of energy externalities to utilitarianism, and protection of individuals in the production and use of energy to universal rights; they link Rawls to work on energy access, poverty and welfare. So Rawls is used to explore the lack of access to energy. The author would argue that 'justice as fairness' can equally be extended through the distribution of social goods and harms to the imposition of energy systems on poorer communities, for instance. Whereas energy subsidies may be criticised by believers in a liberal free market, if energy access is not equal to all then energy justice as fairness would have us

subsidise energy systems to the benefit of the poorer in the community. Similarly it could be argued, not only should access to energy be subsidised to the poorer, by extension any externalities of the energy system should benefit the poorer. Therefore, those already disadvantaged should not have any further disadvantage imposed upon them, but precisely the opposite. Whether an energy system is entirely fair or not, at very least it should seem fair under a reasonable examination.

## **2.9 Summary**

This chapter has introduced climate change and energy security as drivers for current UK energy policy. It has identified transmission and distribution infrastructure as areas of further research in the context of whole energy system change, and has introduced perceptions of transmission infrastructure and HVOTL as a focus for research. The planning regime for HVOTLs in England and Wales and the approach taken by the Transmission System Operator, National Grid, in developing new transmission infrastructure have been described. Ideas of justice have been introduced in particular the contractarian view of justice as posited by Rawls is identified as an ideal from which to examine fairness or otherwise of implementation of energy infrastructure.

This provides the foundation for the research in terms of perceptions of fairness or justice of placing transmission infrastructure, which passes through but does not necessarily benefit a community, within the wider context of energy system change in response to the issues of energy security and climate change, and where a local loss of amenity may be expected in exchange for a temporally or spatially distant and unquantified gain.

## Chapter 3. The Case of Anglesey

### 3.1 Introduction

This chapter introduces Anglesey as a case study area, gives an overview of energy sector development within the region, and outlines the proposed transmission connection, and the opposition to this connection as a starting point for this research.

### 3.2 An Energy Nexus

The Isle of Anglesey in North Wales is positioned to become a centre of energy production and of connection for electricity infrastructure. As well as the construction of a new nuclear power station, Wylfa Newydd to replace the existing power station, energy developments within the region include offshore wind farms, marine current turbines, and connections to generators in Ireland. See Figure 3-1 below.

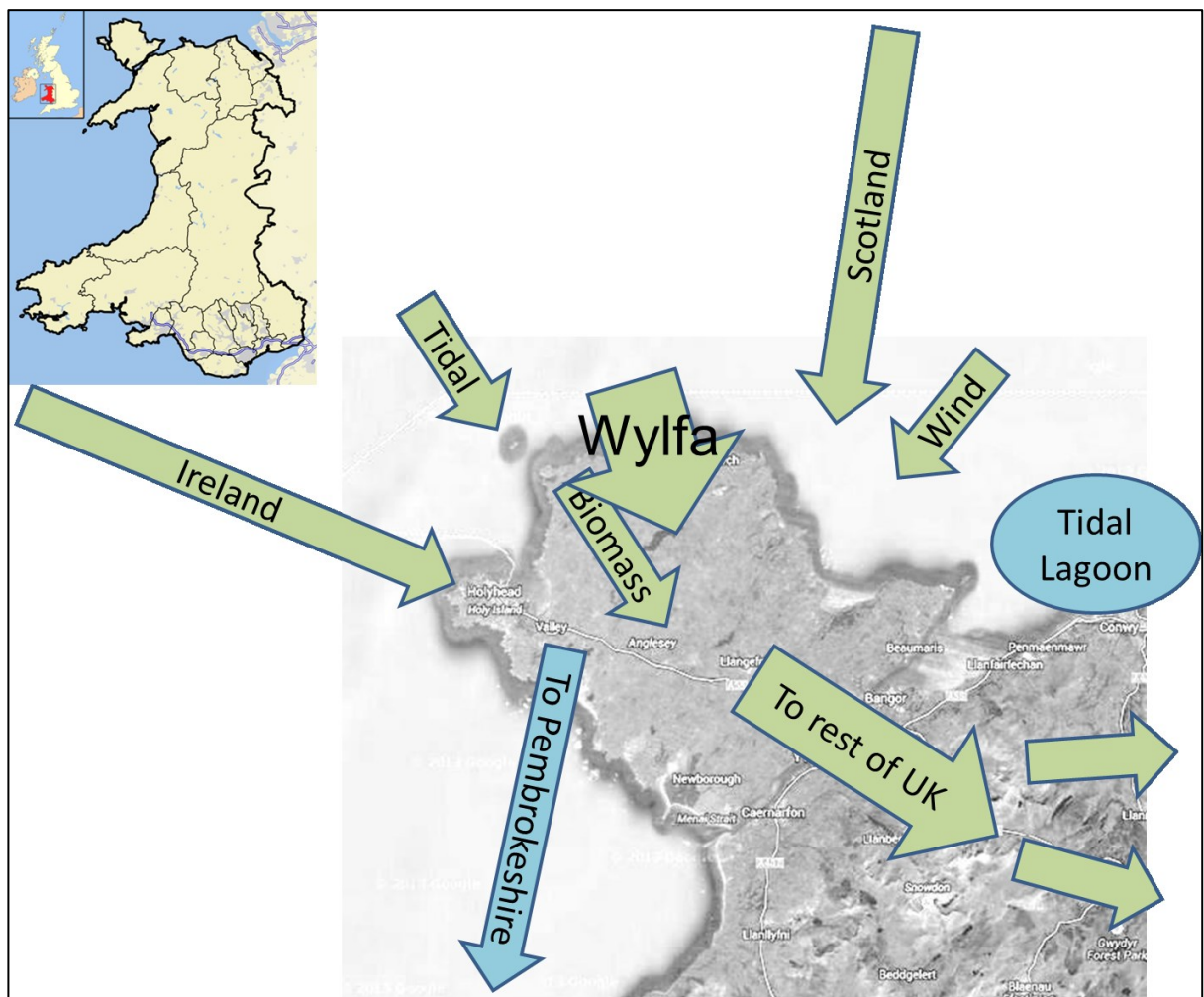


Figure 3-1 Anglesey as an Energy Hub

Historically Anglesey has relied on agriculture, and although this remains an important sector, more recently employment has been linked to a few large employers. Recent years have seen the demise of these employers, with subsequent job losses. Great Lakes' Octel bromine works at Amlwch closed in 2004, Peboc Eastman's chemical plant at Llangefni closed in 2008, Anglesey Aluminium closed in 2009, and Welsh Country Foods closed in 2013. The energy sector is seen as offering transformational opportunities (Williams 2015).

Anglesey is also a destination for tourists. As well as coast and beaches, with almost all Anglesey's coastline being designated an Area of Outstanding Natural Beauty (AONB), Anglesey offers a 13<sup>th</sup> Century castle, Neolithic sites, and historic gardens. More recently former copper mines have been promoted as a destination. With around 1.6 million visitors a year, tourism is estimated to support around 4000 jobs and to bring in around £280 million to the local economy (Isle of Anglesey County Council 2016a; Isle of Anglesey County Council 2018).

Recognition of the importance of the energy sector to the island and its future prosperity is demonstrated by the Anglesey Energy Island initiative. The Anglesey Energy Island Programme is described as a collective effort between public and private sector partners to put Anglesey at the forefront of energy research and development, production and servicing, in order to gain the *"potentially huge economic rewards"* from this sector (Isle of Anglesey County Council 2016b). The energy sector is predicted to bring almost £25 billion into the Anglesey and North Wales economy over 15 years and is heralded as *"a once in a generation opportunity to give the economy a tremendous boost and this must be collectively grasped"*.

The major development within the region is that of the new nuclear power station, Wylfa Newydd, by Horizon Nuclear Power. Horizon Nuclear Power was established as an RWE E.ON joint venture in 2009 to develop new nuclear power stations in the UK. Horizon developments include Oldbury in Gloucestershire, and Wylfa on Anglesey. Horizon was sold to Hitachi in 2012 and is now a wholly owned subsidiary of Hitachi. Horizon submitted its application for a Nuclear Site License in April 2017. Hitachi's preferred reactor, the Generation III+ Advanced Boiling Water Reactor passed its Generic Design Assessment in 2017, meaning that this technology can in principle be used for the new power station. Application for a Development Consent Order is expected in 2018 (The Planning Inspectorate 2016; Horizon Nuclear Power 2018).

In response to the need to connect the planned nuclear power station into the national grid along with other energy developments in the region, National Grid evaluated the current electricity network to determine whether it would need modification to service this new demand. National Grid's review was based on the then predicted power output of the new



power station (3.6GW) and a request from the Celtic Array (2GW) offshore windfarm. National Grid concluded that the current network was not adequate to connect this level of generation and described several strategic options to remedy this. This is the beginning of what was to become the North Wales Connection project.

A strategic options appraisal by National Grid identified five strategic options for connection of the new generation into the national grid. After the strategic options appraisal, National Grid declared their preliminary preferred option as an overhead line, with appropriate mitigation, between Wylfa and Pentir. In addition to this there would be underground cables within North Gwynedd between Wern and Y Garth to cross the Glaslyn Estuary. This was the option taken forward for route corridor appraisal (National Grid 2012a).

An illustration of the electricity network and potential new generation as at the time of the strategic options appraisal is shown in Figure 3-2 below. A summary of the strategic options is given in Table 3-1 below.

The public consultation which forms part of the process of a Development Consent Order was informed by the strategic options appraisal and the selection of the preferred strategic option (SO3, see Table 3-1). The first round of public consultation (Stage 1) was on connection options and route corridor options for the across land proposal from Wylfa to Pentir, reflecting National Grid's preferred strategic option. A second stage of consultation was later held on possible crossings for the Menai Strait. A third stage of consultation was held to further refine route for the transmission connection.

Over the lifetime of the North Wales Connection project, Horizon Nuclear Power has changed ownership and subsequently reactor technology and generation capacity, the Celtic Array offshore wind farm has been cancelled and two new offshore wind developments have been added. National Grid revisited and reviewed the needs case to take account of these changes in generation and concluded that a second connection from Wylfa Newydd was still required and that the preferred solution for this connection remains unchanged. The timeline for the North Wales Connection project is summarised in Table 3-3 below.

The proposed transmission connection has met with significant opposition locally (see for example Wyn-Williams 2015a). A campaign group, Dim Peilonau was formed to oppose the use of HVOTLs across Anglesey. Individuals, community groups, farmers unions, the local council and local politicians (Welsh Assembly and Westminster) all expressed opposition to the use of HVOTLs for the new transmission connection. This opposition to an overland transmission route

and in particular to HVOTLs sits alongside an apparent acceptance of the new nuclear power station.

This research was begun after the first stage consultation had been completed. The research was prompted by the apparent strong opposition to the transmission connection within the context of wider acceptance of energy related development within the region, in particular of a nuclear power station.

### 3.3 Summary

This chapter has outlined Anglesey as an area where broad acceptance of new nuclear generation, and other energy sector developments is coupled with strong objection to proposed electricity transmission infrastructure. Anglesey represents an excellent case for the study of perception of new transmission infrastructure in the context of whole energy system change and development.

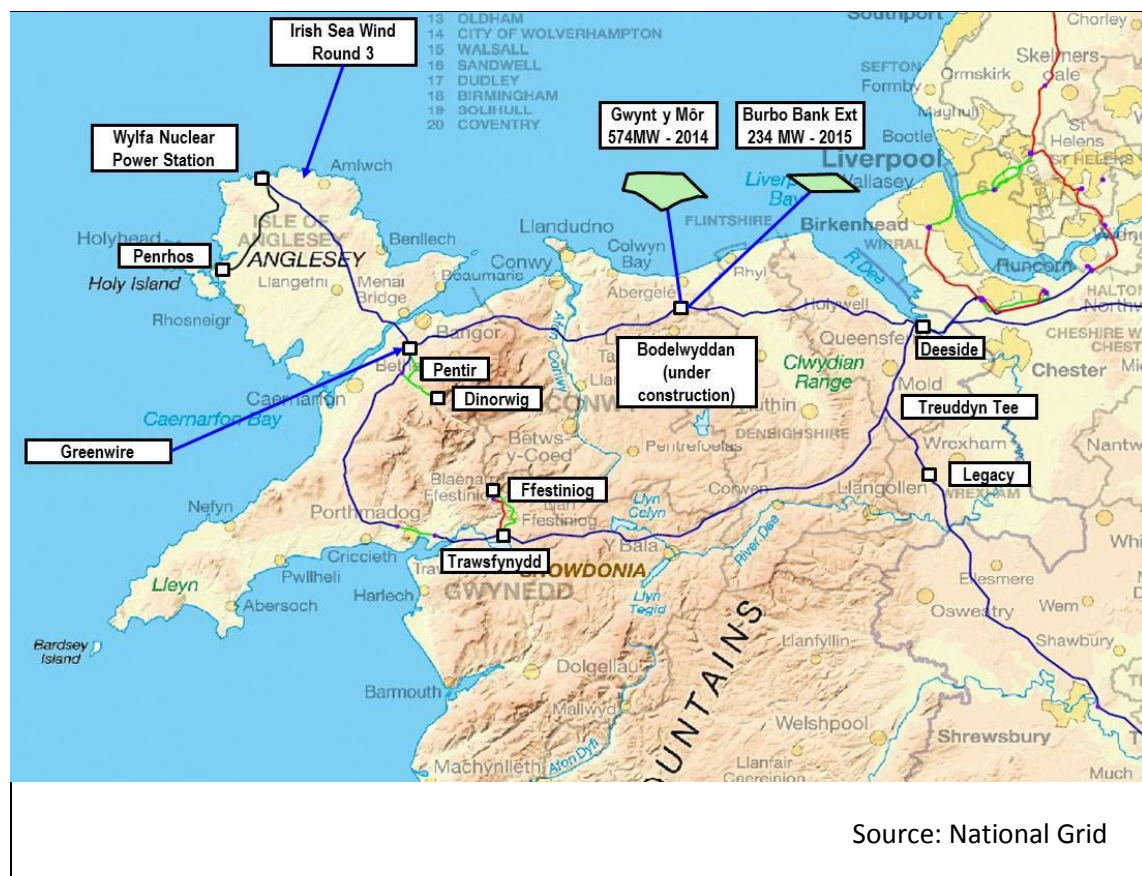


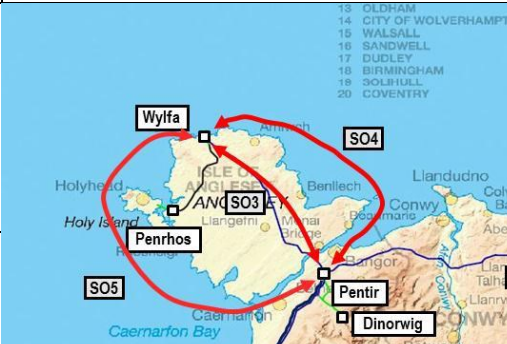
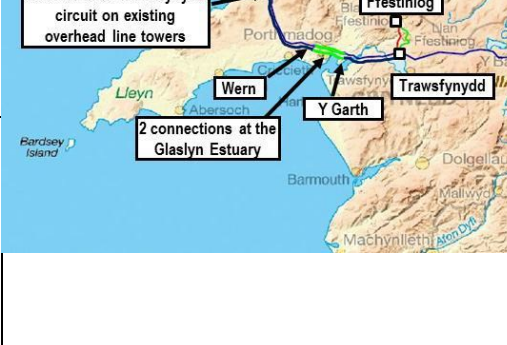
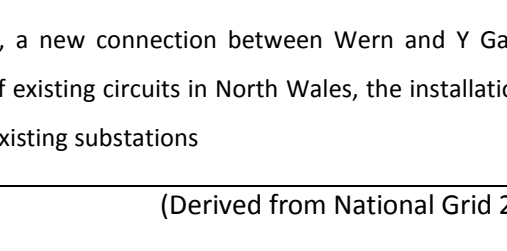


Figure 3-2 Existing Transmission Network Showing New Connections Required 2012

Option	Description	
SO1	Three subsea HVDC circuits between Wylfa and Deeside substations	
SO2	Two subsea HVDC circuits between Wylfa and Deeside and one subsea HVDC circuit between Wylfa and Pembroke	
SO3	New onshore circuits connecting Wylfa and Pentir (AC or HVDC)  SO3 taken forward as preferred option after appraisal	
SO4	New offshore circuits east of Anglesey connecting Wylfa and Pentir (AC or HVDC)	
SO5	New offshore circuits west of Anglesey connecting Wylfa and Pentir (AC or HVDC)	
SO3, SO4 and SO5 have common features on the mainland: one new AC circuit between Pentir and Trawsfynydd to be installed on existing pylons, a new connection between Wern and Y Garth, a new substation in West Gwynedd, re-conductoring of existing circuits in North Wales, the installation of series compensation equipment and modifications at existing substations		
(Derived from National Grid 2012a )		

**Table 3-1 Summary of strategic options for North Wales Connection 2012**



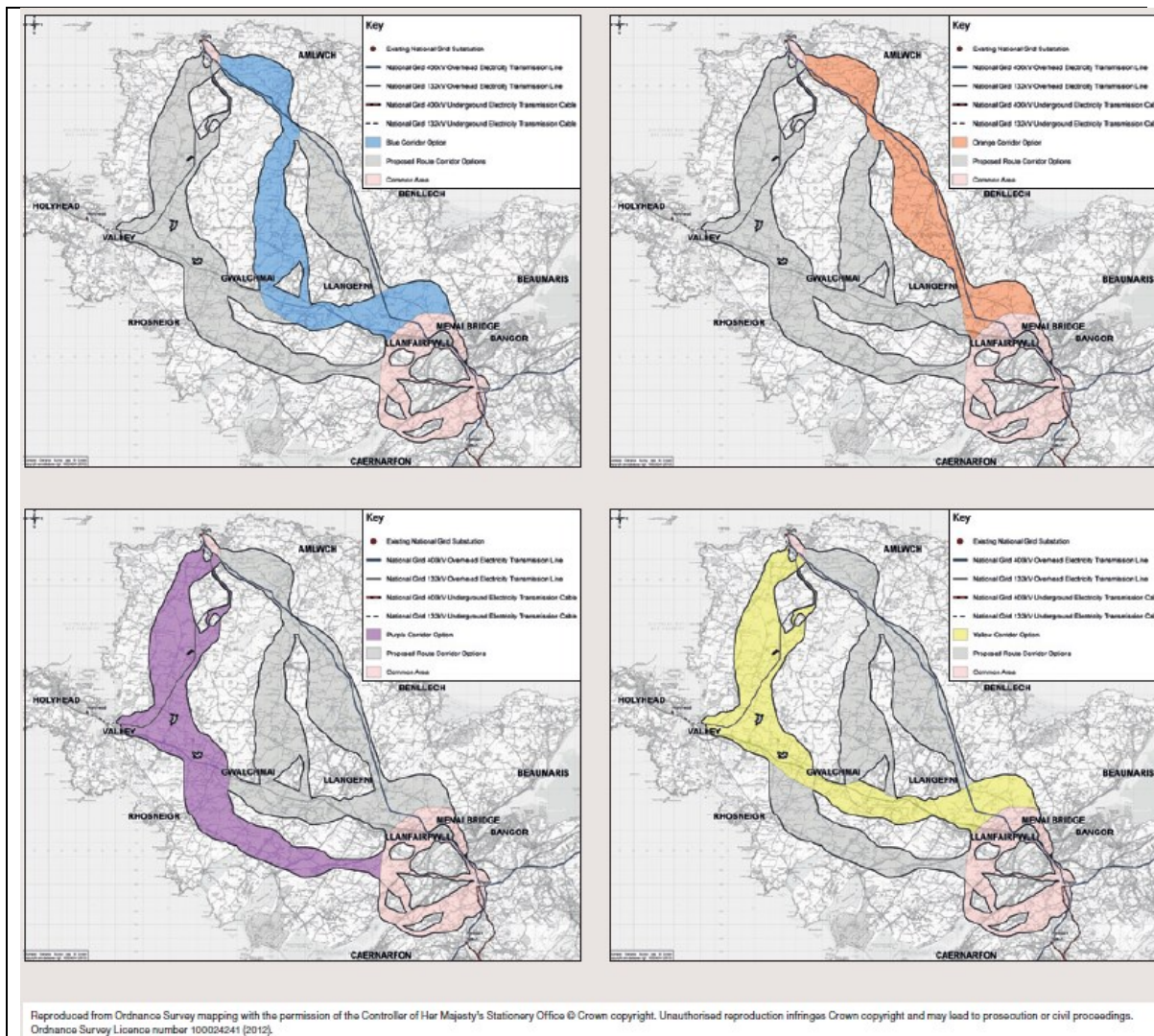


Illustration of four route corridors for preferred strategic option (SO3) of overland route from Wylfa to Pentir. Common area shown in pink for crossing of Menai Strait. (Source: National Grid)

**Table 3-2 Route corridor options for preferred strategic option**



(Source: Wyn-Williams 2015b; The Author)

**Figure 3-3** Protest Against HVOTLs on Anglesey

Year	
2008	Nuclear developer contracted for 3.6GW connection by 2020
2011	Celtic Array requests 2GW connection by 2018
	National Grid Early review of options based on 5.6GW of power
2012	National Grid Oct – Dec Stage one consultation on connection options and route corridor options for across land proposal from Wylfa to Pentir
2013	Greenwire and Codling Bank Irish windfarms request connection to UK electricity network in North Wales, comprising a further 2GW of power
	National Grid review of stage one feedback and start of environmental surveys
2014	Celtic Array cancels 2GW offshore windfarm project
	Horizon updates its connection to 2.8GW for mid 2020s
	Review of needs case based on 4.8GW confirms second connection from Wylfa to Pentir still required
	Another review of proposals including subsea and hybrid options concludes across land option still most suitable
	June: Stage 1 consultation feedback report published
2015	January: Announcement to put connection underground in Menai Strait area and orange route corridor from Wylfa to Pentir chosen
	October to December: National Grid Stage 2 consultation on crossing points at Menai Strait and route options for overhead line in Anglesey and North Gwynedd
2016	Further review of strategic connections options considering stage two consultation feedback
	Spring: Ecology, landscape and marine surveys across Anglesey and North Gwynedd start
	June: Route options and crossing points reduced in the Menai Strait area and tunnelling or horizontal direct drilling announced as potential technologies to go under the Strait
	July: Route options across Anglesey reduced and a preferred route chosen broadly in line with existing overhead line. Stage Two consultation feedback report published.
	December: Stage 3 consultation. Final route wide consultation. Further refinement of routes
(Adapted from National Grid 2016a)	

**Table 3-3 North Wales Connection Timeline**

## Chapter 4. Method

### 4.1 Introduction

Although the terms research methodology and research method are often used interchangeably, a distinction can be made: *method* refers to techniques and procedure used to obtain and analyse data whereas *methodology* refers to the theory of how research should be undertaken (Saunders et al. 2012, p.3). In this chapter an overview of the research methodology used and the methods used within this research are described.

### 4.2 Modes of knowledge

Walliman (cited in Saunders et al. 2012, p.5) emphasises that research is *not* simply “collecting facts or information without clear purpose”, “reassembling and reordering facts or information without interpretation” or to be used as a casual term to get a product or idea noticed. Research is characterised by systematic data collection, with systematic interpretation of data and with a clear purpose to find things out and thus increase knowledge (Saunders et al. 2012, p.5).

Gibbons *et al* (cited in Saunders et al. 2012, pp.6–7) categorise knowledge creation as having different modes. Mode 1 knowledge creation emphasises academic knowledge, where the research interests are set by academic interests with little or no regard for application of the research. Mode 2 knowledge emphasises a context of real-world practical relevance. To this we can add a further mode, Mode 3, in which questions of broader human relevance may be answered. Thus research may be of interest intellectually, have practical consequences and also have far more far-reaching societal influence. In considering the relevance and applicability of managerial knowledge, Hodgkinson et al (cited by Saunders et al. 2012, p.7 ) categorise this knowledge according to dimensions of practical relevance and methodological rigour. They describe puerile science as that with lower rigour and lower relevance, popularist science as having lower rigour but higher relevance, pedantic science as having high rigour but lower relevance and finally, pragmatic science as having both high rigour and high relevance. This it seems that a worthwhile aspiration for research could be to be pragmatic in these terms and to give rise to Mode 3 knowledge.

While aspiring to pragmatic research and Mode 3 knowledge, we should also consider the necessity for theory in research. Creswell (cited in Saunders et al. 2012) describes three broad categories of theories. He describes *grand theories*, *middle-range theories* and *substantive theories*. Grand theories are those such as those of Charles Darwin or Isaac Newton, which may have a substantial influence and capacity to change the way in which we view the world; middle-range theories have less capacity to change how we view the world but are still significant;

substantive theories are less generally applicable, and have less impact on our view of the world. This is not to dismiss substantive theories, as a sum of these smaller theories may lead to other theories and new knowledge. If research starts with a theory and tries to test this theory, this is a *deductive* approach. If data is collected and then used to arrive at a theory, rather than collected in order to test against a pre-existing theory, this is an *inductive* approach.

### **4.3 Research philosophy**

#### **4.3.1 Nature of reality**

The study of the nature of being and reality is known as *ontology*. There are two broad views of the nature of social reality. The first, *objectivism*, considers that social entities exist independently of social actors. The second, *subjectivism*, considers that social entities are created from the perceptions of and actions of social actors. According to the objectivist approach, knowledge can be discovered, there is a single truth and this truth is always true. In contrast, subjectivism holds that knowledge is created, that there can be multiple interpretations and this knowledge is not universal, but is true only under certain conditions.

Extending this to the concept of justice, from an objective standpoint, objective moral truths exist and thus justice could exist regardless of the presence of human actors. Justice can therefore be considered in terms of measureable fairness using objective criteria. From the subjective standpoint, justice exists because it is constructed by the human actors and cannot exist unless they are present. This potentially means that there is no common idea of justice but also allows for new expressions of justice.

#### **4.3.2 Nature of knowledge**

The study of knowledge and justified belief is known as *epistemology*. Epistemology considers the nature of knowledge and what constitutes knowledge within a field of study. Four research philosophies in social science are *positivism*, *realism*, *interpretivism* and *pragmatism*.

One of the central issues in the context of what is acceptable knowledge within the social sciences is whether the social world can or should be studied using the same principles as those used in the natural sciences. The position aligning social science research with the natural sciences and the nature of the modern scientific method is known as positivism. Positivism can be traced back to Auguste Comte (1798-1857), who characterised human intellectual and sociological development as passing through three stages: theological, metaphysical and positive (Law 2007). Positivism rejects the belief in the supernatural and moves beyond metaphysics. Positing that only phenomena and knowledge confirmed by the senses can genuinely be considered to be knowledge, positivism holds that reality is external, objective and independent of social



actors. Positivist research is value free and the researcher attempts to take an objective stance. The positivist approach focuses on causality and law-like generalisation, and uses theory to generate hypotheses that can then be tested. Although not necessarily so, positivist research tends to be quantitative and to use structured, large samples for data collection. Positivism supports both an inductive approach, in that facts can be assembled to provide the basis for laws, and a deductive approach, in that explanations of laws can be tested. Broadly, positivism is concerned with prediction rather than seeking underlying truth. In social research, positivism can be criticised for its reliance on superficial facts without any attention to underlying mechanisms which cannot be observed.

Realism (see Bryman 2008, chap.1) is the philosophical position that reality exists independent of human thoughts and beliefs, but also that what our senses tell us is reality is indeed the truth. Realism shares with positivism an objective view of social reality and assumes a scientific approach to data collection and interpretation. *Empirical realism (or naïve realism)* asserts that reality can be understood through the use of appropriate methods. It assumes that there is a very close alignment between an underlying reality and what we call reality. Thus our sensation of reality accurately reflects reality; however this in turn implies that insufficient data will lead to inaccuracies in sensations. Empirical realism can be criticised for failing to take into account the existence of underlying structures and mechanisms which produce the observed reality. *Critical realism* (Bhaskar 1989 cited in Bryman 2008) accepts that phenomena create sensations which are open to misinterpretation and that categories and mechanisms used to understand reality can be provisional. Critical realists also accept hypothetical mechanisms that cannot be measured.

Unlike positivist research, realist research is not objective but can be overlaid with the researchers' values and cultural experiences. Rather than seeking laws and generalisations, realist research seeks explanations within particular contexts.

Interpretivism holds that social reality is different from the reality of the natural sciences. According to interpretivism, social reality is socially constructed and reality is both subjective and subject to change; this in turn implies that there are multiple realities, rather than a single underlying truth. Interpretivist research therefore seeks subjective meanings. When conducting interpretive research the researcher must adopt an empathetic point of view in order to understand the social world from the point of view of people who are the subjects of the research. This type of research typically uses in depth qualitative study of small samples.

Having identified three broad research philosophies, we now introduce a fourth, pragmatism. As its name suggests, pragmatism holds that the research philosophy (positivism, realism, interpretivism) is subservient to the needs of the research question. Pragmatism eschews the dogmatism of rigid adherence to a particular philosophy in favour of the most appropriate methods to answer the research question. Tashakkori and Teddlie (cited in Saunders et al. 2012, p.109) assert that pragmatism is intuitively appealing as it avoids what many may see as pointless debates about the nature of reality and allows the researcher to focus on the question in hand using whatever methods are deemed appropriate. However, rather than a rejection of the idea of a single viewpoint or paradigm, pragmatism can also be seen as a way of embracing multiple paradigms. Pragmatism thus allows the researcher to hold multiple views on reality and permits that either observable phenomena or subjective meanings are valid knowledge. Different perspectives may be integrated in interpreting data. This approach encourages mixed or multiple methods, and may use either quantitative or qualitative data.

#### **4.4 Axiology**

Axiology is the study of values. First used by Paul Lapie in 1902 and Eduard von Hartmann, in 1908, the term derives from two Greek words 'axios' or worth and 'logos' or reason (Hart 1971). It encompasses the personal values brought to a research project. These values can inform the choice of method as well as the research topic itself.

An initial literature review for this study highlighted the likely area of research as in terms of perceived fairness or justice of placing electricity infrastructure, which passes through but does not necessarily benefit a community. This research was prompted by a bringing together of several concerns. In order to meet the twin challenges of both providing a secure future energy supply and reducing greenhouse gas emissions in response to anthropogenic climate change, the UK's energy infrastructure will need significant change. Future electricity generation scenarios combine, in varying proportions, a mix of nuclear power, increased use of renewables, and fossil fuels with carbon capture and storage. Accompanying changes to electricity generation, the transmission and distribution network will also be updated. While electricity generation facilities such as wind turbines and conventional power stations may be relatively easily understood in terms of purpose and ownership, the transmission and distribution infrastructure is perhaps less so. According to Devine-Wright and Devine-Wright (2009), members of the public have poor understanding of the working of the electricity network and only a vague idea of who was responsible for the national grid. As *"the institutions responsible for management, operation and upgrade of the transmission and distribution network were invisible or unclear"* (Devine-Wright and Devine-Wright 2009, p.365) this raises questions of how just or fair decisions on

infrastructure changes can be. In their study on public values, attitudes and acceptability within transformation of the UK energy sector, UKERC find that justice and fairness are important values (K. Parkhill et al. 2013). At this point it is perhaps apposite to introduce some personal considerations of the research topic. The author also considers justice and fairness to be important. Much of the motivation for this topic comes from a desire for energy system change to meet future needs combined with a desire for fairness. An understanding of the perceptions of fairness and justice within energy system change can inform future planning and consultation as well as potentially shaping the energy infrastructure itself. While not-prejudging any of the institutions or processes involved, some of this motivation is rooted in a personal unease with the private ownership and operation of large parts of strategic national infrastructure. There is also a suspicion that the planning process does not allow for consultation upstream of broader issues of, for example, strategy for choosing or siting infrastructure.

As well as considering and acknowledging personal values brought to the research subject, it is appropriate to acknowledge the ontological and epistemological background carried into the research. The author's previous background is within science, engineering and the positivist tradition. The author concurs with Tashakkori and Teddlie (2003) that pragmatism, and its focus on the question, is intuitively appealing and that it is this approach that best fits both the research subject and the authors sensibilities.

## **4.5 Case Study**

A case study is research based on the study of single or limited number of cases. Emphasis is on the detailed understanding of the particular case or cases. According to Yin (1981, p.59), a case study is used *"to study [a] phenomenon in its real-life context"*, unlike experiments, which *"deliberately divorce [the] context"*. A case study is a research strategy and need not be tied to any particular method. Indeed case study research can use multiple methods, allowing for greater understanding of different aspects of the case, or allowing triangulation using complementary methods to build evidence or understanding.

Eisenhardt (1989) asserts that case studies can be used to achieve various aims, including providing description, testing theories and building theories. She offers a roadmap for building theory from case study research.

However, the theory, validity and reliability of case studies have been criticised. According to Flyvbjerg (2006, p.221), the following criticisms have been levelled at case studies:

- *theoretical context-independent research is more valuable than practical context-dependent knowledge.*

- *one cannot generalize from a single case and therefore contribute to scientific development.*
- *case studies are most useful for developing hypotheses in the early stages of research while other methods are more suitable for hypothesis testing and theory building*
- *The case study contains a bias toward verification, that is, a tendency to confirm the researcher's preconceived notions*
- *It is often difficult to summarize and develop general propositions and theories on the basis of specific case studies*

Flyvberg refutes each of these criticisms, labelling them as misunderstandings. He asserts that:

- *concrete, context-dependent knowledge is ... more valuable than the vain search for predictive theories and universals*
- In terms of generalisation, it is possible to generalise by carrying out many case studies and thus build up a large, coherent picture (Giddens cited in Flyvberg, 2006). Flyvberg accepts that this is true but also states that it is not the only way of making generalisations, and that generalisations can be made from well-chosen cases. *"One can often generalize on the basis of a single case" and "formal generalization is overvalued as a source of scientific development, whereas "the force of example" is underestimated"*
- *As one can in fact generalise, then though the case study is useful in generating hypotheses it is not limited to this.*
- *There is no greater bias towards verification than in any other approach*
- The problems in summarizing cases arise from the complexity of the reality under study rather than from the case study as a research strategy. *"Often it is not desirable to summarize and generalize case studies. Good studies should be read as narratives in their entirety."*

The confluence of new energy infrastructure, new nuclear power, renewables, interconnects and consequent infrastructure development on Anglesey, North Wales, highlight the island as a natural geographical case to form the basis of the research. Positioning of new High Voltage Overhead Transmission Lines (HVOTLs) has been the subject of controversy and some protest. This is not to prejudge the process as unjust or unfair but it does indicate that there is an apparent tension which should not necessarily be dismissed as simple NIMBYism. As a region,

Anglesey seeks to take advantage of its role as an energy hub and potential centre of excellence by branding as Anglesey Energy Island. New HVOTL is a necessary part of this energy hub.

## **4.6 Methods**

The principle method chosen for the research is that of semi-structured interviews with stakeholders. For this research the use of semi-structured interviews offers advantages over survey instruments such as questionnaires or structured interviews.

In general terms, questionnaires pre-frame a question and while scales can be used to quantify responses to a particular question such as *'How fair do you think the consultation process is?'* surveys of this sort are less suitable to discover underlying meanings and causes of this opinion. According to Mackenzie, questionnaires yield ambiguous results as they only reveal what exists, not why it is so (Mackenzie cited in Saunders et al. 2012). Mackenzie compares typical questionnaires to a radio without knobs, arguing that one cannot make the results more useful, as in asking respondents for opinions without asking for reasons why these opinions are held, causal relationships are not established and there is no means to do so. While surveys do allow replication across different samples - providing the measuring scales employed, sampling criteria for respondents, what type of research instrument (questionnaire or interviews) and method of data analysis are documented - pre-framing the research in the way required by a questionnaire does not leave room for new or unexpected ideas or concepts to be developed.

A research interview can be used for data collection in both quantitative and qualitative research. Interviews can take several forms, two of which are structured and semi-structured. A structured interview aims to make all interviewees' responses have the same context and stimulus for questioning in order to allow responses to be aggregated. Questions are usually closely scripted and allow a limited number of responses. However it is also possible to have open responses which allow for more flexibility in answering. Open questions must be coded for quantitative analysis which can be laborious. Structured interviewing raises several problems (Bryman 2008, pp.210–212). The characteristics of the interviewer may affect the responses of those interviewed. This is particularly noticeable for gender or ethnicity perhaps, but may extend to other characteristics, such as the way the interviewer is dressed or presents themselves. Structured interviews may be prone to 'response set' bias, where responses are consistent but are consistent in a way that is not relevant to the questions posed. This can be seen in the acquiescence effect, where respondents consistently tend to agree or disagree with a set of questions or propositions. Another form of this bias is that of social desirability bias, where respondents' answers are related to their perception of the desirability of those answers and do not necessarily reflect their own underlying beliefs or opinions. A further problem is that

of this sort of interview relies on a commonly shared meaning between researcher and interview subject. Bryman (2008, p.211) suggests that the best way of dealing with this problem is to ignore it.

While the usefulness of reducing perception of justice and equity to a simple number can be questioned, it is however possible to quantify attitudes through the use of devices such as the Likert scale. The Likert scale is a commonly used technique in investigations into attitude. A Likert scale is made up of a collection of responses to questions of the type which can be answered typically with a 5 or 7 point scale ranging from '*strongly agree*' to '*strongly disagree*'. This sort of approach is used in 'state of the nation' polls such as those employed by Eurobarometer, which is used to determine attitudes across Europe on a wide range of topics. For example, there are Eurobarometer surveys which focus on attitudes to climate change, or on perceptions of civil justice. The justice survey examines personal experience of civil justice in other countries and awareness and use of European procedures, and cross-border family law for example. This sort of research has a narrow focus and seeks to answer fairly specific questions of attitudes towards particular topics at a particular time. Although surveys can be taken over many years to build up a picture of how attitudes are changing, as stated previously, this technique does not allow for expression of the underlying reasons for the expressed attitude.

If the research seeks to establish underlying causes rather than a simple measure of perceived fairness then a different type of method is needed. Semi-structured interviews allow for more flexibility than either questionnaires or structured interviews. A semi-structured format allows an agenda to be kept and gives focus to an interview. Questions can be framed as seen appropriate to elicit the most useful information and new lines of questioning can be added if new ideas or points of interest arise. Thus semi-structured interviews offer some control of the process while still allowing freedom of expression. They can be used deductively by establishing a framework for the interviews based on an existing theory, or inductively, if that seems more appropriate. As well as bringing potentially richer data than a traditional survey method, this more open format also allows responses to be coded, as for open questions in other methods. This therefore allows quantitative results to be obtained from the process if so desired. Other sources of information, such as company reports, minutes of meetings, policy documents, can be used to inform the interviews or to add supporting information.

#### **4.6.1 Precedents**

It is appropriate to consider what methods other studies within similar research areas have used. For example, in a study which examines responses to wind farms within a wider drive for onshore wind energy in Scotland, Parkhill (2007) adopts a qualitative case study approach.

Parkhill uses Regulation Theory as a framework for *“embedding abstract debates about social attitudes to new technologies within debates about real regulation”* (Parkhill 2007, p.307). There are possible parallels with research into public perceptions of justice with regard to transmission infrastructure. The study seeks to go beyond simple local attitudes to wind farms within this context, which can be ascertained by survey research. Two wind farms and their localities were used for the case studies. Both wind farms had been contested. The study used semi-structured in depth interviews with key stakeholders involved with the wind farm or locality. In another study, Parkhill *et al* (2010) used narrative interviews to research residents’ perception of risk when living near to nuclear power stations. Similarly, in a study looking at stigma surrounding large energy developments Parkhill *et al* (2013, p.4) used an approach *“grounded in an interpretive perspective, ... [recognising] the importance of socio-cultural framings and constructions in the realisation of risk, landscape and stigma”*. They chose a qualitative methodology which allows *“a focus on everyday experiences, framings and meanings”*. The research used two-stage qualitative interviews based around two power station case sites. The participants were given cameras and encouraged to take photographs between the initial interview and the reconvened interview, on anything they saw prompted by the initial interview or related to themes discussed. The initial interview was semi-structured and covered broad themes related to energy, energy supply and the local power station. For the second interview, the main focus was that of the participants talking through the photographs they had taken. The analysis was done by iteratively exploring the interview transcripts. As the researchers comment, this *“involved intense and repeated team discussions”*. This aspect alone may make the process difficult for PhD research as the multiple perspectives offered by a team are not available. The research used about 20 participants at each site, leading to over 80 interviews. From a practical point of view, this may be too large a large volume of work for a single researcher as the interviews must not only be undertaken but also transcribed and analysed.

Other methods for eliciting beliefs and perspectives, such as focus groups or workshop or citizen juries have been used in research in similar areas to that of this research and were considered. For example, Cotton and Devine-Wright (2012) used a workshop and focus groups to investigate public perspectives on the impacts of High Voltage Overhead Transmission Lines (HVOTLs) in the UK. Focus groups are a kind of group interview, typically emphasising a particular theme or topic to be explored in depth. Focus groups may stress the joint construction of meaning by members of the group, but conversely they can also highlight differences. Workshops can be viewed as an extended group discussion, which allows in-depth exploration of an issue. Focus groups and workshops must be guided and moderated the researcher or a facilitator. This includes setting

and explaining an agenda or purpose and mediating between participants in the event of conflict for example, as well as guiding the group in order to elicit opinions or other salient information. This sort of research method was rejected because of the relative difficulty of administering the groups, the experience required to do so, and the consequent risk of not obtaining usable research results.

A smaller study (Gross 2007) of community perspectives on wind energy in Australia examined the siting of infrastructure specifically with respect to principles of justice and fairness. Gross sought to examine procedural justice and used semi-structured interviews with key informants to allow a variety of perspectives to be understood. Gross deliberately selected interviewees with different perspectives: those identified as in favour, opposed to or neutral towards the development. Questions framed were developed from previously identified principles of procedural justice. Just twelve members of the community were interviewed and after transcription, the data were summarised and analysed using an informal coding process to extract key point and themes. This method falls short of the rigour expressed by Parkhill *et al* (2010; 2013) above, but was carried out by a single researcher over a relatively short timescale. Gross's method may be perhaps criticised for its limited scope for induction compared with larger samples of narrative interviews adopted by Parkhill *et al*. However, Gross categorises her own research as '*adaptive*' with the research cycling between the theoretical and practical aspects, each aspect informing the other and initiating further investigation. She describes it as using an exploratory approach to identify themes and factors perceived by individuals, which can then be "*ordered into a theoretical explanatory framework*" (Gross 2007, p.2731). This study is perhaps most in line with this PhD research in terms of scope and themes.

When choosing a research method, there are ethical considerations, such as that participation should be voluntary and of course that no-one should be harmed. Other considerations when choosing a method can be practical, such as constraints of time or budget, access to research subjects and so on. Therefore, although admitting to an interest in the methods used by Parkhill *et al* (2010) (2013) or Cotton and Devine-Wright (2012), for example, ultimately some of these methods may be attractive simply because they are novel to the researcher. From a practical point of view, semi-structured interviews with key stakeholders remains the favoured method.

#### **4.6.2 Photo-elicitation**

Photo-elicitation is the use of images within research interviews. First described in the field of anthropology, photo-elicitation has since been described for a wide variety of disciplines. While most photo-elicitation studies indeed use photographs, other types of visual images can also be used. Photo-elicitation is used to encourage interesting conversations, to gain enriched



knowledge of other people's lives, opinions and behaviour (Harper 2002). Photographs or other images can be used at any stage of the research. Photographs may have multiple or unpredictable meanings and can lead to longer more detailed interviews, and may trigger unforeseen meanings. Using images is collaborative and can result in higher levels of engagement by respondents (Ray & Smith, 2012). Images used may be produced or provided by the researcher, by the respondents (as in K. A. Parkhill et al. 2013) or co-produced.

In this research, images were introduced into an interview when deemed appropriate or convenient. To an extent this was determined by the nature of the respondent being interviewed and the time available for the interview. In practice this meant that while images were used within the interviews for lay respondents, they were not for respondents such as representatives of National Grid, or Members of Parliament, for example.

Several images were used of different types. The images included photographs of the local landscape, maps of proposed transmission connection routes, a diagram of the planning process for Nationally Significant Infrastructure and text showing summaries of models of justice. The images were introduced into the conversation when appropriate to the flow of the interview. This may have been as an introductory ice-breaker, as a prompt or when an appropriate point was raised. This can be seen as an ad hoc approach but it should be noted that the use of images was in addition to a semi-structured interview guide and so photo-elicitation was used as a supplement rather than the dominant part of the interview. A table of the set of images used is given in Appendix C.

Some care was taken to select images which were relatively neutral and also appropriate to the subject under discussion. For example, images of a massively industrialised landscape covered in transmission lines were avoided so as not to introduce or promote an undue bias from the outset. Images were readily available within the public domain or presented for public consumption and the source has been acknowledged. Images were printed out onto A4 sized paper for use in the interviews.

#### **4.6.3 Stakeholders**

Having identified key stakeholder interviews as the method to be used, this immediately begs the questions who are the key stakeholders and what representation should they have. Freeman (1984, p.46) defines a stakeholder as *“any group or individual who is can affect or is affected by the achievement of the organisation's objectives”*. A stakeholder can be anyone who affects or is affected by an issue, so the potential number of stakeholders can be very large. These stakeholders may be self-identified as interested in the issues under research, or may be

identified through the researcher's perception of the issues. It could include members of the electricity industry, or people who are affected by the siting of electricity infrastructure. Stakeholders are also invested with different levels of power. It may be harder to access those with greater levels of power, such as company executives and the like, but as their influence is potentially greater than those with less power it could be argued that they should be interviewed where possible. Conversely, particularly when considering a topic such as justice, and especially if we consider this in the sense of Rawls's fairness (Rawls 1999), one should not dismiss those with less power or those who are less vocal. It could be argued that there is little point interviewing subjects if they do not have the context or background to consider the subject under research. This may be a foolish or dangerous position to take when undertaking research into justice in a post-positivist world.

Semi-structured interviews have sufficient leeway to allow scope for the respondents to inform the direction the interview takes and this approach also allows information or opinions found in one interview to inform subsequent interviews without invalidating findings, for example, because interviews are not directly comparable. The flexibility of this approach allows specific issues to be addressed and for an iterative process of refinement across the research interviews as a whole which leaves room for new ideas or opinions to emerge (Bryman 2008, pp.438–440).

Potential stakeholders to be interviewed were identified through a combination of means. During the early scoping stages of this research the author attended meetings with representatives of Anglesey Energy Island and subsequently with the director of the program. The author also attended community meetings, which although not directly related to the issue of transmission infrastructure, allowed the researcher to meet people with an interest in the future of energy in the area. Newspaper reports from the local press and minutes from meetings, such as from Anglesey Island Council related to the transmission connection, also allowed a range of potential stakeholders or spokespeople to be identified. Discussion with the PhD supervisory team also helped to narrow down possible starting points. Thus non-probability purposive sampling was used (see Bryman 2008, pp.458–462), with research participants (stakeholders) chosen to be relevant to the research and to offer different perspectives on the same subject. Snowball sampling (also known as chain referral sampling, Vogt 2005) was used to gain further recommendation for respondents although these respondents were selected purposively rather than solely on recommendation. Simply interviewing those recommended by another respondent may lead to silos of information with similar viewpoints overrepresented. This is not necessarily the case but should be borne in mind. Aware that there could be an element of self-selection especially for lay respondents, some effort was made to also interview

residents who were not involved in protest against HVOTLs. These respondents, who can be considered among the 'quiet voices', were found through conversations with others and through contacts made locally.

#### **4.6.4 Data Collection**

Interviews were carried out over an extended 18 month period. Stakeholders were contacted either by telephone or e-mail or a combination. The method of setting up an interview depended on the respondent. For some it was a matter of a follow up e-mail after a face to face meeting, for example at a community event. If the stakeholder being contacted had been recommended by someone else then this person would commonly suggest the best means of contact. Having a recommendation or introduction of some form was valuable in establishing the validity of the research and in gaining the acceptance of a new respondent to take part. Some stakeholders had a more formal means of contact. For example, Members of Parliament were contacted through their parliamentary office. Representatives of National Grid were approached through a North Wales Connection contact number and only later contacted directly once representatives had agreed to participate in the research. It was particularly important to establish the credibility of the research immediately and concisely in order to gain access to the respondents through gatekeepers of this sort. Along with an introductory e-mail this this type of stakeholder was provided with a copy of the interview guide and ethical statement before agreeing to take part. An example of the pre-interview ethical statement and the interview guide are given in Appendix A and Appendix B respectively.

The type of sampling used means that the nature of informants unfurls as the research progresses, as recommendations are followed or as perhaps new groups of stakeholders are introduced. Nevertheless it is necessary to have some plan or strategy. Broadly, the strategy adopted was to follow up levels of power or influence, beginning with members of the public who had expressed some interest in the research, or who had been noted for an interest in a different but related issue – such as the siting of wind turbines or installation of renewable energy. Early discussions and interviews indicated a concern at a lack of democracy and representation of views within the planning process, so community and political representatives were interviewed. As the main protagonists with respect to transmission connection within the region, representatives of Horizon Nuclear Power and National Grid were interviewed. The stakeholders interviewed are summarised in Chapter 5 Results, Table 5-2.

When using purposive sampling of the type used in this research the question of how many interviews is enough is a matter of the researcher's judgment that sufficient data has been gathered to address the research question and that new data collection is unlikely to add much

value. This judgement is based in part on the repetition from different stakeholders with little in the way of new findings. Bryman (2008, p.461) comments that *"[in qualitative research it] is impossible to know ... how many people should be interviewed"*. It will always be possible to interview more respondents but it is a matter of balance and of judgement as to whether new interviews add understanding. Thus the approach adopted for this research is one of estimating saturation.

Respondents were assured of the intent of the research and of its academic nature. They were also informed that responses would be anonymised as was practicable, although some respondents could still potentially be identified through context or role. The respondents accepted the research on that basis and gave verbal consent. Some respondents requested a copy of the interview questions beforehand. This was provided along with the explanation that this was a guide rather than a script, leaving room for their views to be adequately expressed.

The majority of interviews were carried out face to face with just two carried out by telephone. The location of the interview was agreed with the respondent and selected to be convenient and comfortable for the respondent. This could be a neutral space such as a café, or the respondent's home or office.

All interviews were recorded with the consent of the respondents and for face to face interviews the recorder was placed in clear view. Respondents were informed that they did not have to answer all questions and that they could stop the recording at any time if they wished. Recording the interviews ensures both accuracy and completeness. Because the interviewer's attention is not taken up by making notes, the interview can flow more naturally and thus a better conversational relationship or rapport can be established with the interview subject. It is easier to digress when points of interest are raised and to formulate further questions if necessary. The risk that the respondent will be more wary when obviously on record is balanced by the knowledge that the interview is less likely to be misreported (Bryman 2008, pp.451–458).

#### **4.6.5 Analysis**

All interviews were transcribed and analysed for themes. The recordings were transcribed manually. Manual transcription can be extremely time-consuming but the repeated listening to the recordings while transcribing was considered a valuable part of the analysis process. The open source audio editing software, Audacity v2.01 (see Audacity 2012), was used to facilitate transcription. While used primarily as a convenient means to play audio files, the software also provides several useful facilities such as conversion between different audio file formats, labelling, looping and the ability to enhance audio if necessary.

The transcribed interviews were analysed thematically. This was both to examine interviews for themes carried into the interviews, provided by the framework of questions, or linked to the overarching themes which inform the research, and also for themes which emerge or are discovered from the interviews.

Atlas.ti 7 Qualitative Data Analysis Software (QDAS) (see Atlas.ti 2018) was used to assist in analysing the transcripts. Atlas.ti allows coding of transcripts and grouping of codes in developing themes. When using QDAS the researcher must exercise a certain restraint to avoid the tail wagging the dog. Using QDAS can lead to a proliferation of coding, with codes taking the place of meaningful interpretation (e.g. St John and Johnson 2000). This caution was borne in mind when analysing the transcripts, with repeated iterations used to establish themes.

#### **4.6.6 Ethics**

This research was carried out according to Bangor University's Research Ethics Policy. Contributions of views and opinions to the research were valued. Personal details and information have been kept private. Pseudonyms have been used to protect the identities of participants. Where a participant is possibly identifiable because of their professional role or role within the community, consent was obtained for this level of indirect identification (Bangor University 2013).

## Chapter 5. Results

### 5.1 Introduction

This chapter presents the results of the research. Firstly the timeline of the interviews and a summary of stakeholders interviewed are given. Subsequent sections then present findings from the interviews. This begins by confirming a general acceptance of new nuclear electricity generation in principle coupled with protest against transmission connection for this power station. The remainder of this chapter is then divided according to themes drawn from the interviews.

### 5.2 Interviews

#### 5.2.1 Timeline

Interviews were carried out over an extended period of about 18 months. Over this period the process for determining the new transmission infrastructure continued. It can be seen that different interviews could be carried out at different stages of the process and hence different information would have been available to different respondents. For example, some stakeholders would have been interviewed before the preferred route corridor for the transmission lines was announced and some after the selection and announcement of the corridor. Table 5-1 below places the interviews in the timeline of the National Grid North Wales Connection process.

Date	North Wales Connection	Research	Other
2008	Nuclear developer contracted for 3.6GW connection by 2020		14 <sup>th</sup> Dec IACC extraordinary meeting to discuss preliminary informal (i.e non-statutory) consultation
2011	Celtic Array requests to connect 2GW by 2018		
	NationalGrid early review of options based on 5.6GW of power		
2012 Oct	Strategic Options Report published		
Oct – Dec	Stage one consultation on connection options and route corridor options for across land proposal from Wylfa to Pentir		
2013	Greenwire and Codling Bank Irish windfarms request connection to UK electricity network in North Wales comprising a further 2GW power		
	NG Review of stage one feedback and start of environmental surveys		
2014	Celtic array cancels 2GW offshore wind project	April 2014 - Initial meeting with AEI	
	Horizon nuclear power updates its		

	June	connection to 2.8GW for mid 2020s	Late 2014 – early 2015 first group of interviews	
		NG review of needs case based on 4.8GW confirms new connection from Wylfa still required		
		NG Another review of proposals including subsea and hybrid options concludes across land option still most suitable		
		Stage one consultation feedback report published ( <i>18 months after consultation</i> )		
2015	Jan	Revised Strategic Options Report published	Late 2015 – second group of interviews	Dec 30 <sup>th</sup> Wylfa stops generating after almost 45 years and 232 TWh of electricity Enters de-fuelling stage
		Announcement to put connection underground in the Menai Strait area and orange route corridor from Wylfa to Pentir chosen		
	Oct - Dec	National Grid Stage two consultation on crossing points at Menai Strait and route options for overhead line in Anglesey and North Gwynedd		
2016		Further review of strategic connections options considering stage two consultation feedback	Mid 2016 – third group of interviews	
	Spring	Ecology, landscape and marine surveys across Anglesey and North Gwynedd		
	June	Route options and crossing points reduced in the Menai Strait area and tunnelling or horizontal direct drilling announced as potential technologies to go under the Strait		
	July	Route options across Anglesey reduced and a preferred route chosen broadly in line with existing overhead line. Stage two consultation feedback report published ( <i>18 months after consultation</i> )		
	Oct – Dec	Stage three consultation – detailed design and siting of pylons. Final route wide consultation. Further refinement of routes		
2017	Jan	Crossing options for Menai Strait		
(Adapted from National Grid 2016a)				
Other dates:				
Hinkley C	subsidy plan queried by EU		Dec 2013	
	EU approves Hinkley C		Oct 2014	
Brexit	Austria launches legal challenge		6 <sup>th</sup> July 2015	
	Referendum held		23 <sup>rd</sup> June 2016	
	Article 50 <sup>6</sup> triggered		29 <sup>th</sup> March 2017	
	(meaning Britain will leave EU by 29 <sup>th</sup> March 2019)			

**Table 5-1 North Wales Connection and Research Interview Timeline**

<sup>6</sup> **Article 50** is a clause in the European Union's (EU) Lisbon Treaty that outlines the steps to be taken by a country seeking to leave the bloc voluntarily. Invoking **Article 50** starts the formal exit process and serves as a way for countries to officially declare their intention to leave the EU

### 5.2.2 Stakeholders

Broadly the strategy for interviews was to start by interviewing lay or public stakeholders identified as having a possible interest in the new transmission infrastructure and interest in the research, such as those potentially affected by the routing of the new transmission infrastructure, or those who had some involvement in the campaign against pylons within the area. These initial stakeholders interviewed can be characterised as those with an interest in the infrastructure because they may be personally affected by any new transmission lines or because they have personal opinions regarding this infrastructure. This includes later interviews with residents not directly affected but with some connection to the island and a resident near Pentir, the site where the new transmission infrastructure will connect into the existing national grid, who had shown an interest in the research and a willingness to take part. They are interviewed as lay members of the public who may be affected by the new infrastructure but as individuals have no professional involvement or influence and no specific formal role in the process of developing new transmission infrastructure.

Interviews were also carried out with stakeholders identified as having a more specific interest in electricity generation and transmission within the region, such as those involved in community energy projects or community development, or through involvement in campaign groups such as PAWB<sup>7</sup> (People Against Wylfa B / Pobol Atal Wylfa B) or Dim Peilonau<sup>8</sup> (No Pylons) or CPRW<sup>9</sup> (Campaign for Protection of Rural Wales). Some of these stakeholders, such as those involved in community energy, may be seen to have a related professional interest although they are not directly involved in the transmission project.

The early interviews indicated a concern at a lack of democracy in the process by which new transmission infrastructure was determined and a general concern with respect to matters of representation and consultation. To address this, representatives within the democratic political process were also interviewed. These are stakeholders who represent the views of others such as those of members of a local village community, or a Welsh Assembly or UK parliamentary constituency. In addition stakeholders with a broader strategic view of economic and energy development in the area were interviewed such as representatives of Anglesey Energy Island and the Chief Economic Development officer from Anglesey Island Council. Finally representatives of the main protagonists of the transmission development were interviewed, namely Horizon

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<sup>7</sup> PAWB is a campaign group opposed to new nuclear power development in general and in particular at Wylfa. The acronym works bilingually in both English and Welsh as People Against Wylfa B and as Pobol Atal Wylfa B. Pawb is also the Welsh word for 'everyone'.

<sup>8</sup> Dim Peilonau is a local campaign group formed specifically to oppose the use of pylons across Anglesey as a solution for provision of the new transmission infrastructure from Wylfa Newydd

<sup>9</sup> CPRW is a charity which works to *"safeguard the quality and diversity of all Welsh landscapes and seascapes"* (CPRW 2013)



Nuclear Power and National Grid, it being Horizon's development which requires the new transmission infrastructure and National Grid which is installing it.

Although many of the stakeholders interviewed lived in or had connections to Anglesey and the Llanfairpwllgwyngyll area specifically, this was by no means exclusively the case. Not all residents interviewed were directly affected by the project although they had shown an interest in the research.

While stakeholders were chosen or recommended for their professional role or their perceived value to the research from a particular viewpoint, there was also overlap between individual's roles and not all parts of a respondent's stake were apparent when the interviews were arranged. For example, a respondent interviewed primarily for his role as a farmer who had expressed concern at the consultation process for the new transmission infrastructure was also a community councillor and had a background in statistics, bringing the slightly different perspective of someone with these three influences combined.

It should be noted that the method does not necessarily give a representative sample of the viewpoints across the region's population, however it was anticipated that the views found would be valuable in understanding personal and professional relationships with large scale transmission infrastructure.

A total of 21 semi-structured interviews were carried out at intervals over an approximately 18 month period. The interview with National Grid was with two representatives, giving a total of 22 stakeholders interviewed. The dates, and summary of the stakeholders interviewed are given in Table 5-2 below. The respondents have been anonymised by using pseudonyms or by use of a professional role or title if this is more appropriate. Use of a role or title is not strictly anonymous but does not directly identify a particular individual without further work on the part of the reader. This was acceptable to those speaking in a professional capacity. As part of the early scoping for the research, a meeting was held with members of the Anglesey Energy Island team and a separate meeting with the Director of the program. The former meeting was recorded and has contributed to the research.

<b>Interview Date (YYYY.MM.DD)</b>	<b>Stakeholder</b>	<b>Brief bio</b>	<b>Images used (see Appendix C)</b>
2014.04.10	[Director, Welsh Government]	Director in Welsh Assembly Government. Present at initial meeting with Anglesey Energy Island.	None
2014.12.02	[Respondent Alpha]	Anglesey resident, opposed to wind turbines but with an interest in renewables. Former engineer for CEGB. Lives within one of proposed route corridors.	Respondent's own images: views from home, respondent drawn schematic of electricity network in North Wales, HY
2014.12.11	[Respondent Bravo]	PAWB. Interest in social justice and community development.	RC
2015.01.11	[Respondent Charlie]	Anglesey Resident, former engineer with some experience of large projects (roads). Lives close to one of proposed route corridors	Respondent provides NG's route corridor maps in NG document (RC)
2015.02.10	[Respondent Delta]	PAWB. Anglesey resident and small business owner.	None
2015.02.20	[Respondent Echo]	Anglesey resident. Secretary for local CPRW branch. Ex-farmer	TB, BP1, PY, JM, PR
2015.02.23	[Respondent Foxtrot]	North Gwynedd resident with an interest in community energy	TB, BP1, BP2, PR, RC, HY, JM
2015.02.23	[Respondent Golf]	Gaerwen resident, so close to potential pylon developments. Expressed interest in this research.	TB, BP1, BP2, PR, RC
2015.02.23	[Respondent Hotel]	Llanfairpwll resident. Lives close to one of proposed route corridors.	TB, BP2, PR
2015.03.13	[Plaid WAM]	Plaid Cymru Welsh Assembly Member for Ynys Môn / Anglesey.	None
2015.03.13	[Respondent India]	Resident with interest in energy development. Member of CPRW	RC, TB
2015.03.13	[Respondent Juliet]	Llanfair PG Resident and Community Councillor. Active within Dim Peilonau campaign.	None
2015.04.29	[Respondent Kilo]	Anglesey Resident, farmer and community councillor with a background in statistics	None
2015.10.09	[AEI Director]	Director of Anglesey Energy Island programme. Head of socio-economic development, Magnox, Wylfa.	None
2015.10.12	[IACC Economic]	Head of economic and community regeneration, Isle of Anglesey County Council. Resident Llanfair PG.	None

2015.10.12	[Respondent Lima]	Resident near Pentir. Expressed interest. Formerly involved with other campaign (roads).	TB, BP1, BP2, PY, RC
2015.11.13	[Plaid MP]	Plaid Cymru MP for Arfon. Former chair of anti-pylon group, Dim Peilonau.	None
2015.12.04	[CADW]	Member of Visual Impact Provision stakeholder group and professional stakeholder for North Wales Connection as representative of CADW..	Respondent showed images historic site
2015.12.04	[Respondent Mike]	Former resident of Llanfair PG. Now of Arfon but still with links to Anglesey.	RC
2015.12.11	[Labour MP]	MP for Ynys Môn / Anglesey.	None
2016.05.24	[Horizon]	Stakeholder Relations Manager, Horizon Nuclear Power	None
2016.07.06	[NG 1]  [NG 2]	1. North Wales Community Relations Team, Regional External Affairs Manager 2. North Wales Connection Project officer with responsibility for relationships with statutory stakeholders	None
Notes: [Director, Welsh Government] was not interviewed separately but was present in the initial meeting with Anglesey Energy Island. [Respondent Hotel] and [Respondent Charlie] were interviewed in the presence of their spouses, who also made contributions.			

**Table 5-2 Summary of Stakeholders Interviewed**

### 5.2.3 How do you see your stake?

Having been selected through recommendation or contacts or because of a specific role the stakeholder has with respect to the new electricity infrastructure, respondents were also asked to describe their own stake.

While professional respondents may understandably describe their role within terms of their professional responsibility, those without this professional relationship identify themselves in other ways. Non-professional stakeholders primarily identify as residents of the area and as consumers of electricity. Those not directly affected by the proposed transmission routes may not identify their stake as anything other than as a consumer of electricity, recognising that the North Wales Connection will probably not directly affect them for the most part.

*I'm affected by it because I'm an electricity user. Obviously. But I don't know of any other effect. [Respondent Lima]*

Lay stakeholders, as well as defining their relationship with the electricity infrastructure, such as a consumer of electricity, would also point out what else they were; their relationship with the electricity does not define them and this is something beyond their usual role.

For example [Respondent Juliet], who had been active in the campaign against pylons on Anglesey, identified in terms of her every day role away from the focus on electricity transmission, indicating that she is not *just* a campaigner on this issue and has a whole set of other roles in addition to and away from the campaign.

*I'm a busy mother, a career woman, you know, plenty of things to do, I'd no intention to get involved with anything, until the National Grid decides that they're planning to put pylons. [Respondent Juliet]*

Whereas for professional stakeholders, transmission of electricity can be regarded as a part of their everyday, for lay stakeholders this is in *addition* to their everyday.

As could perhaps be expected, professional respondents chose to identify with their professional role, separating out any personal involvement. This separation could be made explicitly for clarity. For example [IACC Economic] acknowledged a personal stake as a resident within reasonable proximity of the proposed development but clearly separated this personal stake from his professional involvement.

*So I've got a personal and a professional view, but today I'll be speaking in my professional capacity rather than as a resident [IACC Economic]*

Others whose stake had been identified as professional may have offered a personal opinion, but identified it as such before giving it, giving a clear separation to distinguish their own opinion from that of the organisation they represented or were employed by.

It should be noted that the declared or identified stake is a simplification of what may be a complex multi-faceted relationship with electricity in general and the proposed transmission infrastructure in particular. Professional separation of roles could lead to a particular position being expanded on while an undisclosed stake or role remained in the background. This meant that at times a significant part of a stake could be hidden or perhaps withheld during the interview. The [Plaid MP] raised his dual roles as both a local MP, elected to represent the views of his constituents, but also as the former chair of the Dim Peilonau protest group. In another example, it was not apparent that [IACC Economic], the Chief Economic Development Officer for Anglesey Island Council also had a role in managing planning performance agreements with National Grid for the North Wales Connection development until the very end of the interview,

at which point it was too late to pursue any new line of enquiry. This is not to suggest duplicity or deliberate secrecy but it does highlight self-censorship or compartmentalisation of roles during the interviews.

[CADW] makes the point of professional stakeholders that some who may have an overall interest in the success of Energy Island for example may have an interest in getting the most of these schemes, whereas the specialist stakeholders involved with the National Grid stakeholder group, are more impartial and impassive, representing a view without trying to push a development agenda. In line with this, professional stakeholders may deliberately adopt a restricted viewpoint

*If I just stick to what I would say officially as a CADW representative, purely about historic environment interests, then a lot of those questions we just don't take a view on.*

[CADW]

As [CADW] states, this is the case for all consultees of this type except those who have to make a balancing judgement, and that it is entirely appropriate to keep focus very narrow in this way. In his own case, for example, [CADW] makes the distinction between two distinct roles related to transmission: one as part of Stakeholder Advisory Group for Visual Impact Provision (VIP) project; the other as a consultee in relation to the new line across Anglesey<sup>10</sup>.

Knowledge of the electricity network among respondents varied considerably. One respondent, interviewed as a resident with an interest in local generation, had formerly worked for the CEGB and understood the local transmission network structure sufficiently to sketch a diagram of it during the interview and had knowledge of the sort of constraints placed on the network in engineering terms. Other lay respondents, who did not have this experience, showed less technical understanding but instead had to rely on broad principles to make their judgements.

Several stakeholders recognised the differing nature of their stakes as consumers of electricity, and residents who may be affected by new infrastructure but also as citizens in the broader sense, being members of the local community but also citizens of both Wales and of the United Kingdom.

[Respondent Golf] recognises that he has multiple stakes with respect to electricity transmission, as a consumer of electricity, to whom electricity is delivered. From this viewpoint he accepts the need for electricity transmission and he views the transmission as coming to his location,

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<sup>10</sup> National Grid's Visual Impact Provision (VIP) project is a project specifically to reduce the impact of *existing* transmission lines in AONBs and National Parks in England and Wales, with £500m funding allocated from Ofgem to do so. Both of these roles involve professional input as a representative of CADW on the matter of transmission lines, but are different in purpose.

although in broad terms the electricity is transmitted *from* Anglesey. Whilst broadly accepting the *need* for new infrastructure, as a resident of an area potentially affected by new transmission lines, and as someone who has grown up in the area he also identifies with the area and as both a resident and also as a citizen in the wider sense. [Respondent Golf] also recognises potential tensions between these stakes.

When describing different stakes with respect to electricity transmission in the region, respondents may also link their stake to concerns for the impact new infrastructure may have on the landscape and how this may affect either them or people they know.

*Well, I guess I'm a consumer in one sense of it but at the same time I'm somebody who likes Anglesey as a place to be. So whilst I'm not currently a resident, my horse is still on Anglesey, my parents are still on Anglesey, so it's, yes, I need power but at the same time I like the island to be pretty.*

...

*It affects where my parents are. ... Actually, yes, they're slap bang there, right in the middle of the pinky bit [referring to route corridor on NG map] [Respondent Mike]*

While many stakeholders described a personal stake with respect to transmission infrastructure, some stakeholders describe a more strategic view or influence. [AEI Director] describes his professional relationship with transmission infrastructure as *"helping organisations that want to put the infrastructure in place have the right conversations"*. This is not in a sinister way, but as a facilitator and liaison with National Grid and other organisations – *"by liaison I mean conversations from time to time"*. Part of his role is working quite closely with Grid and other developers, *"making sure they are speaking to the right people within the County Council from a planning perspective"*. This is specifically for larger developments which need infrastructure enhancements but with a role in community level development.

The stakeholders' views of themselves illustrate differing stakes even within single stakeholders, with different perspectives, different scope as citizens, as representatives of people and members of industry and with different level of influence, more or less strategic.

### **5.3 An overview of the problem**

Respondents were asked for their views on the need for new electricity generation and hence transmission and also the basic nature of objection to or protest against National Grid's proposals. Points raised are expanded elsewhere but this section serves to introduce a general acceptance of the need for new transmission infrastructure across Anglesey and the nature of objection to proposed solutions.

#### **5.3.1 Understanding the need**

Both large power stations and the transmission infrastructure which accompanies them are significant developments. As [IACC Economic] identifies, there has been little *“major strategic infrastructure of this type built [in the UK] on this level for a number of years; a couple of generations”*. The needs case for new transmission can be broken down into a general need for new low-carbon generation and the specifics of the particular case of Anglesey and the North Wales Connection.

Respondents were accepting of the principle of new electricity generation either because of the need to replace ageing power stations or to shift towards low-carbon generation. Though opinions differ on how electricity could or should be generated and transmitted and distributed, in broad terms there is an understanding among respondents that new generation capacity is required, that for the UK this includes new nuclear power stations and that the electricity from these new sources must be transmitted and distributed from where it is generated to where it is to be consumed. Thus the need in principle for a new or upgraded transmission link is accepted. This acceptance is coloured for some who are opposed to nuclear power for example or who favour a different structure of electricity grid, but for most it is a reasonable logical step. The matter of the new nuclear power station itself is considered in section 5.8.

As may be expected, the level of engagement with and understanding of the need for new electricity infrastructure varies between respondents. Many respondents who had engaged with National Grid's process of consultation showed a knowledge and acceptance of other possible generation projects on and around Anglesey and of the need to reinforce the transmission infrastructure. Several respondents mentioned one or more proposed generation projects such as the Rhiannon offshore wind-turbine array, marine current turbines, an interconnect to Ireland and a biomass plant. The respondents were also aware of the Anglesey Energy Island initiative, although this has mixed response (see para 5.5, p111). For example, [Respondent India], who characterises the importance of electricity *“as fundamental as food and water”*, expressed an understanding of the need for new electricity generation and made a link with climate change. [Respondent India] also highlighted the issue of affordability of electricity, with one of the

principles of energy security being that energy should not only be physically available but economically available. [Respondent India] linked new generation with a potential increase in more dispersed generation, also with technologies such as wind-turbines and new nuclear. In common with several other respondent [Respondent India] also showed an understanding of the changing nature of generation capacity and is able to cite different capacities reflecting the change over time of the generation at Wylfa and other proposed projects, such as the Rhiannon wind farm.

To illustrate how generation capacity and proposals have changed over time, [Respondent Bravo] was able to give the specific example where an earlier incarnation of development for Wylfa proposed did not require any extra transmission lines. [Respondent Bravo] recounts information from as long ago as 1989.

*Wylfa will have two turbine generators supplying 1.175 GW to the national grid. A new 400,000 V sub-station will be built on the site, to transmit power at high voltage to the grid. No new grid lines will be built on Anglesey [Respondent Bravo]*

[Respondent Juliet], for example, showed a good understanding of the different energy projects in and around Anglesey and the subsequent need for new transmission infrastructure; she recognises that the needs case for transmission has have changed over time but is able to identify the different generation sites, including Wylfa Newydd, an undersea connection to Ireland and the Rhiannon wind farm and to place a value on these developments' capacity in GW. She describes these developments as *"a collective mass of energy, [which needs] to be transported across the island and across to Gwynedd."*

[Respondent Bravo] also points to a future of a more integrated electricity grid across Europe, which would require both more generation and new transmission<sup>11</sup>.

Other respondents, who had not had as much involvement with the North Wales Connection for whatever reason, were more likely to draw on general principles. [Respondent Mike] for example was aware of the transmission route corridors in principle, from information distributed by National Grid, and that the new connection will have to cross the Menai Strait. [Respondent Lima] also was aware of the idea of alternative route corridors and accepted the principle that more electricity will be generated which must then be removed to where it is needed for further distribution and consumption. These respondents speculate on the reasons for new generation and connection:

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<sup>11</sup> This interview was conducted before the Brexit vote



*I'm assuming that if they build another power station they are going to have to get the supply out, somehow or another [and] they can't connect the new one up to this existing network? [Respondent Lima]*

*Presum[ably] the age would come in to it, updating the capacity [Respondent Mike]*

Although accepting in principle that a new transmission link is being developed to transmit electricity from Wylfa Newydd, [Respondent Hotel], for example, was uncertain why if one power station was being replaced by another, a new transmission link was required and why the existing link could simply not be re-used or upgraded.

Several respondents showed an awareness of the mixed nature of the generation projects within the region and also how this may be subject to change. For example, both [Respondent Foxtrot] and [Respondent Kilo] mentioned that the Rhiannon offshore wind generation project was no longer going ahead. [Respondent Kilo] also mentioned the possibility that other producers from Ireland may want to bring electricity ashore in the region. For [Respondent Kilo] this leads to questions on the capacity required, as part of the original needs case is no longer extant, and also to questions as to what other developments may also need to be connected.

*Well [Rhiannon's] gone kaput*

...

*But [electricity being generated is] lower now because of the Rhiannon wind farm being a non-starter*

...

*There's a few of the Irish producers are tapping into this as well, aren't they?*  
*[Respondent Kilo]*

[Respondent Golf] accepts the need for a “*more robust grid*” and new transmission, and rationalises it as simply having more electricity to transmit, either because Wylfa Newydd generates *more* electricity or that as Anglesey Aluminium is no longer extant to make use of any excess capacity the electricity must be transmitted further away. [Respondent Golf] is aware in principle of other generation projects such as offshore wind and also of more distributed generation. [Respondent Golf] is also aware that the Rhiannon wind farm project is no longer going ahead and so questions whether the need for new transmission is simply *historic*, or whether it is a hedge to retain extra capacity for predicted need, to ensure that the grid's capacity will remain sufficient. In fact the need for a new transmission link is predicated on increased capacity to meet the needs for Wylfa Newydd; the generation from Wylfa Newydd

alone is sufficient to warrant a new transmission link. Whether this new transmission link is *more* than sufficient is a different matter.

While most stakeholders have an understanding of the need for new electricity infrastructure, for some stakeholders the necessity or otherwise of new infrastructure is beyond their remit, and is deliberately excluded from their thinking. For example, [CADW] as a representative of CADW and with an interest in the visual impact of any new HVOTLs on the historic landscape says, he *“would be responding as if it was a planning application, so I wouldn’t really take a view on whether it is necessary or not, I would take a view on its impact in the historic environment and then advise accordingly. No real view on whether it is necessary.”*

Those involved with projects such as Anglesey Energy Island may be expected to have a grasp of the sorts of energy developments proposed and the need for a new transmission connection. This is shown by [AEI Director], who shows familiarity with specific energy projects other than Wylfa, such as Irish wind farms<sup>12</sup> which are to connect to Pentir directly, and how these have changed over time. [AEI Director] is also able to rationalise the need for a new transmission connection despite changes in the generation mix as the current transmission line still will not have sufficient capacity for the additional generation from Wylfa Newydd.

[Horizon] is clearly aware of the potential shortfall in electricity generation capacity as existing power stations are decommissioned and of the role of new nuclear power stations such as Wylfa Newydd in meeting this shortfall. While the ownership of Horizon, the reactor type proposed for the development of Wylfa Newydd and consequently the generation capacity of the power station have all changed over time, the need for reinforced or new transmission capacity has remained and Horizon must therefore request a new or improved transmission connection from National Grid.<sup>13</sup>

[Horizon] is perhaps understandably able to provide more specific detail of the changing generation capacity of the proposed Wylfa Newydd which can be largely be ascribed to changes in the preferred reactor technology following change in ownership of Horizon itself.

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<sup>12</sup> For example, Codling Bank Wind Park will be located off the East Coast of Ireland (between Greystones and Wicklow). It will comprise 220 turbines of between 2.5MW and 5MW capacity, giving a generating capacity of up to around 1100 MW. An additional extension is proposed for a further 200 turbines. The site is jointly by Fred Olsen Renewables Ltd and Hazel Shore Ltd. (Codling Wind Park 2013)

<sup>13</sup> Horizon was originally formed as a joint venture between the German companies E.ON and RWE npower. Horizon was bought in 2012 by Hitachi in 2012 and Horizon is now a UK company but a wholly owned subsidiary of Hitachi.

[Horizon] summarises:

*So, currently, so it is quite apparent the line that currently stretches across Anglesey to connect to the grid at Pentir, outside Bangor, that line has capacity of I think it's 1.2 GW. So, it's not enough. [Horizon]*

And thus Horizon must request that National Grid provide a new or reinforced connection

Others also make the point that even though proposed generation schemes have changed over time, with projects such as Rhiannon coming and going, Wylfa has remained; although Wylfa has changed in design and specification and generation capacity over time, Wylfa remains the key reason for the new infrastructure, with or without other generation.

*It's clearly this now is linked to Wylfa, specifically. It wasn't quite that straight forward when Rhiannon was in the mix as well. And it was coupled in with some major energy projects in Ireland, as well, which are more uncertain now, too. But I think it is pretty clear now that the heavy duty infrastructure that is being proposed for Anglesey is basically down to Wylfa. [Plaid WAM]*

Thus the need for extra transmission lines is predicated solely on the generation from Wylfa Newydd. However, [Labour MP] makes the point that at some point the transmission would need to be improved whatever was built in the North West (of Wales) “*whether it be offshore wind, marine tidal, nuclear or we've got the biomass eco-park at Anglesey Aluminium. The infrastructure would need to be either upgraded or it would need to be replaced.*” While accepting the future need for transmission infrastructure he contends that this should not lead to an “*industrial scale of pylons*” and new transmission infrastructure should be mitigated, by taking it sub-sea or undergrounding for instance. [Labour MP] further contends that sub-sea or hybrid routes around the island have not been seriously considered. Thus he accepts the need for new or reinforced transmission infrastructure but does not accept that this has to industrialise the landscape.

[Plaid MP] contends that although there is general acceptance of the need for new means of electricity generation, it is less apparent to many that if electricity is generated at a large scale then it must also be transmitted from where it is generated to where it is needed.

*Well, not surprisingly I think people are facing several ways at the same time. ... The public are now quite convinced, I think most people are convinced now that we need alternative ways of energy production. I think, whatever the climate change deniers say, I think that sort of argument is won, as such, and I know there is a huge controversy*

*about wind production on land, but wind production, production by wind at sea seems to be fairly non-controversial. And if you look at it by parties, you know, we are very much in favour of alternative generation, and small scale micro-generation, which wouldn't need so many pylons, of course, and is more resilient as a system of producing electricity.*

...

*What people haven't got to grips with is if you produce it at a large scale, as an energy island for example, how do you get it from the island to the mainland, you know? That really hasn't penetrated into the public consciousness, I think, to the same extent, you know. [Plaid MP]*

National Grid, as the provider of the planned transmission connection, as well as understanding the need for a new transmission connection for Wylfa Newydd, also bring to bear an overview of the network and consideration of the efficient use of the existing network and assets when developing the new connection. It is this integration into the existing network that to a large extent defines the end point of the connection, Pentir.

[NG 1] summarises that there is acceptance that Wylfa Newydd must be connected to the network

*I think there is an acceptance that it needs to be connected, that Wylfa Newydd only operates with a connection into the electricity network. The debate then follows about what that connection should be. [NG1]*

Although there may be several strategic options for the way in which National Grid could make this connection, and these may be refined over time, as some options may be ruled out or developed further, from National Grid's perspective overhead transmission lines, or pylons, are one of the options *"that are clearly always going to be there"*, and the current connection already uses pylons [NG1].

### **5.3.2 Objections to HVOTL**

Respondents accept the need for new electricity generation and while some are opposed to nuclear power, most are accepting of the new nuclear power station. However there is substantial opposition to the transmission connection for this power station, in particular the solution of High Voltage Overhead Transmission Lines (HVTOLs). This can be seen in the protest group Dim Peilonau, which has received cross party support from local political representatives.

Some respondents relate more personal experience of, for example working under or near pylons. [Respondent Echo] recounts working as a shepherd on land underneath a double row of pylons

*So you know, think of a farm trailer, which wasn't low, it was up here, 7 stacks, 7 to 9 stack of bales of hay, and me sitting on the top, and going under these wires. And my hair, I swear, my hair used to rise up. So I hate these things. [Respondent Echo]*

[Respondent Mike], while not necessarily opposed to pylons does express a dislike for them and a certain fear. [Respondent Mike] also speculates that lack of understanding may be part of the problem with public acceptance

*I guess sometimes, not the yard I'm at now, but somewhere I used to compete had a pylon in the middle of the cross country field, and I remember I'd walk the course and give it a really wide berth because it was humming and I didn't want to touch it. ... Maybe that's why the public are scared of them.*

...

*Maybe public knowledge, what's the word I'm looking for, public awareness is part of the problem. We know they look ugly, but we don't know what they do. [Respondent Mike]*

Although both [Respondent Echo] and [Respondent Mike] report unease during their experiences of being in close proximity to pylons, this is not typical of responses. The majority of the objection to HVOTLs is due to their visual impact.

[Respondent Lima] will not be directly affected by any new transmission lines but speculates that the objections from others are because pylons are “an eyesore”. As [Respondent Hotel] confirms in his statement regarding the prospect of a new HVOTL line across Anglesey: “It would look bloody awful”.

[Plaid MP], former chair of the Dim Peilonau group links the protest to that of visual impact, and then more specifically to the impact on the Menai Strait

*It is a visual intrusion, and initially, it was specifically about the Menai Straits. [Plaid MP]*

[IACC Economic] recognises a range of objections, but states that visual impact of overhead transmission lines is the main one. In turn he notes the potential for negative impact on the value of properties located near to new lines.

*I think a bit of everything. I think it is visual rather than health, personally. I mean, you know, they have been here for over 40 years anyway. You are not talking about new technology so I think it's to do with visual and I think it is to do with people's perceptions as well*

...

*The other issue is, I think it is down to hard economics ... [land or property values will*

*decrease] because they [pylons] go right adjacent to properties and land and people at the end of the day look at it from what is the impact going to be on their own pocket. [IACC Economic]*

Some have made a link to possible compromise to navigation for taller vessels through the Menai Strait as well as the view of the Strait.

*One of the people who got involved in it is somebody who is professionally involved in sailing. And he was worried that if we had new pylons across the Straits, the hang of the cables would make it difficult to get the larger sailing boats back and forth along the Straits, for example [Plaid MP]*

[Respondent Alpha] is circumspect on the matter of pylons in particular, but infrastructure in general

*I think a lot of people will think it is only put there to spite them really. It is a necessary evil. That's how I see it. [Respondent Alpha]*

Having identified the main objection to electricity transmission infrastructure as related to the visual impact of HVOTLs, it should also be stated that a possible link between HVOTLs and health and cancer in particular was mentioned by a few respondents, although it does not appear to be the main thrust of any objection to the proposed pylons.

[Respondent Kilo] mentions a locals GP's concerns with respect to a possible cluster of cancer patients in the area. The respondent does not link this to pylons specifically but nevertheless speculates that it could be possible.

[Respondent Juliet] mentions the health issues associated with pylons but accepts that evidence is limited and that for most people will not be a concern. However she highlights that there is no minimum distance for pylons from accommodation whereas the studies she has read typically consider pylons at greater distances from homes, such as 100 or 200m. She mentions the sobriquet "*cancer row*" for a group of houses within Llanfairpwll, within close proximity to overhead power lines, where there have been several cases of cancer.

[Respondent Foxtrot] also mentions his concern for unknown possible health impacts for those living close to the power lines, including animals living under the lines and what damage might be done to them, but states uncertainty about this risk "*that there may be a risk, or that there's not a risk and we know there's not a risk*". His point is largely that he does not know whether there is a risk or not and this should be made clearer. In fact National Grid have a dedicated website devoted to Electro-magnetic Fields (EMFs) and health, along with a telephone and e-mail contact (National Grid 2014). This website contains a great deal of information with respect

to EMFs; however much of the information is scientific and is expressed in those terms, including uncertainty, rather than as easy to digest, definitive statements.

[Respondent Juliet] expresses the opinion that the jury is out on health effects of pylons and cites National Grid's feedback report to support this argument. However, the health issues associated with pylons may be a consideration for some. [Respondent Juliet] reports that while talking to members of the community, people will say "oh, yes, get rid of those pylons, and then they'll talk to you about cancer, they'll talk to you about 'cancer row'". So while there may be no proven link between the HVOTL in Llanfairpwll and cancers, in people's minds that association is made. According to [Respondent Juliet], the "local perception [in Llanfairpwll] is such that they think there is an effect" and this perception feeds into support for an anti-pylon case. But, as [Respondent Juliet] says: "I think we have enough arguments without going down the health effect road, because we don't have the resources to prove that either way."

As [AEI Director] says, although one or two people have said they were concerned about health related matters, overall it is more that individuals see pylons as an intrusion into their personal space, and also that are not bringing immediate benefit to them. [AEI Director] uses an analogy of a wind turbine erected with community benefit and one erected for personal gain. As [AEI Director] observes *"the response of ... neighbours might be quite different to if [an individual] just puts up the turbine and keeps all the money [for themselves]"*

### **5.3.3 Desire for alternative to HVOTLs**

Having registered their discontent at HVOTLs, respondents state a preference for a transmission connection which is not predominantly overhead. For example, an underground transmission connection would have minimal visual impact. Another alternative proposed is one of around the coast of the island under the sea. For many respondents it is the use of HVOTLs when there seem to be other valid alternative solutions which do not involve overhead lines which grates and fuels protest. Underground or undersea solutions are seen as solutions which would allow the landscape across Anglesey to remain rural and unindustrialised.

[Respondent Hotel] for example, states his preference as for an underground or undersea solution, preferring undersea as it is the most direct route to the ultimate destination for transmitted electricity, but he accepts that this may be more complex. When [Respondent Echo] was interviewed, although broad route corridors had been determined, the proposed solution was not necessarily HVOTL. At this stage [Respondent Echo] was adamant that he *"would fight [against pylons]"*. Others use similar combative language, which places the protest firmly in opposition to HVOTLs.

[Labour MP], while accepting the need for new infrastructure, would also prefer it to be underground or sub-sea, and on the subject of large sub-stations and other similar supporting developments states the slightly vague and subjective wish that *“it should be done tastefully”*. [Labour MP] adds that funding has been made available to underground electricity transmission in National Parks and so by this admission that pylons are an aesthetic problem *“[National Grid] shouldn’t be starting new projects with purely overgrounding.”* Although he unable to say exactly how this cost is or would be passed on, ultimately he recognises that the electricity consumer would foot the bill.

This section has described how respondents generally accept the need for new electricity generation and the subsequent need to connect this generation into the national electricity grid using new transmission lines, but that this acceptance is coupled with protest against a particular transmission solution. Protest against the new transmission connection is identified as predominantly concerned with the visual impact of High Voltage Overhead Transmission Lines. From this starting point the following themes have been identified from the interviews:

- Trust
- NIMBYism
- Sense of Place
- Remember Tryweryn
- The White Elephant in the Room
- It’s All About the Jobs
- Consultation, Representation and Democracy
- Together But Separate / Separate But Together
- Comparison, Conflation and Confusion
- Costs and Benefits
- Compromise and Fairness

The remainder of this chapter is organised around these themes. It should be noted that these themes are not, however, discrete and do not stand in isolation from each other but may be interlinked and overlapping. Thus accusations of NIMBYism may be rooted in differing sense of place; jobs and economic development may be linked both to acceptance of Wylfa Newydd and to attempts to build a different future of prosperity without the nuclear power station.



## 5.4 Trust

Issues of trust were apparent both in setting up the research and also within responses from those who subsequently took part. Trust can be defined as a belief in the reliability, truth or ability of someone or something.

When setting up interviews with stakeholders early communication was via e-mail, telephone or a combination of the two. At this stage, having made both personal introduction and introduction to the research it was important to establish some sort of rapport with the respondent and to engage them with the research. The location the interview was carried out in was agreed with the respondents, ensuring that they were comfortable with the choice. For some respondents the interviews were carried out in their home and in these cases trust in the researcher is obviously important. A considered approach when making initial contact, being attached to a recognised institution and being able to refer to someone who had recommended the respondents, were valuable in establishing this trust. For interviews held elsewhere, the location was chosen to be mutually convenient but primarily for the convenience of the respondent; a café or an office for example.

When introducing the research topic some care was taken to introduce the topic of research and engage the respondent whilst trying not to also preload the discussion or introduce ideas which may bias or influence and response.

Several lay or community respondents sought reassurance the research would be independent, and was not being carried out at the behest of either National Grid or Horizon Nuclear Power, for example. For example, [Respondent Juliet] requested *“details of any partners or sponsors”* and [Respondent Echo] responded that he was were happy to take part in the research, *“providing you guarantee you're not doing it for National Grid or a power generation company”* [Respondent Echo].

This indicates a certain lack of trust of organisations such as National Grid and Horizon Nuclear Power, and an awareness that Bangor University, as an academic institution, may collaborate with these organisations, with a suspicion that this collaboration could give rise to conflicts of interest or that funding could compromise independence. For example, Bangor University's involvement in the SEACAMS<sup>14</sup> project and the mapping of the sea bed of the Menai Strait (Bangor University 2016), may be construed as assisting National Grid in deciding how and where to route transmission lines across the Strait. Recent and future co-operation between Bangor

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<sup>14</sup> SEACAMS (Sustainable Expansion of the Applied Coastal and Marine Sectors) is a joint venture between Bangor, Aberystwyth and Swansea Universities with European Regional Development Funding, which supports business development in the marine and coastal sector.

University and Horizon Nuclear Power is clearly indicated by the signing of a formal Memorandum of Understanding to enable closer collaboration in research and for graduate employment (Bangor University 2015).

Suspicion or acceptance of the research also went a stage further for some. For example, [Respondent Juliet], expressed pleasure that the research was being carried out at all, the intimation being that the research could be used to support the community's own observations and possibly strengthen the case for protest, although no guarantees as to the findings were given or even hinted at.

*It's something people like me need to read about so that we can help ourselves a bit more, because we don't have money, we don't have lawyers, we don't have anything. It's our time, spent on the internet and finding out things. So it will be good for us.*  
[Respondent Juliet]

This indicates a strong belief in the rightness and virtue of the protest and of any criticisms of the planning process. It is also symptomatic of the lack of resources and power that the members of the community who are protesting feel that they have relative to the developers and other large institutions, including those of the government.

As well as from individual respondents, matters of trust were also evident from the organisations such as Horizon and National Grid. Nuclear power, although not the central theme of this research, is controversial and Horizon also sought reassurance of the legitimacy of the research. This particular caution stems both from previous experience of people with ulterior motives posing as legitimate researchers and also from a particular breach of trust where information given in good faith was mishandled. For the most part being attached a relatively trusted institution and being prepared to provide an outline of the research and a copy of the interview guide was sufficient.

Respondents also expressed concerns that their own views would be represented fairly and not be misrepresented. In this regard, recording the interviews was important as it gave an assurance that there was an accurate record of the conversation.

Most participants relaxed and essentially ignored or forgot about the recording although the recorder was placed between interviewer and respondent in clear sight, and with an indicator to show active recording. Some respondents appeared to remain aware of the recorder and that they were being recorded. For example one respondent, when making a point indicated that he “want[ed] this large and clear on the recording”. [Respondent Echo]

Having been informed at the start of the interview that they could stop the recording at any time, only one respondent chose to do so as they wished to refer to another individual by name, and because of this, 'off the record'.

The representatives of National Grid requested a copy of the recording of their interview and were provided with such. As well as acting as an assurance to the respondents that the interview will not be misrepresented this also allowed the participants to listen back to what they had said and clarify or correct any points made, although in this case no amendments or corrections were offered.

As well as some caution with respect to the research itself, trust or lack of it was an underlying theme from many respondents. From lay or community based respondents there was a significant tone of mistrust towards National Grid, in particular, but also a general mistrust of government and authority within this context. There was also a mistrust of planning and planners. Within the context of Anglesey specifically this mistrust can to an extent be linked to historical mismanagement and allegations of corruption within Anglesey Island Council<sup>15</sup> and a subsequent lack of trust and faith in the council and local planning.

*Anglesey is renowned for corruption within councils, if you don't know. Are you aware of that? ... Anglesey council were so corrupt that they were taken over by outside administrators for a couple of years to try and get them back on sort of on the straight and narrow. [Respondent Alpha]*

When asked to clarify whether [Respondent Alpha] actually meant corrupt rather than incompetent, he confirmed his assertion

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<sup>15</sup> Concerns of corruption or at best unprofessional behaviour and mismanagement are not without foundation. In 2009, following an report into corporate governance within the Isle of Anglesey County Council by the Wales Audit Office (2009), which exposed severe failings within the organisation, a recovery board was appointed to oversee the council. The Audit Office report headlines that, "[the] Isle of Anglesey County Council has a long history of not being properly run, from its inception in 1996 to the present day. This has had a corrosive effect on the exercise of its functions and leaves it poorly placed to meet future challenges."

Following a re-inspection in 2011, the Wales Audit Office concluded that the Welsh Ministers' intervention in 2009 had been unsuccessful and that "stronger intervention [was] necessary" (Wales Audit Office 2011). This new report again highlights the long history of "conflict and inappropriate behaviour" tracing back as far as the council's inception and before that to its predecessor organisation, Ynys Môn Borough Council. The report also highlights "a number of allegations of corruption and impropriety". Thus, in a further response to the "years of political infighting and mismanagement", Welsh Assembly Government commissioners were sent in; all executive functions were taken away from the council, the first time such action had been taken in the UK.

At the time Local Government Minister, Carl Sergeant commented, "The actions and attitudes of too many of Anglesey's councillors have left me with no alternative. They have brought this further intervention on themselves, and they thoroughly deserve it" (BBC Wales 2011)

*I'm saying corrupt, yes. They are not as bad as they were. But if there is anything you want on Anglesey, someone will take a backhand. [Respondent Alpha]*

Although this respondent does remark that the council have improved, the impression of corruption and venality within the council remains and clearly rankles. Other respondents are also aware of this history and it clearly colours their perception of planning within the area.

[Respondent Golf] also expresses a lack of trust in the local authority and a distrust of local vested interest within any decision process. [Respondent Golf] questions the legitimacy of any decision involving the local authority, whether they make the final decision or not, preferring to put his trust in more distant levels of government, such as the Welsh Assembly or Westminster.

*I mean I suppose I would probably trust an MP before I would trust the council ... I'd trust an MP and then an Assembly Member [chuckles], and then the council [Respondent Golf]*

For others lack of trust also extends to political representatives, although opinions as to exactly who might be trustworthy vary. Unlike [Respondent Golf], several other respondents indicate a preference for more local decision making.

National Grid in particular appears to engender suspicion. [Respondent Hotel & Respondent Hotel Spouse], report having felt suspicious when seeing workmen surveying near to their home; wondering what exactly was the work being carried out. With the benefit of hindsight it is probable that these workers were carrying out surveys for Scottish Power's renewed distribution link across the Menai Strait. As such this work was not related to National Grid's North Wales Connection. [Respondent Hotel & Respondent Hotel Spouse] would have been unaware of this at the time and attributed the work to National Grid. The feeling of suspicion is genuine even if in this case misdirected. This demonstrates a certain lack of trust in the institutions responsible for developing our electricity network. Having their suspicions raised [Respondent Hotel] states that they still go and keep an eye on the development – to see *"what the theory is at the moment"* for what the work being carried out is.

[Respondent Charlie] also expressed suspicion and a lack of trust towards National Grid stating, in reference to the possibility of an undersea route for transmission around Anglesey, that he spent *"some time on the internet seeing if National Grid were lying about [the feasibility of such a route]"*. It is clear that this [Respondent Charlie] does not trust National Grid to provide unbiased or complete information.

[Respondent Hotel] is also suspicious that National Grid are withholding information or being secretive about some aspects of their development. For example, in to reference to whether National Grid will or can remove the existing pylons and *replace* them with a new line,

*I don't know and they've not said anything. They've kept very quiet about it.*  
[Respondent Hotel]

[Respondent Kilo] refers to National Grid as “*crafty*” when considering their decision to place the majority of the transmission over-ground and then to “*kindly say yes they will look at putting them underground, under the water*” in the more contentious region of the Menai Strait crossing. Here [Respondent Kilo] implies that undergrounding in some areas is a slightly cynical strategy of appeasement.

Respondents also carry over suspicion from recollections of other large developments. When asked who is it that they don't trust [Respondent Hotel] responded “*the planners*”. This lack of trust referred to planners “*in general*”. Specifically for the construction of Wylfa, [Respondent Hotel] points to omission of the large buildings required to house switchgear on the plans for Wylfa Newydd. He regards National Grid as at fault for this omission. For him, this goes back to the construction of the current Wylfa power station, which has a “*huge*” switchgear building, which was an addition to the construction of the power station itself and is “*in the case of the old Wylfa it was a big as the turbine hall.*” He also levels criticism at the landscaping around the site, which “*came much later*” and “*didn't really cover all that they said it was going to.*”

Lack of trust in general, towards the electricity industry, towards the local authority means respondents may compound or misplace mistrust of one institution with another. Perception of any organisation seen to be involved in the consultation process colours perceptions of the whole process and leads to questioning of motives, and accusations of simply taking the most convenient or cheapest solution against local wishes.

## **5.5 NIMBYism**

Accusations of NIMBYism (Not In My Back Yard) may be levelled where concerns around new developments, such as transmission infrastructure, coincide with its proximity to people's homes or other self-interest.

[IACC Economic] is emphatic that although protests may be dressed up as related to other matters, such as safety or health, the real concern is direct impact on properties and in turn the effect on the value of these properties.

*'Why are people against it?' People are against it because they are afraid that the price of their houses will go down. It's as simple as that, you don't have to write 100,000 words; that's why people are against it. I'm not trying to be a clever dick – for once – I'm just saying you know. ... you could go round all the communities on Anglesey and people will tell you a lot of different things, it's about safety and about health and this that and the other, the bottom line is that if that goes within 100 yards of my field or my house or my farm it will impact on the value, therefore I'm against it [IACC Economic]*

[IACC Economic] contrasts potential impact of overhead transmission lines with that of Wylfa Newydd, which he states will not affect property or land values to the same extent as additional overhead lines may.

*I think it is down to hard economics, and the fact that not a lot of people's land value or property values will decrease in relation to Wylfa Newydd, however in relation to pylons that is likely to happen because they go right adjacent to properties and land and people at the end of the day look at it from what is the impact going to be on their own pocket*

....

*the issue is that the grid lines go right through communities and impact on people's back garden, where the power station doesn't because it is up there somewhere in North Anglesey and I only go up there once or twice a year when it's a nice day anyway. Out of sight, out of mind. [IACC Economic]*

[Respondent Mike] also expresses the opinion that having already hosted a nuclear power station the replacement with a new one is not much of an increased impact; that while there may still be some protest against Wylfa Newydd there is general acceptance.

*I think we've got used to Wylfa, the existing Wylfa, so the concept of Wylfa B isn't that much of a step. [Respondent Mike]*

As [IACC Economic] observes, those attending the consultation by National Grid were those directly affected, with people from Llanfairpwll, where the existing transmission lines cross the Menai Strait, attending in large numbers, whereas residents from elsewhere around the periphery of the island who would not be affected directly by new lines did not attend the consultation events.

*Look at the consultation the National Grid did. The people of Llanfair PG responded in their droves. That is because there is a cable which runs adjacent to the village and they went, you know, we don't want another one. The people in Benllech, the people in Newborough, the people in Trearddur Bay, the people in Moelfre – didn't want to know. It's going through the middle of the island, nothing to do with us. It's very very parochial and it comes down to the impact from when you open your curtains in the morning or you put a For Sale sign up on your house. [IACC Economic]*

[IACC Economic] continues that these same people who attended National Grid consultation events on transmission lines were unlikely to have attended any consultation events related to the new nuclear power station, Wylfa Newydd, which is to be situated on the other side of Anglesey.

*[In] Llanfair PG, you know, people there will be dead against the National Grid so when the National Grid consultation rolls into town, they'll turn up and say no. When Horizon have their public consultation for a nuclear power station in North Anglesey, 9 out of 10 of them won't turn up, even though, if you want to actually influence the grid line consultation, despite it being a completely different consultation, actually where you want to start is at the source, when the power station consultation is happening and then you build it up. But that means having to go through a number of consultation processes, you know, and then apathy kicks in and you know, people turn up and say what they want. [IACC Economic]*

[IACC Economic's] suggestion that apathy will set in may not be entirely fair. As indicated earlier, for most members of the public, attending consultation events is in addition to whatever other commitments they already have. Having several long consultations and the fatigue this may engender means that there may be a need to focus interest, which is not the same as being a NIMBY.

[IACC Economic] makes the point that many are resistant to change of any kind and that a first reaction when faced with a new development is to be opposed to it.

*And people have a perception and the starting point for perception - specifically in an area like Anglesey – is, 'The answer is no. What is the question?' So anything in terms of development, usually people's starting point culturally is 'No thanks'. And they have to be removed from that. [IACC Economic]*

This attitude [IACC Economic] asserts is typical of many places, particularly rural areas where there has been limited or no development for one or two generations. Whereas for the last 30

years or so a new supermarket or a scheme for 30 houses on Anglesey would be considered a large project, *“All of a sudden you are talking about nationally significant, strategic infrastructure, which will have a major impact on the landscape”* and people are not equipped to deal with development on this scale and so resort to NIMBYism.

*Because at the end of the day we are all NIMBYs. ... I don't care what people say, people's starting position, specifically in this country, is 'I'm a NIMBY' [IACC Economic]*

Recognising that accusations of NIMBYism may be levelled at them, several respondents pre-empt this criticism. [Respondent Juliet] in particular rails against the notion of NIMBYism as Anglesey is already host to a nuclear power station and overhead transmission lines. [Respondent Juliet] states that she is not categorically opposed to new transmission lines, but would simply prefer not to have the new infrastructure overhead. [Respondent Juliet] specifically denies NIMBYism several times and expresses her anger at the arrogance of the development and process surrounding it, and of a solution being imposed by National Grid on the local community

*It's not NIMBYism –we have lived with Wylfa. All we are asking is not to put it all overground.*

...

*It's not from NIMBYism; it was the sheer arrogance, I think, of it, that really struck me. [Respondent Juliet]*

[Respondent Juliet] gives the example of pylons in close proximity to the local vicarage, within the AONB where the current transmission lines cross the Menai Strait, to show that the community already tolerates enough transmission infrastructure and are not objecting just because they do not like the idea of transmission lines:

*We are not being NIMBYs; we already know what we are dealing with here. [Respondent Juliet]*

[Respondent Juliet] further discounts NIMBYism as she regards this as a strategic problem rather than simply a local one, and that Anglesey area is not unique in being affected by issues surrounding new energy infrastructure.

*You can disregard NIMBYism because we've dealt with pylons for the last fifty years; it's the fact that it's not strategically planned because increasingly energy is generated away from populous areas, because of the nature of energy generation. So in Britain now, and across the world, you are going to have scenarios where energy is produced in coastal*



*areas and requires transmission to the populous area. So we are not unique in any way, in that way. [Respondent Juliet]*

Some respondents turn the NIMBY argument back onto others, making the point that others are NIMBYs and are pleased for Anglesey to host the power station and associated infrastructure

*... others are NIMBYs and are happy for us to accept the power station. [Respondent Charlie Spouse]*

*The rest of Britain would be the NIMBYs, 'I'm glad it's going on Anglesey, it's not affecting us, but we're getting the power'. [Respondent Charlie]*

While not identifying NIMBYism specifically, several respondents make the point that residents are more likely to take an interest if a development affects them directly. [Respondent Bravo] notes that it was the possibility of new transmission lines near “the middle class belt” that raised people’s interest and subsequent debate.

*The island already had a significant transmission line across it, but what focussed may people’s attention was where it got down to the middle class belt down by the Straits ... round by Llanfairpwll, then that really did provoke quite a lot of debate, and people were clamouring for it to be or not for it to be at all, or for it to be buried. [Respondent Bravo]*

[Respondent Bravo] also reported that although he personally had taken some interest in the transmission plans, and was familiar with the proposed routes, acknowledging that the plans are bound to impact someone, he did not “study them in as detailed a manner as I might have done them” as they did not impact him directly.

Becoming involved only when directly affected by a development is also evidenced by [Respondent Lima] who had previously been involved in a campaign related to a local bypass but had had limited involvement with the new transmission link. When questioned as to why this was the case [Respondent Lima], who lives near to Pentir but away from the proposed route corridors, explained:

*Because the roads, the bypass here was going to have a direct effect on us, so everybody was motivated to try and do something about it. Whereas the pylons are not actually going to make much difference to us here, are they. Maybe if they were, if somebody was going to stick a pylon out there [indicating outside house], I'd want to know who I could speak to about that. [Respondent Lima]*

[Respondent Mike] expresses a similar view for potential developments, that developments which affect her directly or affect familiar places would be more likely to pique her interest,

although not necessarily lead her to protest. [Respondent Mike] observes that she would notice the Menai Strait crossing more simply because on Anglesey that is where she would typically spend time or pass through more frequently.

*From a really selfish point of view, when they're mucking about with the Menai Straits that's going to be really irritating. If it comes over where my parents live, that will be really irritating.*

...

*I wouldn't say that I'm going to go out there and start waving placards around and telling people they should be doing things differently, but certainly if I saw a news story on it I would read it and see what the latest thoughts and developments were*  
[Respondent Mike]

[Respondent Mike] also admits that her views might indeed change if she were more directly affected by the transmission lines.

*I suppose I may have a different opinion when I find out there'll be a pylon landing in my parents' yard. It is a Not In My Back Yard Scenario, isn't it.* [Respondent Mike]

In order to illustrate what could be at stake for him personally [Respondent Alpha] showed images of views from his house. These images were not pre-prepared or pre-selected and were not taken specifically for the interview. He also observes that it is unlikely that he will lose the view because this would mean that another more significant location, Plas Newydd<sup>16</sup>, would also be compromised and he felt that was unlikely.

*This wasn't taken for any reason for seeing you. ... For the new route across Anglesey I think there were something like 5 options, and 3 of them were within a hundred yards of my house. [showing photo on camera] That would be sunset from my house. So you can see I'm not that keen to have pylons in front of er ... [skipping through photos on camera] Again. Or a picture like that, and people object to losing that. But the good thing about where I live is that if they were to use that route they would have to pass over Plas Newydd estate and they won't [do that]* [Respondent Alpha]

When asked whether objections were because people were fearful for their own homes, [Respondent Charlie] responded:

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<sup>16</sup> Plas Newydd is a National Trust owned historic house and gardens on the north shore of the Menai Strait about 1 mile SW from Llanfairpwllgwyngyll, with views across to Snowdonia (see National Trust 2017)

*If you took the centre line of the route it would have gone straight over the top of our house. It would have been horrendous. I mean, we go out in the morning and we look up at the sky. We don't look up at towers and cables. [Respondent Charlie]*

[Respondent Charlie] commented that he “*breathed a sigh of relief*” when a route was chosen which would not impact his home, as one of the potential routes would. He admitted that he probably would not have been so interested if the personal cost to his home had not been potentially so high. However he did add that he would still attend meetings and try to get involved in pressing for an undersea route, but also conceded that there was only so much effort to go around.

Seeking to extend the argument beyond the impact on just one house at a time [Respondent Charlie] refers to the cumulative impact of wind turbines and to the campaign group, Anglesey Against Wind Turbines (AAWT). [Respondent Charlie] regards the strength in this protest as that it was not just a matter of objecting to a particular turbine near a particular house, for example, but that as a matter of principle there should be no turbines on Anglesey, *anywhere*, this being “*for the benefit of the island as a whole*”. However part of the argument against land based wind-turbines was that of scale; that it made little sense to spoil the visual landscape on Anglesey for a small number of turbines generating a comparatively small amount of electricity when there were large offshore arrays being built with far greater capacity, as well as a new nuclear power station. [Respondent Charlie] acknowledges that a similar argument cannot be made against pylons, as the transmission infrastructure is required to cross (or go around the island) from Wylfa to Pentir.

Lack of involvement unless a development affects someone personally links to the point that although the problem may not strictly be NIMBYism, in many cases the public cannot engage with a problem or a proposed development until they realise the potential impact. This may be when they see a direct impact on their own home or immediate surrounding. This may attract criticisms of NIMBYism but it is perhaps unfair to call it that.

*There's an old saying isn't there- Joe Public doesn't worry about his sewage until he's swimming in it. And it's almost a model here, is that you get the real engagement when it impacts on people at a personal scale, which is them as an individual and as you say literally the view out of the window. ... The public only get an appetite for it when they realise the impact on themselves when it is too late in the process. [Director, Welsh Government]*

For [Director, Welsh Government] this highlights an inability to get involved at a more strategic level.

*So how do you get, and this is the big dilemma, people engaged at strategic level when the fundamental decisions are made and the consultations are happening, how do you personalise that or localise that in order to get true public engagement? [Director, Welsh Government]*

[Horizon] also draws comparison with resistance to change with other developments in the area. Referring to the Land and Lakes proposed development at Penrhos for a Center Parcs type destination on the site of the former Anglesey Aluminium, [Horizon] states that this development has more or less split the town opinion in half, with about half the people wanting to see investment and creation of jobs and others opposed to the development or change, what others have described to [Horizon] as *“those retired, angry, old people, who just want somewhere to take their dogs for a shit, and are not happy that they are not going to be able to do that anymore.”* As [Horizon] then adds, *“somewhere in the middle lies the truth.”*

This particular development has a number of planning conditions attached to it including retention of public access to the land and access to facilities such as swimming pools; it will involve cleaning up of former industrial land and significant replanting of native species, and creation of wildlife habitat.

As [Horizon] adds, *“you will always find people opposed to development in their back yard.”* And referring again to developments such as the Holyhead Marina and waterfront development<sup>17</sup> he notes a differences in opinion between those favouring the development because of regeneration and job creation and those opposed.

As a further example of not being able to please everybody [Horizon] cites highway improvements on the main arterial route across Anglesey to the site of Wylfa Newydd. As [Horizon] says, *“the village of Llanfachraeth [have been] calling for a bypass for twenty years; we’re actually going to build that for them”*. However, whereas [Horizon] says the long standing residents of the village say *“just get the traffic out of the village”*, the proposed bypass will affect a private housing estate where there are a lot of retired people who have moved into the area who *“didn’t retire to this area for the sounds of traffic going past the bottoms of our gardens”*.

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<sup>17</sup> Holyhead Waterfront Regeneration is a joint venture between Conygar and StenaLine. Described by the developers as *‘A spectacular vision that will transform the area’.... ‘The new development will act as a catalyst to attract investment into the Holyhead area, whilst seeking to create a sustainable community providing benefits to both the town and wider area’* (Conygar and StenaLine 2016). The development will be subject to a non-statutory public enquiry following protests by a residents’ group, the Newry Beach Waterfront Action Group (Williams 2016)

Any alternative routes could have a detrimental impact on different residents. As [Horizon] summarizes, “you’ve got 200 people in the village and 192 say we like your plans”.

*It’s always a balancing act and you’re never going to keep everybody happy. [Horizon]*

Finally, [NG2] suggests that perhaps by concentrating on local impacts on Anglesey it is difficult to see potential impacts elsewhere of alternative schemes. [NG2] makes the point using the example of the hybrid route suggested as an alternative to a more direct overland route from Wylfa to Pentir. Although this route would potentially have a lower visual impact on Anglesey than other schemes, actually when considering the whole scheme beyond the island and into Gwynedd, new transmission lines into Gwynedd as well as larger pylons on Anglesey and new lines into Pentir would mean overall a significantly greater visual impact and much of this elsewhere, in Gwynedd. Ultimately this led to the scheme being rejected. While not raising NIMBYism specifically this point does indicate the difficulty of seeing possible impacts of a development beyond the immediately familiar or local.

*I think it is quite easy for people on Anglesey to just look at it from an Anglesey point of view. [For the hybrid scheme] there was a much greater impact in Gwynedd. So, overall the overhead element of that scheme was bigger than the one that we’re taking forward.*

## **5.6 Sense of Place**

Whereas NIMBYism may carry a pejorative tone and be linked to selfishness or self-interest, sense of place goes beyond the simple proximity of ‘My Back Yard’ to encompass a wider idea of what a place is. Sense of place is linked to a strong identity felt by both inhabitants and visitors. Sense of place relates to “*specific feelings, perceptions, and attitudes generated in people by the particular qualities of a locality, or the events that they experience there*” (Rogers et al. 2013).

Respondents strongly identify Anglesey as a largely unspoiled rural region. New transmission infrastructure is seen as an industrialisation of this landscape and is at odds with this sense of unspoiled rural beauty. For respondents, the sense of Anglesey as a place includes the physical landscape, the communities within the region and also the historic and cultural landscapes.

[Respondent India] describes her attitude to the region. With a long standing familiarity with the island from childhood, she describes being conscious of “*the place, ... the quite unique beauty of the place and the obviousness of its historical connections*”. [Respondent India] describes how the place is not just the current culture and Welsh language but how this extends into the history

of the island; *“not just culture and the Welsh language but the actual physical imprint of history on the island ... the beauty of the landscapes, the place, and the very strong sense in the place, of its history.”*

[Respondent India] acknowledged Anglesey’s recent historical role in energy production, but despite the extant Wylfa nuclear power station - the knowledge of the significant amount of electricity produced by Wylfa *“something like 40% of the electricity Wales would consume”* and the employment associated with the power station - [Respondent India’s] sense of place of Anglesey was not that of an energy producing region, rather the other images of landscape, of history and culture remained dominant to her. For [Respondent India], Energy Island does not sit easily with this dominant notion and seems that the island has been *“given a label in a slightly arbitrary way”*. [Respondent India] concedes that she could understand some possible rationales for it, but nevertheless was *“a bit taken aback by this label... struck by the slightly odd label being given to the island”*.

Some respondents expressly identify their interest in the new infrastructure as related to concerns for this landscape. [Respondent Hotel] who lives in farmhouse at the end of a private lane, describes himself as living in a rural area and how the landscape will be blighted if new overhead transmission lines are installed: *“the blight on the landscape, of all these things - ... the massive pylons that go with the transmission lines”*.

*And now we are going to have two of these sets of massive pylons coming across Anglesey. And when you consider two lots of pylons you are considering a blight over there, a blight over there, and everything in between them is blighted. Because they are close enough to see both sides. They are probably only going to be half a mile apart or maybe a mile at the most. [Respondent Hotel]*

As well as objecting specifically to industrialisation with pylons, in response to the image of the Menai Strait and Britannia Bridge [Respondent Hotel] extended his objection to large scale industrialisation to include changes made to the Britannia Bridge in the 1970s and 1980s following reconstruction after a fire, and to wind-turbines.

*And the bridges again have been spoilt but there we are.... Well I mean, it used to be one tubular bridge across, because of the fire they had to build a completely new structure, and spoil it. [Respondent Hotel]*

As with [Respondent Echo] (p102) and [Respondent Mike] (p103), [Respondent Hotel] also describes personal experience and the intrusion into this everyday experience of transmission lines or other electricity infrastructure. [Respondent Hotel Spouse] comments on the

unpleasantness of hum from transmission lines on her regular cycle route, describing it as “horrendous”. [Respondent Hotel] also describes the tingle when touching lower voltage wooden poles.

*You know we have the wooden poles across the field, with the er 11,000 volts I think they are - if you go up to those poles, those wooden poles in the wet and put your hand on them you can get a tingle off them.* [Respondent Hotel]

[Respondent Foxtrot] contrasts the beauty of the area with that of a more industrialised landscape. Prompted by images of the Britannia Bridge and then of the existing pylons across the Menai Strait:

*I think we live in such a beautiful part of the world, and that is what you initially see.*

...

*when you see that number of pylons like that it is very industrialised ... It doesn't look like a clean environment, a natural environment.* [Respondent Foxtrot]

On the current transmission lines crossing of the Menai Strait, [Respondent Foxtrot] describes how it detracts from the landscape and hopes that it would be possible to minimise this visual impact

*And then to see the pylons and the wires going across as well, I think it does take something away. And I'd hope there were more practical, there are still practical ways of being able to deal with the natural environment and the visual impacts.* [Respondent Foxtrot]

For many respondents it appears that a strong sense of a rural landscape is threatened by developments of industrial structures, such HVOTLs. This landscape has also seen developments of onshore wind-turbines, which met with considerable opposition. Pylons crossing the island are seen as a further threat. Previous and ongoing developments of wind turbines on the island contribute to [Respondent India's] concern that the nature of the island is being affected by energy developments. [Respondent India] describes her concern for development of wind farms on the island, to the extent that having located a property to buy, she then reconsidered when she realised its proximity to a wind farm. The property under consideration was located towards the north of Anglesey, the area where the nuclear power station sits, but it was not the power station which dissuaded her from that area of the island, rather a new development of wind turbines. [Respondent India] expresses a strong concern for a presumption in favour of development of wind turbines and other renewable energy sources from the Welsh government.

The planning regime for HVOTLs is not the same as for wind-turbines, but HVOTLs are in addition to already contested wind turbine developments.

The beauty of the physical landscape is reflected in images such as used to promote the island as a holiday destination. [Respondent Golf], in response to a promotional image of the Menai Strait and bridges identifies this familiar (to him) landscape as wonderful, beautiful and iconic; a landscape which is attracts people to the area.

*Wonderful, yes. The Menai Straits, with the bridges; very green, very blue, very picturesque, very iconic; I suppose tourism comes to mind, so attracts people to the area, and I suppose what you could say is area of natural beauty, albeit with some pylons in the foreground. [Respondent Golf]*

[Respondent Golf] accepts pylons and electricity transmission are part of his everyday experience and of this landscape, but also states that he does not generally notice them.

*Of course, I see them every day, I drive past them on the way to work, but I don't suppose I notice them very often. [Respondent Golf]*

When considering an image with greater emphasis on the existing pylons next to the Britannia Bridge [Respondent Golf] characterises the view as more industrial but also as “pragmatic”. He reflects on the existing compromise within the landscape, and sympathises with the need for new electricity infrastructure. He recognises a compromise between this area of outstanding natural beauty and the need for electricity to be transmitted across it.

Not everyone agrees that the landscape near the existing crossing of the Menai Strait is an industrial landscape. When questioned about the industrial nature of the transmission lines near the Britannia Bridge, [IACC Economic] holds that even with the presence of pylons this is not an industrial landscape and that actually he just accepts the existing pylons are part of his every day.

*I would disagree that it is an industrial landscape, because, you know, I drive across Anglesey every day. I take them for granted, because as far as I've lived here they have always been there; they are part of the furniture. [IACC Economic]*

There is also evidence of contradictions with respect to further development in respondent's thoughts. [Plaid WAM] states his opposition to new overhead transmission lines largely because of the visual impact, but within this context also mentions his support for the potentially even larger physical impact of a third crossing over the Menai Strait. [Plaid WAM] does suggest that this new crossing could also be used to carry future transmission lines, however.



[Respondent Foxtrot] links the impact of pylons to both their size and longevity. [Respondent Foxtrot] compares pylons with wind turbines, which he considers to have less of an impact, in part because they are less long-lived – “*Wind turbines come and go in 25 years, perhaps*” [Respondent Foxtrot] - and in part because they are dynamic; they move.

Recalling that Anglesey was covered with windmills (as opposed to wind turbines) [Respondent India] makes a distinction between historical industrial structures such as the mills which pepper Anglesey, constructed of local materials and performing a local function, and modern, large scale structures which are mass produced in uniform materials.

*When something is built of the local materials, is part of a community, doing a very particular job for which it's quite obvious that community will do well, you know, it locates it in the landscape and it locates it socially within the environment. What I object to, a lot of stuff, where it's just sort of ubiquitous designs that are thrown up all over the place because you can make a pile of money out of it. It's the same with anything, isn't it. Houses or anything, isn't it?* [Respondent India]

However, as [NG1] points out, in reality pylons are a long established and successful design, which are accepted within the landscape to the point here they are largely unnoticed.

*The design is quite fit for purpose, it's tried and tested and it works quite well in that your eye accepts it and you stop seeing it.* [NG1]

This is borne out by the responses from [Respondent Golf] earlier and also from [Respondent Lima] who, even though when asked to describe image of Menai Straits describes it as a very familiar scene, was unaware of where the existing transmission lines cross the Menai Strait

*I would think it is what I'm used to. It is something I have been seeing for the last 50-odd years or more. No, the new bridge wasn't built that long ago, but the old one was, and there was an existing bridge there. The railway bridge was already there, except it burned down in 1970 or something and they had to rebuild it so they put a road deck across there as well. So it is more of a massive thing now, isn't it.*

...

*honestly I've never noticed them [the transmission lines] when I've been going that way.* [Respondent Lima]

The existing electricity network, although it may well be experienced as part of daily life is not apparent in the sense of place of Anglesey held by respondents. The existing lines crossing the Menai Strait adjacent to the Britannia Bridge go largely unnoticed. [NG1] raises the issue that

new schemes being proposed serve to highlight or raise awareness of existing infrastructure, and subsequently the size and scale of development is what worries people.

Sense of place is not just about a physical landscape and visual impact. While some respondents describe the area in terms of physical landscape and a beauty which they do not want to see destroyed, others identify with a community both now and for the future. [Respondent Juliet], for example, links place to community, both past and present, and at the same time questions previous impositions on the landscape.

*I live in Llanfairpwll and I visit my ancestors at the graves there and I look at those pylons and I think, why on earth did you never fight those pylons? [Respondent Juliet]*

[Respondent Juliet] accepts that the current pylons were built in the post-war years, when the UK was “a country getting back on its feet” and that there was “no such designation as the Area of Outstanding Natural Beauty”, but still says that “to me there was a certain weakness in allowing those pylons in the first instance”. So, while [Respondent Juliet] largely accepts the historic reasons for construction of pylons this does not mean that the same solution is acceptable to her now. As she says, with the different options already used across the UK and Europe:

*It is simply a financial convenience to use pylons, and even in their strategic report there was no technical reason not to be using sub-sea cables. So I just thought: the cheapness of it; the disregard; the reference to us as a low-population density area. I think that's the reason I got involved. [Respondent Juliet]*

Criticism is levelled at National Grid for having little understanding of either the physical or social landscape in which they operate. [Respondent Juliet] characterises the terminology of National Grid as “inhuman”. She describes how National Grid categorised the AONB within the Llanfairpwll area as “just a few holiday lets”, whereas in reality there are “at least 100 houses”. For [Respondent Juliet] this is indicative of a deep lack of research and a lack of respect for the community from National Grid.

The AONB designation itself only extends to the mean low water mark on each side of the Menai Strait and this separation of the two sides of the Menai Strait means that the impact assessment is lower in terms of visual impact than it might otherwise be “even though there is a flipping great bridge you are driving across it every day” [CADW], and even though what happens on one side of the Strait affects the other. [CADW] contends that if the AONB carried on across the Strait then the visual impact scoring would be much higher and “we would be looking at undergrounding the existing line across the Straits”. This could remain an option for the future.

And this possibility influences which options [CADW] favours. So for example he would prefer not to run any new transmission line through the service tunnel on the Britannia Bridge as that would preclude running the existing line through the bridge at a later date. In energy security terms it is better to keep the transmission lines separated.

[AEI Director] states his aspiration for vibrant communities based on jobs but also of retaining the beauty of Anglesey by placing transmission lines out of sight.

*What I want in Anglesey is a vibrant community within the locality. I want is a real vibrant community so young people that are part of that vibrant community. If I'm an old codger I'm thinking to myself I want all the pylons etc., I want all the cables buried underground, and I'm quite happy to pay that bit more, for that. [AEI Director]*

When the early interviews were carried out, although National Grid had stated that pylons were not necessarily the solution, their stated preferred solution was one of over-ground across Anglesey with mitigation where necessary. The increased industrialisation of this landscape with new pylons was the primary concern for many respondents. The fear being that an over-ground routing of the transmission line from Wylfa to Pentir with pylons will industrialise the landscape. This links to a sense that a special place will be destroyed or at the very least spoiled by new industrial infrastructure.

[Respondent Kilo] draws comparison with industrialised landscapes elsewhere in order to illustrate how undesirable it would be on Anglesey.

*I remember I was in a meeting where the councillors showed us a picture of, I think it was Hong Kong or somewhere, where there was a load of pylons and electricity lines criss-crossing; it just looked horrendous, you know. And I'm sure this isn't going to be a pretty site. [Respondent Kilo]*

For some respondents the concerns raised by potential pylon routes are more immediate, with possible direct impact on views from or near their home, whereas for others, it is more the principle of maintaining the sense of Anglesey as a special place.

There was also concern that not everybody would value the special nature of the landscape, perhaps through over-familiarity, or perhaps through a willingness to accept payment to host the infrastructure. The concern that the same sense of place is not necessarily held by all leads to related concerns that there is potential for conflict between those who value the particular landscape highly and those who value it less. This is particularly salient when applied to 'outside' forces carrying out development, such as National Grid or the Westminster-based Planning

Inspectorate. The accusation is that agencies whose corporate or management centre is outside the area being developed will be unlikely to either share or appreciate the local sense of place and may thus select or impose inappropriate solutions. However, the opinion was also expressed that some may undervalue the landscape because of over-familiarity or because they had limited experience of other landscapes and may take their surroundings for granted, not realising its special nature. This also carries with it an accusation of parochialism.

*I think that a lot of the people who have been born on the island, the Welsh people that have been born here and their parents have, and their parents have, don't realise what a beautiful place it is and what an asset Anglesey is. A lot of them have never been further than Bangor. [Respondent Charlie Spouse]*

This sense that not everyone values the landscape in the same way is echoed by another respondent who singles out farmers for criticism as having no sense of aesthetics.

*Farmers are keen to get money. If you come 'You can have a pylon on your field and get £100 a year' and they'll say 'Great'. I'm afraid farmers have no concept of aesthetics – I was born on a farm, in Ireland – but knowing my neighbours who are mainly in a farming environment, they are not interested in views or pylons or energy, not really. They'd be quite glad to 50 thousand a year for a wind turbine on their land and not be bothered by the noise or upsetting neighbours [Respondent Alpha]*

It should be noted however that the two farmers interviewed were opposed to plans to use pylons across Anglesey and both of the local farmers' unions (National Farmers Union and Farmers Union Wales) had publically stated an opposition to pylons.

As well as considering visual impact on areas of natural beauty and on historic parks and gardens such as Plas Newydd, Anglesey is rich in Neolithic and Bronze Age monuments. For this historic landscape, not only are possible impacts on the sites themselves important but sight lines between the monuments are also important. Visual impact on the historic landscape can therefore be significant. For an organisation such as CADW the potential impact of any new development on the historic landscape is a primary concern. Anglesey is home to several Neolithic-Bronze Age monuments such as chambered tombs and standing stones, with many of these sites being guardianship monuments which are actively promoted for the public to come and visit, enjoy and understand. The visual impact of the existing transmission lines is already significant and CADW seeks to minimize any additional impact. The mitigation of any development and its impacts on the historic landscape depends on the location.

[CADW] gives specific examples of the effect of transmission infrastructure on historic monuments. Existing transmission lines already cut between groups of standing stones at Llanfechell<sup>18</sup>, spoiling the sight lines between the monuments. [CADW's] concern is that the new line will increase the existing impact either by adding to the existing impact if it follows the existing line, or alternatively by routing around the other side the *"monument would be just completely hemmed in on all side by overhead power ... So there is really no win here; it is a bad, it is a bad situation, which is why all they can really propose here is enhancement."*

[CADW] also gives the example of the Neolithic chambered tomb, Bryn Celli Ddu<sup>19</sup>, which is visited from around the world, particularly at the solstice. An important feature of this tomb is that at sunrise on the solstice light shines through the entranceway onto the back wall. As [CADW] adds, *"So what we absolutely don't want is, as the sun rises, a big pylon shadow cast across the monument [laughing]. That would be the worst possible outcome for the overhead line,"* and this has been raised at meetings with National Grid.

In these situations [CADW] states the only thing that National Grid can do is to offset the impacts in some way by offering interpretation or access or monument management for example.

Although not specifically raised as an issue, for some, the Welsh language is a key part of the identity of the Anglesey and North Gwynedd region. According to the 2011 census, although only 19% of the population of Wales as a whole can speak Welsh and only around 15% can speak, read and write Welsh, there are regional variations within Wales and the areas of Anglesey and North Gwynedd have a substantially higher proportion of Welsh speakers. In Anglesey 56% of the population over 3 years of age are Welsh speaking and in Gwynedd this figure is 64%. (Welsh Assembly Government 2012). Whereas for Wales as a whole almost 75% of the population over 3 years of age have no Welsh language skills, in Anglesey 46% of the population can speak, read, or write Welsh, with only 30% having no Welsh language skills. The census also reveals however that there are *no* mono-lingual Welsh speakers in Wales.

Community meetings organised by PAWB and attended by the author were bi-lingual or even multi-lingual with simultaneous translation provided to allow those attending to speak in their preferred language. That said, although initial flyers inviting people to participate in this

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<sup>18</sup> Referring to standing stone, Baron Hill Maen Hir SAM No. AN080, 53.3964°N 4.4531°W, OS Map Ref: SH369916. This standing stone is approx. 400m North of Llanfechell church and approx. 50m from a pylon and the transmission lines

<sup>19</sup> Neolithic chambered tomb. Name translates as Mound in the Dark Grove, Scheduled Ancient Monument No. AN002, 53.2077°N 4.2361°W, OS Map Ref: SH507701

research were bilingual, all interviews were carried out in English, and Welsh speakers interviewed were happy to participate on this basis.

However there is a sense that those responsible for developing the new transmission infrastructure are from elsewhere and Anglesey's identity as part of Wales, a separate nation with its own language, emphasises this as may not happen in other regions of the UK. This identity as Welsh and Welsh speaking gives a strong regional sense of place and is important in terms of respect in communication, with strong objection being raised by some against communication by National Grid with Welsh speakers in English. [Respondent Juliet] for example, showed some example communications between National Grid and Dim Peilonau members to illustrate this point. The Welsh language or rather the lack of Welsh language can be a proxy for this sense of being from outside. And this [Horizon] says, contributes towards how National Grid are viewed as a force from elsewhere imposing decisions locally without really knowing or understanding the area. As the (Welsh speaking) Horizon representative points out:

*Yes, I mean one of the biggest issues which I think National Grid have had from stuff I've heard, and they've been challenged on it in a number of places I've been with them, at their events, hands up all you National Grid people who live on Anglesey. To which nobody puts their hand up. Hands up all of you that can speak Welsh. If they're lucky they'll have one. You know. ...*

...

*It is strange [concept] because I am a Welsh speaker and I have been asked that. But National Grid are very much seen as this large kind of bulldozer of English people who just say, this is what we're going to do, you know, you can say what you like but this is what's going to happen. They've not actually said that, but again, it is perceptions. [Horizon]*

Thus, for several respondents the Welsh language is an important part of the identity of the area, is a key part of the sense of place, and is also important in the future of the region. The language can, however also serve to highlight division between developers and residents.

Professional perception of Anglesey can also include economic deprivation. In this view Anglesey is not just a rural idyll, but is also characterised as a place with relatively limited economic opportunity. The idea of Anglesey Energy Island and the development associated with this project are a vision for the economic future of Anglesey. For some respondents this whole idea jars with what Anglesey is or should be. Some of this can be attributed to an anti-nuclear sentiment but this is not key for many people. It is more about the general sense that Energy

Island is synonymous with industrialisation in what is predominantly a rural area and thus sends out the wrong signals about what the island could be. As [Respondent Charlie] states, naming Anglesey as Energy Island sends out the signal that Anglesey is open to industrialisation.

*[The council] suddenly decided – I can't remember who the officer was now, but it is some time in the past – they decided they were going to rename Anglesey, or Ynys Mon, as Energy Island; and that sent all the messages out to businesses, I think, probably wrongly, without any reasonable, they didn't think it through in my opinion as to what the implications of that were. So from the point it has immediately sent the signals up is that here is an area you can come in and do what you like with. And that rankles with me straight away, because I thought that was wrong as a starting point, that we are now going to have anything that you like here and you can just flood the island with mechanisation and really we haven't consulted the people on it and we're going to go ahead now. And that was the feeling I got, which sort of, as I say, wound me up a little.*  
*[Respondent Charlie]*

[Plaid WAM] recognises the potential for energy related projects within the region but also cautions that in terms of Anglesey's image, other terms may be preferred.

*I think, I want to keep the Energy Island project as quiet as possible. I think it has huge potential for the economy of Anglesey, in terms of offshore tidal, current, electricity generation and research through SEACAMS in Menai Bridge, but I don't want the public at large to know about the Energy Island, I want the public at large to know about Food Island and Beach Island and Nice Place to Be Island. And anything that undermines that natural amenity is bound to be damaging for tourism, even if it's localised, but I think in general terms Anglesey's image is very important as well.* *[Plaid WAM]*

[Respondent Mike] complains that Anglesey always seems to be getting labels applied to it, from Môn Mam Cymru<sup>20</sup> onwards, with Anglesey cast as the provider - of food as Mam Cymru and of electricity as Energy Island.

*Anglesey always seems to get labels. We use to have, I guess we've still got, Môn Mam Cymru, which came from the farming side of things originally. Now we've got Energy Island.* *[Respondent Mike]*

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<sup>20</sup> Anglesey Mother of Wales

[IACC Economic] recognises the potential clash of development such as that required for the Energy Island project with environmental and visual impact and with the place that is Anglesey for many.

*When you look at Anglesey, it's about the environments, it's about the beaches, it's the fact that it's an island; it's the fact that it is and always has been a popular visitor destination. [IACC Economic]*

As a resident of the island and as someone who is in his own words “pro-nuclear and pro-development” [IACC Economic] describes how “there is always a line where you go ‘Whoa, hold on, that’s too much’”. Therefore, it is a matter of balancing development with the natural environment that is so much a part of Anglesey. [IACC Economic] refers to a tipping point when support for a development such as Energy Island might be lost. As he continues, if you start to lose support from the community, “once the support is lost then there is no point in doing it is there?”

[Respondent Lima] summarises the tension between the need to provide new infrastructure and the desire to preserve the landscape

*I think we have got a finite amount of land in this country, haven't we. And more and more and more and more, it is getting built on. So the actual areas that are not built up and which are, you know, like round here for example, and natural areas, areas of outstanding natural beauty, all those kinds of things. You've got to keep those, haven't you. You can't just keep on spoiling everything. But they're in a predicament because they've got to build this transmission thing, haven't they. And they've got to put it somewhere. It just seems to me that they pick the nicest areas in the country to build these things, don't they? [Respondent Lima]*

Sense of place is complex with different people holding different senses of place sometimes at odds with each other. The sense of Anglesey as a beautiful rural area reliant on tourism and farming is seen by many to clash with the notion of Anglesey Energy Island and the development of the associated generation, transmission and distribution of this energy. HVOTLs in particular are viewed as an unnecessary industrialisation of this rural environment.



## 5.7 Remember Tryweryn: a neo-colonial resource grab

Several respondents raised the subject of Tryweryn and drew comparisons between the current development of new transmission infrastructure and the flooding of the Tryweryn valley to create the Capel Celyn reservoir in 1965.

In the 1950s, the City of Liverpool, which at the time had some of the worst slums in Britain, argued that extra water was needed to improve sanitation and that a new reservoir would be needed to fulfil this demand. The City of Liverpool Corporation deposited the Tryweryn Reservoir Bill to parliament as a private bill at end of 1956. By obtaining authority through an Act of Parliament, Liverpool City Council avoided having to gain consent from local Welsh planning authorities. Despite extensive protest and despite the fact that no Welsh MPs<sup>21</sup> voted in favour of the bill, the bill was passed by Parliament in 1957. This then permitted the compulsory purchase of land within Wales to build a reservoir to supply an English city. There were further protests - including acts of sabotage for which protesters were jailed - but the scheme went ahead, and the valley was flooded, drowning 800 acres of land including farms and the village of Capel Celyn. Capel Celyn reservoir was officially opened in 1965<sup>22</sup> (National Library of Wales 2015; Thomas and BBC 2015).

The flooding of the Tryweryn Valley was not without precedent. In the 19<sup>th</sup> and early 20<sup>th</sup> Century the Vyrnwy<sup>23</sup> and Elan valleys<sup>24</sup> in Mid-Wales were dammed to serve the water needs of the cities of Liverpool and Birmingham respectively. In both cases large areas of land were purchased by the developing corporation and the local communities displaced or relocated.

The City of Liverpool formally apologised to the people of Wales in 2005, 40 years after the flooding of the valley. Although not universally accepted, the apology was generally welcomed and was the subject of an Early Day Motion in the House of Commons, which sought to register this approval (BBC 2005b; BBC 2005a; Clark 2005; House of Commons 2005). For many, Tryweryn still remains significant. Its history is taught in schools. The 50<sup>th</sup> anniversary of Tryweryn and the Capel Celyn Reservoir was marked by a rally at the site of the dam and also by a debate in the House of Commons (House of Commons 2015).

The Capel Celyn scheme was not universally opposed but remains a touchstone for the nationalist movement in Wales. The flooding of the Tryweryn valley, the drowning of the village

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<sup>21</sup> 35 of the 36 Welsh MPs voted against the bill with one abstention

<sup>22</sup> Llyn Celyn Approx OS Grid Reference SH8440. Dam location SH878401

<sup>23</sup> Approx OS Grid Reference SJ 021191

<sup>24</sup> Approx OS Grid Reference SN 914672

of Capel Celyn and the subsequent loss of one of the few remaining Welsh-only speaking communities in Wales can be considered a catalyst for political change within Wales, a focus for the growing devolution movement and a major influence in the rise of political nationalism and of Plaid Cymru as a nationalist political party. Tryweryn can be seen not only as a displacement of people to meet a wider need but also, in its destruction of a Welsh-speaking community, as the cultural domination of the English language and of the English over the Welsh.

Tryweryn is the subject of a long-standing graffito<sup>25</sup> on the gable wall of a ruin on the main coast road south of Aberystwyth in mid-West Wales (Figure 5-1). It is perhaps not surprising that both of the Plaid Cymru politicians interviewed for this research refer to Tryweryn. The Plaid MP interviewed is on record as having contributed to a Commons debate to mark the 50<sup>th</sup> anniversary of the official opening of the reservoir and was interviewed approximately one month after this debate. But other respondents, not just Plaid representatives, also mentioned Tryweryn. As many of the interviews took place during this 50<sup>th</sup> anniversary year it was perhaps nearer the front of people's minds than it may otherwise have been, but that does not mean it is not a genuine grievance or concern.



Source BBC 2017

<http://ichef.bbci.co.uk/images/ic/496xn/p0356y2h.jpg>

**Figure 5-1 Roadside graffito near Llanrhystud, Ceredigion**

Respondents referred to Tryweryn and drew clear parallels between the historical exploitation of a resource in Wales for purposes outside Wales with new transmission infrastructure being

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<sup>25</sup> More recently this graffito has been updated with addition of the text Cofiwch Aberfan (Remember Aberfan) to mark the 50th anniversary of the greater tragedy of Aberfan, South Wales, where in 1966 the catastrophic collapse of a colliery spoil tip led to the inundation of the village with slurry, burying the local primary school and killing 144 people including 116 children. The subsequent inquiry tribunal laid blame for the disaster squarely with the National Coal Board (House of Commons 1967). Although very different in impact, these events are linked by the common factor of disregard by powerful exterior organisations; the City of Liverpool Corporation and the House of Commons in the case of Tryweryn and the National Coal Board in the case of Aberfan.

imposed on Wales to provide electricity primarily to fulfil needs beyond its borders. They also highlight the sense of injustice felt about this sort of large development in Wales and link this back to Tryweryn.

*I think people have memories and for my party, people still associate it with the water issue, and actually it is now raising its head again .... You know, people's memories are very long and slightly vague, and you have the 50 year commemoration of Tryweryn a few weeks ago. And that actually does stir up feelings, without a doubt you know".*  
[Plaid MP]

*It's like the Tryweryn isn't it, you know. The whole of Wales voted against the drowning of Capel Celyn, but Liverpool authority wanted it, UK parliament voted for it and Capel Celyn was drowned. And OK, some people draw comparisons between transmission lines and Capel Celyn, and it is a fair comparison."* [Plaid WAM]

*So in that way we are not that militant and we are not that vocal, but on the other hand there is an acute sense of injustice, about big developments in Wales, because you know Tryweryn? You know the history of Tryweryn?"* [Respondent Juliet]

Recounting how Tryweryn was a catalyst to the nationalist movement within Wales, [Respondent Juliet] draws the comparison of the *"sheer sense of powerlessness, the sheer fact that it didn't matter in that instance that all the MPs from Wales objected, bar one"*. She highlights the emotive dimension of this history. She recognises that although other regions within the UK may also have recent issues with infrastructure planning– *"Cumbria has had a hard time of it, haven't they?"* - perhaps this historically emotive dimension may not exist to the same extent elsewhere. *"It's an old wound"*.

One respondent hints that some will carry this sense of past wrongs, exploitation and injustice too far though, and may take it as far back as Owain Glyndŵr, the Welsh revolt at the start of the 15<sup>th</sup> Century, and the strict anti-Welsh laws enacted in the aftermath of this revolt.

*Your deep rooted Welsh nationalist people who will say, you know, this all goes back to when Owain Glyndŵr* [Horizon]

Others are more circumspect in their appraisal of Tryweryn. To paraphrase one response to the subject of Tryweryn

*If I see one more school essay on Tryweryn ... it was a long time ago; nobody died; let's move on.*

Another respondent intimates that this sort of development would not be unique and has also happened elsewhere, that Tryweryn is overstated but that Tryweryn gives a focus to protest and to Welsh nationalism.

*I'm fairly sure similar things would have happened in England ... it's just something we have that we can shout about ... we do like our identity. [Respondent Mike]*

On the matter of exploitation for profit specifically, [Plaid MP] raised the point that although Liverpool's case for flooding the Tryweryn valley was based on improvements to the slums and public health for the citizens of Liverpool, actually a large proportion of the water was resold to industry in the North West of England, and that thus the water taken from Wales enabled industrial development elsewhere. He makes the point that this previous exploitation raises suspicion for new developments.

*So there is always a suspicion, you know, you can see that there, people have long memories, you know. [Plaid MP]*

In a broader sense the exploitation of resources to benefit other distant masters is raised and then linked back to Tryweryn as an example of such.

*We have an infrastructure issue, I think, in Wales, that the infrastructure is generally paid for and developed to serve distant masters, as opposed to serving local people, or even serving Wales. [Respondent Foxtrot]*

The same respondent goes on to use roads as an example of infrastructure whose purpose is to link resources from Wales to elsewhere, and to make the point that the electricity grid does the same thing.

*We have only two main roads in Wales; we have the M4 and the A55. In both cases they serve to take resources away from Wales -or in fact from Dublin in one case, A55, and from Cardiff - and they head directly to London. That's their purpose. And the grid structure does the same job. The big pylons are there as a way of taking the resources that are locally generated and taking it away to a distant master again. And I think that's how a lot of people see the pylons, in the same way as our water infrastructure as well. It pulls on, emotionally it pulls on some very emotive historical occasions for Welsh people as well [Respondent Foxtrot]*

He then links this to Tryweryn and reiterates the idea of distant masters removing resources for use elsewhere and even removing resources from Wales to sell back to Wales. The idea of distant masters also evokes a colonial exploitation.

*So things like the Tryweryn Dam ... it does pull on those things again, for better or for worse. It might lead to some action which might be good for Wales in the long run, but I think when I look at the pylons, for me it talks about a distant master, in a colonial sort of a way, taking the resources away from one place for the advantage of people elsewhere*

...

*The big pylons are there as a way of taking the resources that are locally generated and taking it away*

...

*I just look at them as a way of shifting resource away, so that they can be sold back to us*  
[Respondent Foxtrot]

This use of resources is seen as symbolic of inequalities within the United Kingdom, as not just Wales but also in other parts of Britain, resources are removed for the benefit of people elsewhere. This new infrastructure can be viewed as doing that, transferring resources, that is not just the electricity itself but the financial benefit that it brings:.

*Some people get taken advantage of, and other people have all the advantages, and, you know, that's becoming more and more obvious. We are seeing the black hole of London sucking away resources from everywhere else in Britain*

...

*I think it's happening in England as well; I think the north of England is paying the price as well. Wales have had it for a long time, I mean look at coal, you know, the heart of the industrial revolution and the valleys in South Wales. What have they got to show for it today? They should be one of the richest areas in Britain, surely. And the same thing is going to happen again.* [Respondent Foxtrot]

In interview and in a subsequent e-mail [Respondent Juliet] refers to a 'neo-colonial resource grab', a term used by Elliot (2012) when discussing the consequences of larger electricity grid development: "with poor areas being exploited by rich energy hungry countries, who might then not develop their own renewables sources".

Elliot is referring to the development of an international super-grid, however while he cautions against this sort of resource grab at the expense of national development and that imported super-grid power should not be used at the expense of or as an alternative to locally produced power, he also asserts that

*as far as the planet is concerned, it doesn't matter where the energy projects are built as long as they avoid emissions, and in energy and carbon terms, it makes sense to go to where the resources are best (Elliott 2012)*

[Respondent Juliet] links this idea to a British scale where the peripheries are feeding in to London. The view of whether this development of electricity generation within one region for export to another constitutes a resource grab is a matter of perception, a matter of scale and where one draws boundaries, but given the context of Tryweryn and other historical resource exploitation within Wales this perception is perhaps understandable.

This may be seen as an inherent fault in the structure of the electricity industry and the national grid. [Respondent Foxtrot] clearly favours community level generation of electricity, visualising a connected spider web of small scale generation projects, each region being largely self-sufficient and also capable of passing on or selling surplus to adjacent regions. Thus rather than hand-outs or mitigation for an energy development the community have a stake in the development itself. Rather than a perceived grabbing of resources from one region to feed another, the relationship between regions is more equal and equitable. In this approach the network is built from the home, or the community upwards, rather than from large scale external and centralised generation, with each local grid fitting into the next. Thus the resource is shared locally before being passed further, rather than being simply extracted or used *"to serve distant masters"*. [Respondent Foxtrot] does not see this as a selfish *"pulling up the drawbridge"* approach where *"a community has their electricity, we'll just keep it and you can have some if there is some left over"*, but rather if communities look after themselves they will also be looking after others, who will also be looking after both themselves and others.

[Horizon] mentions that Wylfa Newydd has also been compared to Tryweryn, with the power station benefitting England rather than Wales, where it is sited.

*What ... is being said by some quarters, that Wylfa Newydd, you know, this isn't for the benefit of Welsh people, you now, it's for the benefit of England, to supply England with electricity, why don't they build them in England? [Horizon]*

However, as [Horizon] points out, although there may be a general objection to ownership by multinational companies just taking their profits, this feeling of exploitation by distant masters does not seem to extend much beyond notions of exploitation by England. [Horizon] makes a comparison with ownership of steel production in the UK by Indian company, Tata:

*Nobody is saying, typical large multi-national Indian company comes here, taking advantage [Horizon]*

Tryweryn clearly remains a potent and emotive symbol and has become almost shorthand for exploitation of a resource for distant gain and a reference to and comparison with past wrongs.

## 5.8 The White Elephant In The Room

The need for new transmission infrastructure on Anglesey is to a large extent predicated on the development of a new nuclear power station, Wylfa Newydd. While this research is not principally concerned with the question of nuclear generation, the centrality of this particular power station development to the need for new transmission infrastructure and also its potential influence on solutions for this infrastructure means that Wylfa Newydd should be addressed within this context.

It would reasonable and certainly not unfair to describe the attitude of most respondents as either broadly in favour of, or at the least accepting of the need for the nuclear power station as part of the future energy mix for the UK. For example [Respondent Echo] who expressed his hatred for pylons, when asked whether not he accepted that UK energy policy contains nuclear: *“Oh yes, absolutely” [Respondent Echo]*

However for some the power station figures more centrally in their thinking, perhaps most noticeably and predictably are those affiliated with PAWB (the protest group opposed to a new nuclear power station at Wylfa) or Horizon (the company building the power station). [Respondent Bravo] points to preference for siting of new nuclear power stations, which including such factors as the suitability of equipment, availability of skilled labour or the availability of cooling water, then the preferred location for a nuclear plant would be *“at a site where it would inflict the minimal damage on the population”*. This he regards as a *“stark warning”* of the potential dangers of nuclear power. He adds, *“why would you locate something so far from [cities such as Liverpool or Manchester] where a huge amount of the supply would be utilised”* given that there is transmission loss over such distance, *“if it wasn’t for the very reason that it has minimal impact on the population”*. He further cautions that although Wales does not have competency for generation of this capacity, Wales does have competency for waste management. While for municipal waste this may be true, for nuclear waste – except for very low level radioactive waste removed from site – the responsibility for disposal of nuclear waste and hazardous radioactive substances remains the responsibility of the UK Government through the Nuclear Decommissioning Authority (National Assembly for Wales 2017). [Respondent Bravo] goes on to point out that over previous years that Wales could produce more electricity

than it requires through renewables such as wind, wave and biomass, and that communications with members of Welsh Government confirm this. Thus, Wales does not need nuclear power. And in an echo of Tryweryn, but in this case without specific mention, he asserts that *“it is clear we [Wales] are being set up as a possible sacrifice, in terms of wider UK needs.”* In common with some other respondents [such as Respondent Foxtrot] this respondent favours smaller scale local energy production – he is involved with a community generation project – and predicts that as subsidies to nuclear become more apparent, renewables will continue to find greater support. He points to Germany’s *Energiewende*<sup>26</sup> project as a possible model and emphasises the need to reduce energy use as well, by for example retrofitting housing stock.

*The first point of call is energy saving. It has to be, has to be. So retrofitting all the terrible housing stock we have in the UK, and I say Wales is probably the worst of all. The South Wales valleys [housing stocks] are appalling. [Respondent Bravo]*

[Respondent Bravo] also notes that doing this would more or less equate to the demand met by nuclear power stations. As well as preferring non-nuclear generation he also highlights then current controversies within Europe with respect to the UK’s subsidies towards nuclear generation. [Respondent Bravo] is not opposed to all large centralised generation and states that he is *“a great fan”* of the Swansea tidal lagoon and other similar proposed projects, such as one proposed off the North Wales coast at Colwyn Bay. These projects retain the problems of transmitting centrally generated electricity so this suggests that this is not the real objection, rather an objection to nuclear generation in principle, coupled with a preference for *“credible alternatives”*.

[Respondent Delta] echoes the need to shift thinking away from *“big, macho outlets producing loads of electricity”* as *“inflexible and old fashioned”*. He also advocates a shift towards *“a broader investments in renewables”*, again citing Germany’s example and also that of Denmark. He also contends that using these other resources would be less-damaging all-round and less intrusive on our landscapes. When challenged that these resources would also need to be connected he argues that investment in the local area would be much smaller compared with the nuclear power station and so an extra transmission line would not be necessary. Hidden in this argument is the assumption that less electricity would be generated and this would be used more locally. There is also a perception that Wylfa Newydd dominates thinking around electricity provision locally, with decision on electricity infrastructure being made elsewhere, in Westminster. At the time of the interview, Wales had competency for planning for electricity

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<sup>26</sup> Literally energy turn or energy change, ‘Energiewende’ refers to Germany’s energy transition to reliable, affordable, low-carbon energy and the phase-out of both coal fired and nuclear power stations



generation up to 50MW, with this planned to increase to 350MW under Silk II. [Respondent Delta's] preference is a shifting to smaller scale generation projects meaning more of the planning decisions could be made locally, and ideally with a *"fully fledged Welsh parliament [controlling] energy and electricity generation"*. However, as observed in 5.4 (Trust) more local planning could bring its own controversies.

For others it is not nuclear power stations in principle that are a problem, but some of the technologies being proposed for new build. For example [Respondent Echo], when asked whether not he accepted that UK energy policy contains nuclear: *"Oh yes, absolutely"* [Respondent Echo]. But [Respondent Echo] complains in general terms that *"the system at Wylfa will be obsolete but the time it is built"* and expresses the view that *"there are much superior, safer systems coming online or being developed"*. This is a difficult argument as it is not certain exactly when these technologies will be available, however promising.

[Respondent India] also raises the possibility that Wylfa Newydd may simply not be built at all. She cites the Fukushima disaster of 2011, and a subsequent turn in sentiment against nuclear power stations; the change of ownership of Wylfa Newydd from being a E.ON / RWE joint venture, to being owned by Hitachi in 2012 but with a relatively small initial investment; and also the recent (at the time of interview) legal challenge by Austria to the UK Government's use of subsidies for the planned Hinkley C nuclear power station, the outcome of which could impact the further development of not only Hinkley C but also other new nuclear power stations (see for example Nelsen 2015). More recently the proposed NuGen Moorside nuclear power station at Sellafield has been troubled by Toshiba's US nuclear arm, Westinghouse filing for bankruptcy and the withdrawal of Toshiba's joint venture partner, the French company Engie, from the project. At the time of writing Toshiba was seeking new investors for the project and both South Korea's Korea Electric Power Corp and China General Nuclear Power Corporation (CGN) had expressed an interest in bidding for the project (Twidale 2017).

[Respondent India] regrets that the timing may be unfortunate but that new reactor technology being developed could be a vast improvement on current incarnations of nuclear power stations. Referring to renewed interest in molten salt reactor technologies, in small modular reactors and specifically to Transatomic's Waste Annihilating Molten Salt Reactor (WAMSR), which has the promise of not only being fail-safe due to its molten salt technology, but also the capacity to reuse and thus reduce current nuclear waste stockpiles (eGeneration 2015; Transatomic 2016), [Respondent India] question the use current, outmoded technologies and suggests that perhaps it would be better to delay Wylfa Newydd in favour of nascent reactor designs.

*There is such a push to get cheaper nuclear power, safer nuclear power ... you have to ask the motivation to go ahead with these other [current solutions] . [Respondent India]*

Smaller, modular reactors of this type would have the additional benefits of not needing to be near the coast for cooling water and of reducing transmission needs, as they could be placed nearer the point of use of the electricity. Unlike the members of PAWB, for [Respondent India] it is the choice of technology which is inappropriate, rather than nuclear power in principle.

However, on a practical note, the technologies used by a given nuclear power development are subject to approval for construction and use within the UK by the UK regulators, the Office for Nuclear Regulation, the Environment Agency and Natural Resources Wales. Several different reactor types have undergone this process of Generic Design Assessment (GDA) and have been approved for use within the UK: EDF/AREVA's European Pressurised Reactor (EPR), Westinghouse AP1000 and the Hitachi-GE's UK Advanced Boiling Water Reactor (UK ABWR). As owners of the UK ABWR design it is understandable that it is this design that Horizon intend to use for their Wylfa Newydd development and also at Oldbury-on-Severn in South Gloucestershire. In a similar vein, the NuGen project in Cumbria developed by Westinghouse is to use Westinghouse's AP1000 reactors. Both the UK ABWR and AP1000 designs completed GDA in 2017, after the research interviews were conducted. The GDA process can be lengthy, with the GDA for AP1000 taking around 10 years, although that for the UK ABWR only took half that at around five years.

Emerging technologies such as [Respondent India's] preferred WAMSR would have to go through the same Generic Design Assessment process, but in order for this to be worthwhile for the developers of the technology there would also have to be a customer for the reactor itself. If current nuclear power developments are any indication then it seems that the most likely customer for the reactor design would be the developers of the technology themselves.

At this point it should be noted that opposition to new nuclear remains a minority view within the area, with most in favour of or at least accepting of Wylfa Newydd. This is confirmed by responses from Welsh Assembly Members and Members of Parliament, but also the majority of other respondents.

[Plaid WAM] is pragmatic and while stating a preference for investment in renewable energy, accepts Wylfa and the investment it brings. [Plaid WAM] perhaps echoes his constituents in being accepting rather than "*hugely enthusiastic*" about a new nuclear power station. [Plaid WAM's] position is one of ensuring that Wylfa Newydd does indeed bring local economic benefit,

which in turn would permit people to remain on Anglesey, rather than one of objecting to the power station in principle.

*What I've always said, and I've been very clear, if there was a pile of money with renewables written on it and a pile of money with nuclear written on it I would be jumping up and down on the renewables investment pile. The position is that the only multi-billion pound investment in the offing for Anglesey is Wylfa.*

...

*I think that the majority of people of the island though not hugely enthusiastic about having another nuclear power station, [are] happy about nuclear technology and having lived with it for a long, long time, can see the economic benefits.*

...

*And therefore the choice for me is either to jump up and down with a placard saying 'No To Wylfa' or to say, well if Wylfa is coming, what can we do to mitigate some of the threats a) by ensuring that the economic, local economic benefit does actually materialise in terms of jobs for people who want to live and stay on the island and also things are put in place to mitigate the demographic change, societal pressures of all sorts. So that's my position. And I've always been of the position that nuclear's not all black and white; it's a middle ground. [Plaid WAM]*

[Plaid WAM] contends that generally people are accepting of Wylfa, and actually it is the new transmission infrastructure and the possibility of a double row of pylons across the island that may change this support into opposition

*People are happy to live with the risks of nuclear power because they're used to it; their friends and sons and wives work there, and nuclear power is OK, you know, it's part of the furniture on Anglesey. They want more pylons passing through my back garden? Is it worth it?*

...

*I think [these HVOTLs are] more of a threat than anything I've seen to the kind of public support that there is Wylfa.*

...

*having the two is more, in my mind, more than twice as bad. It is greater than the sum of the ugliness and health fears. It's not just double; it's a major industrial tract through Anglesey if you have two lines of cables. [Plaid WAM]*

[Labour MP] confirmed his support for Wylfa Newydd and also linked nuclear power to prosperity in the area. [Labour MP] also acknowledged that despite general support for Wylfa the transmission infrastructure remains contested.

*We've had nuclear power generation in North West Wales for decades, and it has been good, in my opinion, for social- economic factors and has brought prosperity to the area that we wouldn't have had otherwise, so I think – and more people actually work in energy than work in many other sectors. So, as a sector it is important to Anglesey*  
[Labour MP]

[Director, Welsh Government] also describes how in general the people of Anglesey are accepting of a new nuclear power station development having already lived with a nuclear power station for many years.

*On Anglesey, you've got this situation where people, because of the existing Magnox station are very positive on the whole – the vast majority of people want another nuclear power station, because they've seen the benefits of the one that is going to close in two years' time* [Director, Welsh Government]

Although [Director, Welsh Government] and [IACC Economic] also contend that actually, because the original construction was so long ago, most have forgotten the level of disruption caused.

*And the majority of the people here don't have a clue about what the disruption will happen in the build period.* [Director, Welsh Government]

*Because they don't remember the disruption from the first time* [IACC Economic]

The benefit of Wylfa as source of employment and income is borne out by [Respondent Hotel], who was formerly employed at Wylfa. [Respondent Hotel] nevertheless retains a strong objection to the idea of additional overhead transmission lines across Anglesey.

*Obviously the fact that Wylfa was there and I was employed there was great for me. You know, it provided me with a living. And I can't argue about that. You know, that's the way it was.* [Respondent Hotel]

[Horizon] contrasts the views of the anti-pylon lobby with the anti-nuclear lobby. Whereas he characterises “the No Pylons people” as “we want the power station, there's a different way of connecting this and Grid aren't listening to us”, he accuses the anti-nuclear group PAWB of jumping on the bandwagon of “if you don't want pylons, stop Wylfa.” This is precisely the argument succinctly put forward by [Respondent Delta]: “No Wylfa, no pylons”.

One of the key arguments for large scale centralised electricity generation from, for example, nuclear power stations, is that of providing a baseload capacity, a supply of electricity that is always available. This baseload is the reason cited by [Labour MP] for his scepticism towards more de-centralised generation, which he characterises as. *“good in theory, but in practice?”*

However this mode of thinking may be considered old-fashioned by many. Steve Holliday, CEO of National Grid at the time, is on record as saying that the provision of baseload power is outdated. The future will be much more driven by the availability of supply and by demand side management. When questioned as to whether nuclear power will be used to meet peak demand, he predicts smaller, modular power stations which will be associated with fixed demand for business rather than flexible demand of consumers (Holliday 2015).

Although this thinking does not remove the need for large scale centralised generation - to service industry - for instance, it does turn the idea of baseload on its head somewhat. In this model the spider’s web of interconnected local grid described by [Respondent Foxtrot] earlier (para 5.7, page 136) would supply the baseload for domestic use at least. [Respondent Foxtrot] characterises the current national grid as *“developed for a different time”*, and suggests that moving electricity over long distances from large centralised generation is an old-fashioned way of doing things. He regards large centralised generation with electricity transmitted over long distances as symptomatic of how energy should *not* be. Advocating smaller interconnected grids, he suggests that perhaps we should be rethinking our electricity generation and distribution or transmission. If grids were localised, he suggests, rather than *“inconvenienc[ing] the poor sods who live in a beautiful part of the world; that’s the cost of living in a beautiful part of the world.”*; rather than shift energy across long distances to cities and accept transmission losses and loss of landscape, why not have an actual grid, a web, that serves local needs first and then exports any surplus.

Others are less convinced. For example, [Respondent Hotel] concedes that more distributed small scale generation could perhaps be slightly fairer in terms of ownership, but does not *“see this as a solution to the problem”* of the overland transmission infrastructure. [Respondent Hotel] remains in favour of large scale centralised generation, and expresses acceptance of the *“obvious risk of a nuclear power station”*. [Respondent Echo] also accepts need for nuclear and that nuclear forms part of UK government strategy but does not universally accept other forms of low-carbon generation such as wind turbines because he perceives them as inefficient and heavily subsidised. [Respondent Alpha] is somewhat critical that existing power stations – coal-fired and nuclear – have been phased out without replacement and, in common with some other respondents, comments that more needs to be done to save energy. However [Respondent

Alpha] is clear about the need for new generation and offers broad support for nuclear energy. [Respondent Alpha] also expresses a lack of concern that the nuclear reactors for Wylfa Newydd will be developed by Hitachi, despite Hitachi's supplying reactors to Fukushima.

*The country needs more generation, sooner rather than later. They've closed down perfectly good coal stations to appease Europe, which I think is a mistake.*

...

*If people want their fancy TVs and computers they have, have to have generation. ...I think nuclear is very good, very clean, the only issue is the waste. [Respondent Alpha]*

[Respondent Alpha] comments on the interconnectedness of a national grid and that the new nuclear power generation will be part of a more integrated network.

*People say to me, Oh Wylfa, is that where you get your electricity from? But I would say, you can follow that wire there to any other house in the country, in fact all the way to France [Respondent Alpha]*

[Horizon] perhaps not unexpectedly expresses the position that although other technologies such as commercial large capacity tidal power are still some time away, nuclear power is an established technology which does not produce carbon emissions during generation and is a reliable source of baseload power. In addition, centralised generation of this type will supply electricity through the existing form of transmission network "*which is decades old; is proven; is trusted*", whereas, smaller scale or micro-generation although a "*good ideal*" will require considerable change to the infrastructure in order to be able to support it and as [Horizon] adds, "*we've quite a long way to go on that*". [Horizon] acknowledges that Germany through its Energiewende project had recently achieved 100% of its electricity generation from renewable sources, but adds that this was for a very short time and that with increasing demand for electricity through more electrification of railways and cars for example, nuclear will remain an important part of the generation mix in the UK. This echoes the UK government's position. As far as the location of the Wylfa Newydd specifically is concerned, [Horizon] cites the Jackson report, which informs the UK government's Strategic Siting Assessment for nuclear generation (Jackson Consulting (UK) Ltd 2006). Wylfa, [Horizon] asserts, as an existing nuclear site, is accepted by the local community, who "*have been well used to living next door to one for 40 to 50 years*". [Horizon] adds Wylfa also bring benefits of a large corporate employer that supports communities and provides long-term employment with good wages in what is "*quite a safe*

*industry to work in” ...“there have not been any major incidents in the UK since Windscale back in the late ‘50s<sup>27</sup>”*

In summary, while some respondents oppose Wylfa Newydd, either in principle or because they feel that there may be better alternatives, this is not the dominant opinion and in the main respondents accept Wylfa Newydd as part of the new energy mix. What is perhaps not clear is that fact that Wylfa Newydd is a nuclear power station also influences the nature of possible transmission connections to the grid. See also p237.

## **5.9 It’s All About The Jobs**

Key to the future of Anglesey is the availability of local employment to allow new generations to remain within the region and to maintain vibrant communities. The Anglesey Energy Island initiative provides an important strategy to achieve these goals. Another major sector of employment in the region is tourism. The presence of two differing industries, energy and tourism, raises the possibility of tension between the needs of these industry sectors.

### **5.9.1 Energy and jobs**

Those responsible for economic development within the region recognise a link between transmission of electricity and future jobs growth within the energy sector and potential effects on tourism.

*From my position of Head of Economic and Community Regeneration within the council then obviously the transmissions lines are directly related to future jobs growth, and also the tourism industry on the island. [IACC Economic]*

[IACC Economic] recognises that the jobs and prosperity linked to the Energy Island project means a large investment in infrastructure in a relatively small area and that this may prove unacceptable to some.

*There is a small area which is seeing huge infrastructure investment which just happens to be energy, what is acceptable, what is not to the local community? Where is the tipping point? At what cost are jobs welcome? [IACC Economic]*

But as [IACC Economic] adds “you can’t eat the view so you have to create jobs”, and for [IACC Economic] the energy sector represents the ideal opportunity for Anglesey to do just that.

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<sup>27</sup> Referring to fire and subsequent release of radioactive material at Windscale in October 1957. Windscale now forms part of the site on which Sellafield is situated.

*It just so happens that in energy infrastructure Anglesey's ahead of the game because it has got everything. So if we are going to transform and raise quality of life it has got to be through energy [IACC Economic]*

[IACC Economic] clearly links the local support for Wylfa Newydd and for other energy related developments to the promise of future jobs and prosperity, regarding this as a once in a lifetime opportunity

*Why is it Anglesey Council and the majority of the people in the community are supportive of new nuclear and offshore wind farm etc? It's because it is a once in a lifetime opportunity; it's going to create jobs and prosperity; it's going to hopefully start some sort of an industrial revolution, transforming businesses, communities etc. Those are all the possibilities.*

*[IACC Economic]*

However, [IACC Economic] recognises the possible negative impacts of development and how this may affect the acceptance of this development.

*The flip side then is what are the negative impacts, either visually or environmentally, and where is that tipping point where the community of Anglesey actually goes 'no, sorry, those negative impacts are too much' and therefore their support for all those positive thing starts to waver [IACC Economic]*

And if support wavers then the conclusion to this argument is that if the island is overdeveloped it will no longer be an attractive place to live and work. If people of working age move away with their children then you have a negative legacy on the communities.

*[Of] people leaving, Welsh language dying, schools closing, and we almost become the Florida of the UK, where people come to retire and there's almost an electric gate on the bridge. [IACC Economic]*

[IACC Economic] acknowledges that this is an extreme scenario but maintains that it is important not to approach that point of development so that people would wish to remain on the island and raise their children there because *"it is part of their culture and they like the quality of life"*.

The link between Wylfa Newydd and jobs means that the acceptance of transmission infrastructure to carry electricity from Wylfa Newydd is also linked to those jobs as the transmission infrastructure is inextricably linked to electricity generation at Wylfa Newydd. This thus flips on its head the *"No Wylfa, No Pylons"* to become *"No Pylons, No Wylfa"* with the



implications that if pylons (or whatever transmission solution) is not accepted then the new power station cannot be built and the jobs and long term security promised cannot materialise.

As a core part of the Energy Island strategy, Wylfa Newydd is clearly linked to jobs and future prosperity in the area. Politically there is support for Wylfa Newydd, including from Welsh Assembly members and MPs. While Plaid Cymru's party policy is one of no new nuclear power, as [Respondent Bravo] puts it *"in the only constituency where that's relevant that is [Anglesey], all the elected representatives, including from Plaid Cymru have been advocating Wylfa [Newydd]. And the reason ... is jobs"*. [Respondent Bravo] goes on to suggest that the influence of the Unite union, Britain's largest union with around 1.4 million members, may be significant, at least within Wales. [Respondent Bravo's] implication being that this lobby will be a strong advocate for the creation of jobs through the new power station.

The local (Labour) MP confirmed his support for Wylfa Newydd and also acknowledged that there was broad acceptance of Wylfa Newydd on the island. In his view there will be considerable social and economic benefits from the new power station, with thousands of jobs in the construction phase, hundreds in the supply chain and hundreds in-site (post-construction). His view is that the hundreds of skilled on-site jobs after construction will lead to many more lesser-skilled and supply chain jobs giving long term employment for a multi-skilled workforce. [Labour MP] asserts that *"there are many hundreds [of jobs] and they're highly skilled, they're above the national average in pay"*. [Labour MP] hopes that these jobs will allow people to remain in North Wales rather than having to seek work elsewhere as many have had to do since for example the closure of Anglesey Aluminium.

Some are more cynical about the quality of jobs that the construction phase for Wylfa Newydd will bring for the local population, and characterise them as low skilled jobs, rather than the skilled jobs that could also lead to further employment. [Respondent Charlie], having had experience of large construction projects, describe the situation where large populations of workers will migrate in to the area for the duration of the project and then move on, with local employment being relatively low skilled or support work.

[Respondent Charlie] *"It'll just be local businesses, - 'oh yeah, we've taken your rubbish away' - you know, - 'we've made your sandwiches'"*. Commenting on opportunities for young people, [Respondent Charlie] said that *"it made [his] blood boil"* there is not already a strategic set of apprenticeships set up so that a local workforce is trained ready for when the building or engineering skills are needed. [Respondent Charlie] clearly considers that there should be more obvious investment in future skills to accompany the construction of the new power station. He

links this to an obligation to employ a certain percentage of local people and remarks that this is what happened in his experience with road construction projects. However, his argument is limited when he admits that those local people *“weren’t necessarily in good positions. They were ... tea boy or cleaner and that sort of thing.”*

[Plaid MP] expresses some cynicism that the merits of Wylfa in terms of jobs are worth the impositions of pylons that accompanies the power station

*Well, I mean, if you did an analysis of the benefits from Wylfa; what does it bring? Well, I suppose it brings employment and some local investment, some local taxation, I suppose. Keeps people here who then spend their fivers in the shops. But if you put all that together it is not a very big hill of beans as compared with the amount of electricity they are going to generate and sell. OK, is that small hill of beans sufficient to persuade us that we should have pylons? I probably think not, myself, you know. [Plaid MP]*

[Respondent Bravo] accepts that there is broad support for Wylfa Newydd because of the employment it brings, but asserts that actually there would be a preference for employment in other energy sectors. He points to evidence from a survey commissioned on views towards energy and employment on Anglesey (Morris 2011). However, although this survey does indicate that a larger proportion of respondents (74%) would prefer any more energy sector jobs on Anglesey to be created in the alternative or renewable energy sector as opposed to the nuclear sector (35%), this does not necessarily indicate opposition to nuclear, merely a *preference* for non-nuclear as an alternative. Asked on the advantages of building Wylfa B, a large percentage (88%) identified employment for the people of Anglesey to be an advantage, with only (33%) identifying Wylfa B as a key way to produce energy. This secondary data thus supports the impression of Wylfa B as an important source of employment on the island, relegating its primary function of producing electricity to second place. The same survey also shows that a majority considers that a large number of building workers (5000 for the purpose of the survey) will have a beneficial effect on Anglesey. As an organisation, PAWB produced a manifesto for employment on the island where they attempted to find the meet the employment needs of the island without recourse to the nuclear power station.

*... the development by Land and Lakes, up at Penrhos. .... They talk in terms of employing 600 people there; a huge development [that will] employ similar numbers to Wylfa.*  
...

*if you add that Stena's development at Newry Beach<sup>28</sup>, proposed development there, and the biomass development at Penrhos and old Octel<sup>29</sup> site at Amlwch port there, there's another development planned there I believe. Then you finish up with more or less the number of jobs you require to meet the needs of the unemployed on the island*

[Respondent Bravo] also points to community level projects as a better way to employment and income. He cites two local examples of community regeneration, Antur Aelhaearn and Nant Gwrthelyn. Antur Aelhaearn was the first community co-operative in the UK. Founded in 1974, it aimed to rejuvenate the local economy, providing employment and training opportunities for local people. This co-operative has been running for over 40 years and is currently involved with projects to reduce fuel poverty and to further develop facilities within the village. More recently a formerly deserted village was regenerated by the Nant Gwrthelyn trust, as a focus for a National Language Centre, which currently employs some 30 people and offers Tourism Wales 5 star accommodation.

*Everybody employed there is local. And people come there from all over the world, to learn Welsh or to imbue themselves in the Welsh culture. [Respondent Bravo]*

Both of these ventures are situated on the Llyn Peninsula rather than Anglesey but the idea of local or community control is central and could equally apply to ventures on Anglesey.

However, [Respondent Bravo] highlights his frustration at not being able to secure permission for community electricity generation projects for Antur Aelhaearn. He regards the income generated from community projects for the level of investment required as a far better outcome than that for, for example, Wylfa Newydd, and a more equitable use of investment, which directly benefits the community which hosts the project. Specifically he refers to a single proposed community wind turbine, the income from which would support around 20 jobs within the community as well as an income over the turbine's 20 year life of around 3 million pounds, thus allowing development of several new community projects. He expresses his frustration that despite a substantial investment from the community this project has stalled.

*You can imagine the frustration begins to increase as I being to relate the story ... three years down the line, something like 80,000 having been spent, primarily government*

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<sup>28</sup> Joint venture between Conygar and Stena Line for regeneration of Holyhead waterfront. Proposals for 380 townhouses and apartments, a 500 berth marina, almost 44,000 square feet of office, commercial and retail or leisure facilities and a hotel. Will include a maritime museum, visitor, youth sailing club and a marine workshop with apprentice training facilities (Congyar 2011; Stena Line and Congyar [no date]). The proposals have not met with universal approval (Waterfront Action Group Newry Beach Holyhead 2015)

<sup>29</sup> Octel was a chemical company producing bromine from seawater, which was used in the manufacture of additives for leaded petrol. Production ceased in 2004 with the subsequent loss of around 120 jobs.(Summers 2015)

*money, various grants and so on, programs like Ynni'r Fro<sup>30</sup>, but we borrowed some money from the community generation fund as well, that application went to planning ... and it was refused*

The application was refused because of the “*physical environment*”, that is that the turbine is proposed in an outstandingly beautiful area although it is outside the AONB itself. But as [Respondent Bravo] comments, there is little point preserving every view, every piece of scenery, if there is no community left to live or work there.

*Well, 60% of Wales today is protected. It is a stark statistic that we can't escape. We can't protect every spot of our environment as if nobody lived there. ... it would be a very Pyrrhic victory if at the end of the day we have safeguarded every mountain scene, every landscape, on the one hand, and the communities at the foot of those mountains, at the foot of those valleys, continue to find it extremely difficult to survive on a day to day basis, as many of them do. [Respondent Bravo]*

For some respondents it is employment that tips their opinion in favour of Wylfa Newydd.

*Anglesey is benefitting from having work in Wylfa; there is no doubt about that. Even though I'm personally against nuclear energy, I will support it because our young people need work. That is the only reason. [Respondent Kilo]*

[Respondent Foxtrot] expresses excitement at idea of an Anglesey Energy Island, linking the name to the idea that “*the whole island can view itself as a way of becoming self-sufficient*”. But his vision relies on local ownership of the electricity infrastructure, whereas Anglesey Energy Island is largely predicated on the development of several large or medium-sized facilities including but not limited to Wylfa Newydd, rather than individual or small scale projects. He expresses dismay that Anglesey Energy Island does not seem to give rise to a single community based energy project on Anglesey. He is cynical on the worth of jobs associated with some of energy developments. He uses a biomass plant in Gwynedd as an example

*We have biomass plants in Gwynedd; where is the company based? In London. How many local people do the employ? Two. And what do they do? They sweep the floor of the factory. And how many local suppliers building it? Zero. [Respondent Foxtrot]*

[Respondent Foxtrot] aspires to a broad base of economic activity, owned by a number of people rather than a relying on a few larger employers coming in “*to come in and save the day*”.

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<sup>30</sup>The Welsh Government's Ynni'r Fro programme uses European Structural Funds to offer social enterprises grant aid, loans and free, independent, hands-on advice and information to help develop their own community-scale renewable energy schemes across Wales (Energy Saving Trust 2104).

*97% of businesses in Wales are very small. Maybe we should be doing more to help the 97% of businesses instead of just trying to help these larger ones. [Respondent Foxtrot]*

[Respondent Golf] is critical of local press coverage around new development and potential jobs. He suggests it is vague but generally positive and is of the form “*Isn’t it wonderful?*” because any secured funding for what is relatively poor area is “*necessarily*” cast in a positive light, whether this is Wylfa Newydd or a new Science Park proposed for Anglesey. Speaking specifically of the proposed Science Park, he continues that the university, the local authority and the Welsh Government had decided to build a science park near to where he lives but although it has been reported that “*funding has been secured for this wonderful project*”, he struggles to understand what it actually is and what it will do. While not dismissing that it may well be a “*wonderful thing for the local area*”, he struggles to make a judgement of any kind on this as he simply does not know what is being proposed.

[Plaid WAM] considers that Energy Island, if it is to be accepted, needs to have transmission, but also contends that this transmission should respect local communities

*If people are serious about the Energy Island project, obviously that brings with it the need to ensure the safe and reliable transmission of that energy, but I’m just a firm believer that it should be done in a way that respects local communities. I’m not convinced that what is being proposed now does that. [Plaid WAM]*

[AEI Director] comments that the connection between Wylfa Newydd and the national grid is fundamental for the economic future of Anglesey.

*I think [the transmission connection] is fundamental. It’s fundamental. [AEI Director]*

And for [AEI Director] as far as Energy Island, Wylfa Newydd and employment within the energy sector are concerned, the nature of the connection is not as important as the fact that there is a connection.

*The pylons or the undergrounding – do they make a difference to the jobs? And the answer is, probably not. [AEI Director]*

[IACC Economic] also make a distinction between Wylfa Newydd and the transmission lines with respect to jobs, asserting that whereas Wylfa can be directly linked to jobs this is so clear for the transmission. Although in order for Wylfa Newydd to operate there must also be a grid connection, this is not such a direct link to jobs for the transmission lines as there is for the power station itself.

*The Wylfa project can be directly related to employment, and benefits, and economic growth. I don't think the National Grid pylon [project] can.*

...

*I think the provision of grid lines, you know, electricity infrastructure is a necessity to create the jobs. [IACC Economic]*

As [IACC Economic] cautions, many of the jobs beyond the construction phase of Wylfa Newydd are not new jobs, as “all we are doing with the power station almost is replacing old with new”. [IACC Economic] therefore points to the importance of the supply chain and servicing for Wylfa Newydd in ensuring future prosperity and in this [IACC Economic] emphasises the importance of the Energy Island program.

In a competitive world with limited ability to ring-fence employment for local people, in the face of big employers closing, young people leaving the island for either employment or education, by creating employment opportunities on the island then at least there is potential for a legacy and a better future for the island. As [IACC Economic] says, “at least we are trying to achieve it, rather than just sitting on our hands and accepting that there is a downwards spiral”. According to [IACC Economic] there are not enough private sector opportunities and this is what is needed; Anglesey has a very high proportion of self-employment, but this is not a sign of strength but rather of there being no other alternatives.

*People start their own business because they either go on the dole, move away or start their own business. They don't want to be unemployed, they don't want to move away, because [of] their family and they like it living here, so they start their own business. Because there aren't alternatives. [IACC Economic]*

### **5.9.2 Tourism and jobs**

As stated previously, one of the expressed fears with respect to overhead transmission lines in particular is their perceived degradation of the visual landscape, considered as an important part of the offer of Anglesey as an environment, particularly for tourism businesses.

[Respondent India] quantifies the importance of tourism:

*The people of Anglesey rely on ... the tourism industry; the tourism sector in Anglesey employs around 4000 people, it has an annual turnover, I think I'm right in saying 265 million. It is the largest private sector employer on the island. Farming, which is, you know, people always say farming is very important, farming I think employs 3%, farming and forestry I think employ 3% of the population, on Anglesey, whereas this employ a fifth. In other words, around 20%. [Respondent India]*

Anglesey Island Council's figures confirm the order of [Respondent India's] estimate, reporting tourism brings in 1.6m visitors to the Island each year; supports more than 4,000 jobs and is worth around £280m to the local economy (Isle of Anglesey County Council 2016a).

[Respondent India] also highlights some of the importance of the tourism industry and the kind of opportunities it may bring. Acknowledging that tourism may not necessarily offer high wage employment it has several advantages, such as allowing small businesses to start up and grow, and to have flexible working, making it an attractive business sector for many. Tourism also has the advantage that as the product is tied to the location, it is difficult to offshore this, - compared with manufacturing, for instance - so employment is retained locally.

*The tourism industry is by no means the provider of a huge number of well paid jobs. Even so, it's a very , interesting industry, because it allows people to start up and work for themselves; there isn't really any cap on what you can do if you are a good, effective entrepreneur, you can build the business up, you know, there are no limits, only the sort of limits as to what your potential market might be, if you like, but you could grow that; it allows a lot of flexible working, which more and more these days, people are looking for, for very good reasons, I mean, obviously, there are downsides to flexible working but there are also good sides to it; and it still provides work for more people than any other private sector employer, you know it's a sector that provides more work. [Respondent India]*

Several respondents expressed concern about the possible impact of new overhead transmission lines on tourism on Anglesey. Although there is limited research on the effect that proposed HVOTLs will have on the tourist industry and income on Anglesey, [IACC Economic] highlights research commissioned as part of the Anglesey Island Council's Destination Management Plan (Isle of Anglesey County Council 2012). This research suggests that pylons would have little real impact on tourist likelihood to visit Anglesey; that although local tourist businesses fear the affect that new HVOTLs associated with Wylfa Newydd will have, visitors remain unconcerned.

However, this particular research with is dismissed by one respondent [Respondent Juliet] who was aware of it.

*[It was] done in a little focus group, in Manchester or somewhere; it wasn't done here. It was done by a little focus group and it was the most absurd thing ... It was a joke. It was a joke [Respondent Juliet]*

[Respondent Juliet] also question the focus of the research as being driven by extended PR around Wylfa power station and fostering acceptance of a nuclear build rather than on transmission.

[Plaid WAM] is also sceptical when asked about the Destination Management Plan's findings that tourism will not be affected by additional transmission lines

*No, I don't accept that at all. [Plaid WAM]*

The same research also indicates concern from tourism businesses that other developments on the island affect tourism, including the current Wylfa power station, and existing or new wind-turbines. Although these concerns may be valid they are also perhaps predictable in that any development or change to the landscape could be thought to have some effect on nearby businesses.

In common with others, [Plaid MP] expressed concern for the potential impact on the local tourism industry of an extra row of pylons across the island. He concedes that it may be difficult to quantify this sort of impact and also asserts that there has been little attempt to research the matter.

*Then we started asking [National Grid] questions; well, have you considered how much it would cost to the local economy if we had another row of pylons? or what will that do to tourism? And [National Grid] said, essentially, well we don't know, because nobody has looked. [Plaid MP]*

[Plaid MP] summarises that impacts on tourism are “*extremely difficult to quantify*” but also that “*nobody has really looked into it in great depth*”.

[Plaid MP] further contends that the North Wales area is not alone with this dilemma. From being in Parliament he is aware of other areas of the UK where electricity infrastructure development is taking place and where it is contested primarily because of its visual impact on the landscape.

*It seems to me that this is going on in many places. [Plaid MP]*

[Plaid MP] cites several examples of regions around the UK where there is substantial opposition to developments related to electricity infrastructure, where MPs have become involved, including in South and Mid-Wales, East Anglia and the Somerset levels.<sup>31</sup>

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<sup>31</sup> [PlaidMP] refers to several other developments around the UK. In Wales he refers to developments in mid and south Wales. Brechfa West Wind Farm is a development by RWE of 28 turbines to generate 55 – 84 MW electricity. The wind farm was considered a Nationally Significant Infrastructure Project (although under new limits of generation



[Plaid MP] also regards tourism as a very important part of the local economy

*I think we have just realised how important outdoor activities and the tourism industry is. You now, I think until possibly the foot and mouth outbreak, people tend to think well tourism is the icing on the cake, but now we realise actually it is the cake. [Plaid MP]*

Young local people have been encouraged to move into the outdoor activity and tourism industries [Plaid MP]

*I know when the local board of the economic forum looked at tourism and looked at some of the enterprises here, they found that very few local people were working in those businesses. And there has been a specific push to get young people interested in outdoor activities, and also then to promote employment and the economic value. [Plaid MP]*

[Plaid MP] sees the industrialisation of the local landscape with pylons as pulling in the opposite direction to these tourism developments.

*And that seems to be going in one direction at the moment and pylons would be going in the other, as it were. I mean, if you look to the east of Bangor as you go along the A55, you know, the pylons stride across round Aber there, and you now I think they are, I think they are ugly really. It doesn't matter what I think; I think people who come here on holiday might think so. [Plaid MP]*

When asked whether the pylons may have an effect on tourism [Respondent Kilo] has instinct that it probably will.

*Personally, I don't have a clue. But I suspect it may. [Respondent Kilo]*

[Respondent Foxtrot] indicates that in other regions wind-turbines, for example, have not had an effect on tourism. But then he goes on to highlight a difference in scale between a smattering of wind-turbines and “some enormous pylons and a nuclear power plant”.

[Respondent Foxtrot] also indicates that if he lived in a city and wanted to go on holiday he would “probably look at his options a bit more rather than going to that nice place by the nuclear

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capacity it would not be, as this permits developments up to 350MW capacity). The Development Consent Order was granted on 12<sup>th</sup> March 2013. The period for judicial review passed without challenge. The wind farm is to be connected into the distribution network by Western Power Distribution (WPD), the distribution network operator in the region via a new 132kV circuit (WPD 2014). He also refers to wind farm developments in Montgomeryshire, mid-Wales (now a district of Powys county). These developments include 5 wind farm developments and a new 132kV Overhead Power Line connection. Of these only a repowering development which would see removal of 102 turbines and their replacement with 34 new turbines was granted permission by the Secretary of State; the others schemes were refused. A principle objection was that of visual intrusion within the landscape. This decision was made around a month before the interview with [Plaid MP] took place, but was subsequently appealed by the developers and will now be reconsidered (DECC 2015). Elsewhere in the UK, [Plaid MP] refers to opposition to proposed pylon developments in East Anglia and near Bristol.

*power plant*”. However it should be noted that construction and operation of the existing Wylfa power station spanned over 50 years, with tourism on the island continuing through this time.

[Respondent Lima] although not directly affected by the transmission lines, nevertheless associates tourism with the coastal areas of Anglesey, away from the proposed transmission routes. [Respondent Lima] doubts that pylons will affect a decision to travel to Anglesey, although she acknowledges that those arriving may notice them.

*I would imagine on the coast. You get a lot of these caravan parks around Red Warf Bay and those type of areas, Treaddur Bay they’ve got this, is that where they’ve got golf courses. Or Rhosneigir. Those sort of places attract a lot of people.*

...

*You’d see them, wouldn’t you, on the way in and ‘oh goodness me’ [Respondent Lima]*

Others also doubt that there will be any real effect. [AEI Director] recalls protests against the installation of the original pylons in the 1960s and observes that before the current need for more grid connectivity the pylons had been accepted as part of the landscape, to the extent that few people realise where the current transmission lines cross the Menai Strait.

*I found it quite interesting about 5 or 6 years ago when people started to talk of Wylfa Newydd; I started asking people the question well how do think electricity goes from Wylfa now, to the national grid? They said pylons. Yes fine. And where do they come across the Menai Straits then? And people didn’t have a clue.[AEI Director]*

So while [AEI Director] recognises that there is a visual impact he also contends that this has in many ways been accepted as part of the landscape, and draws a comparison with agricultural enclosure of the early 19<sup>th</sup> century.

*In terms of visual impact, you know, it’s accepted as being part of our heritage, in some odd way now [AEI Director]*

[IACC Economic] is also circumspect about whether pylons will affect tourism or farming. As he observes when asked whether there is a genuine conflict between other economic interest, namely tourism and farming, and the transmission:

*I don’t think there is [a conflict], because the grid lines are already here. [IACC Economic]*

[IACC Economic] also adds that in his personal view, he does not think it will make a difference if the transmission lines are doubled up, which is a key part of a proposed solution. [IACC Economic] refers to research used in Anglesey’s Destination Management Plan (Isle of Anglesey County Council 2012) to support this

*I haven't seen any evidence to say that it would, that it will have a negative impact on agriculture or on tourism. You know, we did research with visitors to Anglesey, perceptions, in the Cheshire and Midlands area 3 or 4 years ago. When we mentioned nuclear and the grid lines they were, I hadn't noticed, I didn't know they were there anyway. [IACC Economic]*

Tourism is not uniformly distributed around the island, with the majority of visitors being to the coastal areas. [Respondent Echo] concedes that much of the tourism on Anglesey is located on the coast, but also makes the point that tourists come, but also travel around the island and that there are attractions and accommodation inland also. [Respondent Echo] also highlights the knock on effect that a drop in tourism may have on other local industries, such as his own previous business of growing and selling fruit and vegetables which then supplied tourism businesses. [Respondent Echo] makes the point that as far as wind-turbines are concerned, they would clearly be visible from other sites such as Snowden, extending the idea of visual impact to include the view from elsewhere, and draws a parallel with the appearance of pylons.

*There were people who wanted to cover this island with turbines. But we fought that off. So you could have gone up Snowden and seen an island full of turbines. [Respondent Echo]*

[Respondent Juliet] is critical of the impact of even the existing pylons on the tourist offer and singles out the scene at the main entry point to Anglesey, the Britannia Bridge. She highlights the dominance of the existing pylons at this point, and how the Welcome to Anglesey road sign is lost against this industrialisation.

*So then to the tourist package of Wales. You cross the bridge and you see those pylons, even when you cross the bridge and they're trying to brand it with this tinny little Welcome to Anglesey sign, it's totally lost by the fact that you've just had to cross a row of pylons. [Respondent Juliet]*

While not stating that these pylons have a negative effect on the tourism offer she presents the case that, barring pylon fanatics, *"it is impossible to say that those pylons are making Anglesey a more attractive place"* and that this scene is detrimental to the overall tourist package of Anglesey.

[Respondent Juliet] supports her argument by underlining the importance of tourism to the local economy, referring to research presented to the Welsh Assembly Government (see Pritchard 2014) which identifies Anglesey as one of the most tourism dependent regions within the UK.

[Respondent India] observes that there are industrial structures which are now tourist attractions, offering the example of the Electric Mountain hydro-electric scheme in Gwynedd, and also of Penmon and South Stack lighthouses, but [Respondent India] contends, pylons are unlikely to fall into this category.

*You've got this fantastic hydro power station which is actually open to the public and has become a tourism attraction in its own right ... you've got Puffin Island, the Penmon lighthouse, that's on every postcard ... how many postcards of Anglesey do you see with a pylon on them? [Respondent India]*

Acceptance of Wylfa Newydd and the transmission infrastructure that comes with it is linked to the wider income and employment prospects of the new power station. However, the transmission link is in part opposed because of potential impact on other employment, specifically in the tourism sector. This presents a tension between the relatively well quantified benefits of employment and income from the power station and a suspicion and fear that the transmission infrastructure will affect income from tourism; any impacts on tourism remain unquantified.

## **5.10 Consultation, Representation and Democracy**

Before submitting an application for a Development Consent Order, developers have statutory duty to carry out consultations on their proposals. The Planning Inspectorate considers that responding to a developers' pre-application consultation is the best time to influence a project (The Planning Inspectorate 2012). In the case of the North Wales Connection, National Grid's consultation has been a major source of discontent for many, with criticisms of the scope of consultation and of a lack of democratic voice. Democracy specifically related to consultation and representation of views represents a major theme in this research. This section covers respondents' views on the nature of the consultation: what is consulted upon, who is consulted, political representation, understanding of the process, the purpose of consultation, and decision making.

### **5.10.1 What is consulted upon**

While there is extensive consultation with the public and other stakeholders with respect to the new infrastructure for many this consultation is seen as flawed and undemocratic. As part of the public consultation, options are presented for the connection of Wylfa Newydd to Pentir. However a dominant impression amongst respondents is that the options presented do not

reflect what *can* be done. Rather those consulted are presented with restricted options and an unwillingness to explore what many respondents consider to be valid alternatives. Specifically there is strong objection to the presentation of four alternative overland routes for the transmission connection, and for the preferred option for these routes to be HVOTLs. This leads some respondents to accuse National Grid of arrogance and of choosing what is expedient rather than what is the best option for the community.

*It was the sheer arrogance, I think, of it, that really struck me ... the cheapness of it; the disregard. [Respondent Juliet]*

Criticism is levelled at the scope of the consultation in that the options presented to the public by National Grid are limited. Referring to a first consultation document from National Grid and the options proposed for the connection within that document, several respondents are highly critical of the limited range of possible choices presented. They assert that by only including a selection of broadly similar routes over-ground for consideration the consultation is flawed from the outset, with alternatives such as around the coast not even mentioned.

*There was no mention of other possible options, none at all. So to me that is a flawed questionnaire. [Respondent Kilo]*

[Respondent Kilo] questions the validity of any further results, as expressing a preference for one of four possible routes does not mean it is actually what is preferred if other, more preferable, options are not included on the choice.

*The way they started off was totally flawed, because their initial questionnaire was flawed and biased.*

...


*They can't just say 60% of Anglesey residents would have preferred this route; that is ridiculous. Because if they had been given another option who knows what they would have chosen.[Respondent Kilo]*

In response to the limited range of options presented by National Grid, Dim Peilonau printed an alternative response postcard. A copy of this was given by [Respondent Juliet]; see Figure 5-2 below. This postcard present three statements: opposing HVOTLs across Anglesey, supporting subsea cables instead and expressing dissatisfaction at National Grid's original feedback form.

[Respondent Charlie] also failed to understand the limited range of options and disagreed with the range presented by National Grid. Among others, [Respondent Charlie] argues that "*they've got to get the electricity to Deeside; it's not needed here ... so it could go around Anglesey*".

[Respondent Charlie] cannot understand why this route, the shortest most direct route, is not included in the options.

[Respondent Mike] was unwilling to comment about the specific route options as she did not know enough about the options available or presented but she was aware of protest for an undersea route. [Respondent Mike] identifies with the idea that “*options may have been so far refined that actually there is no choice*”. In this case this is a statement of a principle rather than a held belief. [Respondent Mike] also expressed that she had little knowledge about any engineering aspects there may be.

<p><b>DIM PEILONAU!</b></p>  <p><b>NO PYLONS!</b></p>	<p><b>Having my say on pylons! Mynegi fy marn ar beilonau!</b></p> <p><input type="checkbox"/> Rwyf yn erbyn dewis y National Grid o beilonau i drosglwyddo trydan ar draws Gogledd Cymru. / <b>I am against National Grid's option of pylons for the transmission of electricity across North Wales.</b></p> <p><input type="checkbox"/> Rwyf o blaid ceblau tanfor o Ogledd Môn/ <b>I support subsea cables from North Anglesey.</b></p> <p><input type="checkbox"/> Teimlaf nad yw ffurflen adborth ymgynghoriad y Grid Cened-laethol yn caniatáu i mi fynegi fy marn yn eglur. <b>I feel that the National Grid's consultation feedback form does not allow me to express my views clearly.</b></p> <p>Enw/Name: _____ Dyddiad/Date: _____</p> <p>Cyfeiriad/Address: _____</p> <p>_____ Cód Post/Postal Code: _____</p> <p>Arwyddwyd/Signed: _____</p> <p><b>Postiwrch erbyn / Post by 14/12/2012</b>  <b>i gyrraedd cyn / to arrive before 21/12/2012 (dyddiad cau/deadline)</b></p> <p><small>Argraffwyd gan/Printed by: Plaid Cymru, 8 Stryd y Castell, Caernarfon, Gwynedd, LL55 1SE. (01286) 672510</small></p>	<p><small>Dim angen stamp. No stamp needed.</small></p> <p><small>Postiwrch i'r cyfeiriad isod. Post to the address below.</small></p> <p><b>FREEPOST NATIONAL GRID NW CONNECTION</b></p>
Front	Rear	

Source: Dim Peilonau

**Figure 5-2 Alternative Consultation Feedback Card for National Grid**

[Labour MP] while in support of Wylfa Newydd and having expressed concern at potential industrialisation of the landscape also refers to alternative routes such as sub-sea and asserts that these have not been looked at seriously. [Labour MP] adds that although National Grid “*talked about going to Deeside, [and] talked about going to Pembrokeshire, but they never consulted those areas*”, thus he contends National Grid were never serious about these as possible routes. In a proper consultation exercise, [Labour MP] continues, National Grid should have the decency to include these options and to include people in these areas, as it is a *North Wales Connection*.

[Respondent Kilo] points to a lack of real openness about the consultation, because the broad decisions are presented with little recourse to change them although there was still scope for some mitigation.

*Because the way they gave over their presentation in the community council, you know, again they weren't considering the undersea. It was, you know, this is what we are going to do, sort of thing; we are not really consulting but if you have got a problem in a particular village then we will put them under ground for you. I think that was the gist of the meeting*

...

*I don't think that is open consultation. [Respondent Kilo]*

[Respondent Hotel] reflecting on whether the debate was in fact open, highlighted that in order to have a debate about matters such as generation and transmission of electricity you need to know and understand the UK's energy policy and that (using himself as an example) he did not know what that was. It can be argued that much of this information is in fact in the public domain and energy policy in general is given through national policy statements for energy infrastructure, which in combination give both the overarching and also technology-specific policy (e.g. DECC 2011c; DECC 2011a). It can be questioned whether it is reasonable for those with an interest in new transmission infrastructure, how it may affect them, and realistic alternative solutions, to have to understand all this information. [Respondent Hotel] recalls the miners' strikes of the 1980s and relates this to a hidden and deliberate government policy of closing down coal mines within the U.K. [Respondent Hotel] states that although [the public] hear "little bits" of policy it is difficult to get an overall picture. When it was suggested that perhaps government could just be allowed to get on developing infrastructure in order "to keep the lights on", [Respondent Hotel] maintains that although there may well be a valid case for allowing development to continue in the wider interest, this development in the case of Anglesey should include placing the transmission cables underground, and that unless National Grid are pushed into doing this they simply will not.

Most respondents showed awareness of the wider route corridors, or at least the presence of four alternatives. [Respondent Hotel], when asked if he thought anything was missing, initially limited his response to the options presented.

*[Indicating the four route corridor options] Well, that is all I've got to work on. [Respondent Hotel]*

[Respondent Hotel] then acknowledged that other possibilities such as taking the transmission route undersea did exist, and may be preferable to some, but also speculates that additional cost may make this solution undesirable.

*What is mentioned by other people is going undersea. And I can see why they [National Grid] don't want to do that.*

...

*Because of the cost and maintenance; the ongoing costs and the ongoing maintenance. The National Grid wouldn't want to bear that cost. I mean the cost of doing it is phenomenally more expensive. [Respondent Hotel]*

[Respondent Hotel] and [Respondent Hotel Spouse] consider that the preferred route will be pushed through and that the consultation is political – “to be seen to be politically correct ... to humour us. They are just humouring us. I mean that is what you honestly feel.” [Respondent Hotel Spouse].

*I think that they have their own preferred route and they just keep pushing for that route.*

...

*Well it's a political thing, really. Isn't it? So that they can say that they have consulted with everybody and they can go to the government and say they have consulted everybody. [Respondent Hotel]*

[Respondent Foxtrot] also recognises that there are four options but expresses reservations that these options do not represent sufficient choice. ([Respondent Foxtrot] also draws parallels with the restricted options in other developments such as for roads – see p229)

*They are presenting us with four options, saying this is all we can possibly do. If it was a multiple choice exam you'd hope there was another box. [Respondent Foxtrot]*

[Respondent Bravo] describes the proposed route corridors as “variations on a theme and [which] all impacted on somebody or some communities.”

[Respondent Kilo] considers it a deliberate strategy on the part of National Grid to limit the options to ones that suited them and that this shows a certain lack of respect for the local population. With limited options at the outset, now the process is further on there is little the public can do to influence it.

*I think National Grid, at the outset, thought that we were morons on Anglesey.*

...

*I'm really annoyed at the way we were treated. That, you know, if you are going to give*



*out a questionnaire, it has got to be unbiased, it has got to have all options on, and let's have a fair, you know, let everybody have a fair say. And then your results are valid.*

...

*I think now, now people are saying that there is nothing we can do. [Respondent Kilo]*

[Respondent India] is also concerned at the limited nature of the consultation and considers that National Grid are directing members of the community towards a choice that National Grid have already made.

*So they basically direct you towards the decision they've already taken. And people are suspicious that that's what has happened here. They probably always knew that they would have to do something around the Menai Straits.*

...

*So they kind of knew, they set out options and they kind of know what they can get away with, if you like [Respondent India]*

[Respondent Golf], although only vaguely familiar with the options for the route corridors as presented in the consultation, was able to speculate as to merits or otherwise of the routes within the time of interview, based on his knowledge of the area covered by the routes. For example, he considers whether the more western routes would have a greater impact in crossing the Strait, another route would be close to the National Trust's property and historic gardens at Plas Coch, and another would "[not] upset too many people" except for the crossing of the Straits. He recognises that personally he would only be affected by one the four routes but also suggests this is "*not a great approach to take*". [Respondent Golf] suggests the route taken should be the "*route of least damage*" but acknowledges that a major concern is that of visual impact and that some areas are more exposed to the development than other, so it is largely a matter of whether you are "*unlucky enough to live next to the proposed route*". In that case, he suggests "*it is just a sort of NIMBYism then, isn't it?*"

Thus you have "*four potential routes and four potential sets of people affected; they're all going to be saying, not my route, not in my area*" and the planning process becomes one of "*trying to get a group of people on board; trying to legitimise .... They have already decided that this is going to happen, the question is the, where is it going to be? Then it is a case of trying to make friends, isn't it.*" According to [Respondent Golf] the outcome cannot thus be fair, as it will depend on "*on which route to the people shout least loud*". The decision cannot please everyone. It is a compromise, but also this is a process of legitimising a decision already made, with little recourse to influence that decision.

*Yes. Sure. OK. But, I mean, I think they couldn't possibly make the decision on an objective basis, taking into account everybody's view. And so necessarily there is going to be a subjective decision which compromises on some people who feel strongly against it and some people who feel strongly for it. You can't keep everybody happy. So they have to make a compromise, and necessarily they have to do it subjectively in some way, don't they. Which is, you know, fine. I understand the view; it is a compromise. But once they've made their decision, once they've decided – probably quite early on, probably at this stage now they've got a pretty good idea that they want to go ahead with it, it's not a process of consultation but it's a process of legitimising your decision, making sure that people don't pick you up for, I don't know, making a bad decision. [Respondent Golf]*

[Respondent Lima's] initial reaction was that all options should be presented but then on a moment's reflection stated that this would simply be impracticable and that a reduced set of options *is* appropriate but that the options should be presented with supporting arguments and should include an option where pylons are not the solution.

*Well, I think they should tell everybody all the options.*

...

*Mind you they could go on endlessly with their options, couldn't they? They could keep on thinking of more and more different ones and you'd be overwhelmed with options in the end. But half a dozen, maybe, would be OK, if you had these four and perhaps a couple of alternatives involving no pylons. That would be nice to have those options to consider. I think also, they should give some sort of supporting argument for each one, or reasons that they can't do any of them, or would rather not consider any of them.*

*[Respondent Lima]*

[Respondent Lima] expressed concern that faced with too many options most people would struggle to make a rational evaluation in the face of many technical considerations and would resort to emotional decision making.

*So, my point is, you give options to people who really don't know too much about something, and the ones they choose are never, or not always going to be the right ones. You know, they just go on, I don't know what they base their arguments on, but sometimes they go for options that are just never going to work.*

...

*because people are basically emotional; they are not very objective, sometimes*

[Respondent Lima] admits that in her own case this would be “[based] on the fact that I don’t want to see a load of pylons”.

[CADW] is less critical of the engagement by National Grid, considering the scale of what they’re doing is vast. He is unconvinced by accusations of arrogance and believes National Grid *are* listening to stakeholders. However he does add that it is the relationship between National Grid and Ofgem that is “*slightly murky*” and is not entirely convinced that National Grid will truly represent the opinion of those involved in the consultation. As he says:

*It might just be a perception thing, but because we all have no involvement in it, it is very difficult to believe what they are saying, if they say, well we’ll have to be able to justify that to Ofgem you think, well, if I was there I might be able to put forward a stronger case to Ofgem and they may well accept my view. I’m not convinced you’re going to represent my view well enough to Ofgem in order to justify what I’m suggesting. [CADW]*

[AEI Director] describes how there are potentially many options for connecting Wylfa Newydd into the national grid and that actually National Grid *will* consider other options presented to them. [AEI Director] is able to describe several potential options for the connection, including under sea to Connah’s Quay<sup>32</sup>, “*two [options] associated with going round the sea to Pentir and I think there is another one undergrounding and the final one was pylons*”. [AEI Director] also refers to a hybrid solution of over land and undersea which was subsequently recognised and assessed, although not adopted, by National Grid.

*I’m sure if you look at ways of connecting Wylfa to the grid you’d probably come up with a heck of a lot of ways. I mean, I sat down with a colleague and we worked out a sort of a what we termed a hybrid method of connection. And I guess from a National Grid perspective what is important is to put out, what’s the phrase, outliers really, in terms of the options that are available. Because you can always make up an option that is made up of some of the sea bits and some of the land bits. For example, the one that I worked with my colleague you could sort of see up there [indicating map on wall] there is a line actually that goes from Cemaes<sup>33</sup>, or from Wylfa, actually to Valley<sup>34</sup>, and the one that we dreamt up, make use of that existing line so you don’t need another set of pylons, and*

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<sup>32</sup> Connah’s Quay, Deeside is the site of a major National Grid sub-station. National Grid and Scottish Power Transmission’s joint venture, the Western Link undersea cable from Hunterston in North Ayrshire, Scotland to Deeside also requires construction of a new converter station at Connah’s Quay amid some controversy (BBC 2012; National Grid 2015c)

<sup>33</sup> Cemaes Bay is the location of Wylfa

<sup>34</sup> Valley is a village on the west of Anglesey on the A5 route into Holyhead. RAF Valley is a Royal Air Force station providing fast jet training, and search and rescue training, and operates RAF Valley Mountain Rescue. It is also the location of Anglesey airport.

*then go sub-sea from Valley to not far from Llanllufny<sup>35</sup>, Penygroes in Carnarvonshire, and then there build a sort of new grid sub-station there, because they will have to build a sub-station there anyway for taking electric down from Bryncir<sup>36</sup> down into Llyn and actually build something there. And that would minimise the amount of pylons, but what it brings in, it brings in that sea connection. And I think Grid actually took that on board and if you look at their documentation it actually talks of that sort of hybrid arrangement within their documentation, but they dismiss it as being too expensive. [AEI Director]*

[AEI Director] suggests that although National Grid have taken notice of this sort of feedback perhaps they do not do a good job of explaining the pros and cons of other options. [AEI Director] further suggests, half-jokingly, that *“just shoving pylons up”* may actually be a gambit which indicates publically that *“[National Grid] are treating everybody in the same cack-handed fashion.”*

[Horizon] also highlights the perception in Anglesey that National Grid’s first round of consultation was not seen as such by the local population. The expectation was that the different options for connecting to Pentir would be presented along with the reasons for and against each one, and then opinions or thoughts sought by National Grid from those consulted. However what was presented was a set of decisions where options other than a second row of pylons were discounted – As [Horizon] says, *“it was seen very much as if National Grid had already made its mind up ... rather than truly consulting about what options people wanted, having [given] them information”*.

[Horizon] recalls that before the electricity industry was privatised, essentially everything was owned by the CEGB and *“they just kind of went ahead and did it”*. Whereas for the original Wylfa power station, *“planning was granted in half a day”*, subsequently large projects were subject to enquiry. For example, the *“8 or 9 years of public enquiries for Sizewell B”*. Under the current system in order to gain a Development Consent Order there has to be a *“comprehensive planning application”* and a key part of this is to show that the developer has carried out *“meaningful consultation”* and that feedback has been taken into account and plans modified accordingly. [Horizon] explains that whether or not consultation is meaningful is decided by the Planning Inspectorate.

[Director, Welsh Government] also makes the distinction between consultation and meaningful consultation. [Director, Welsh Government] suggest that members of the public do get asked for their opinion but it is not always accessible or understandable.

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<sup>35</sup> 53°02'N 4°17'W

<sup>36</sup> 52°58'N 4°15'W

*Oh, [the public] they do get asked. They get asked all the time. 'Cos you look on the websites and every time you complain there was no consultation, DECC went out to public consultation on this. The fact that you couldn't understand a bloody world of it and all that. So there's a difference. [Director, Welsh Government]*

[Plaid MP] on whether the options were restricted, tends to think the proposed solution “*sprung fully formed*”

*I tend to think it sprung fully formed, you know. They knew what they wanted, and there were four routes initially planned or proposed and I tend to think the one to the west was a bit of a feint really. You know, a lot of people, and not just the cynics, think well they proposed four routes for these pylons and one was a sacrificial one, you know, they weren't going to go to the west anyway. So that they could then say, we've done A and B so do you want C or do you want D; do you want to be hung or do you want to be shot? You know, essentially.*

...

*And that they present the dumping of the western one, perhaps two of them, as some sort of huge sacrifice on their part. Was it pre-determined? I don't know. There's an interesting question which we haven't touched on, which is their agreement to underground across the Straits. [Plaid MP]*

Taking the transmission lines underground and undersea at the Menai Strait was presented as a victory to campaigners but earlier memos indicate that an undersea crossing was at least being considered for the Menai Strait with the preferred technology for the rest of the route being overhead but with mitigation by undergrounding in some areas (e.g. Isle of Anglesey County Council 2010; Anglesey Energy Island 2013a; Anglesey Energy Island 2013b). [Plaid MP] is of the opinion that National Grid would have chosen pylons if they felt they could have got away with it

*I think if they could have got away with pylons, they would have got away with pylons, you know, because we were quite determined. [Plaid MP]*

The concession to underground at the Menai Strait weakens the case for undergrounding elsewhere.

*What that did for us was the strongest card in our suit, which was undergrounding, is the Menai Straits, you know, they disarmed us basically. They said, OK you can have that one. And they were always going to. So then it makes the case for Llanfair PG to Wylfa and from Bangor to Pentir a lot weaker really, I think, you know. Because the strong one*

*has been conceded on. But whether they were always going to do that, possibly. [Plaid MP]*

[Respondent Juliet] mentions the idea of “consultation overdrive” because of the nature of these developments in Anglesey. [Respondent Juliet] asserts that developers, including National Grid are aware of this problem - “they all mention it in their documentation” - but categorises National Grid’s efforts as “consult and ignore”, which she says is “totally undermining the consultation process”. In turn, she reasons, this will lead to people either become “bitter and disenchanted” or “passive and powerless”, “neither of which is healthy for a democratic country”.

[Plaid WAM] considers that the conclusion reached by the consultation is what was always intended from the outset: that is, over-ground with an undersea solution for crossing the Menai Strait. If it is the case that the solution reached was the one always intended then this shows little in the way of consultation influencing outcome.

*Because they have come to the conclusion that we always knew that they wanted to come to, which is that the easiest and cheapest way to transmit energy from Wylfa is to put them on overhead pylons across the island. And the undergrounding, underwatering of the Straits, was always going to be their offer of, you know, an olive branch. They said from the start that they were going to go under the Straits if they were going across Anglesey, so they haven’t given any ground at all and I have not been convinced that they have given proper consideration, either financial or technical, to any other real possibility other than overgrounding. [Plaid WAM]*

[IACC Economic] expresses that he does not have a problem with the four proposed routes across the island as valid options, but he considers that other options which have been dismissed should also have been part of the same process, and that these dismissed options should also have been presented, possibly in another document, along with the reasons why those options had been dismissed, whether it was for commercial, environmental, or technological reasons. In his view National Grid made a mistake by presenting only the four options, when others thought that there were others possible. In this perhaps National Grid showed “a bit of naivety” because as an organisation National Grid should have known that the ideal solution from a community perspective was probably amongst those that were dismissed. Because these options were not part of the dialogue then National Grid have “come across as naïve, and as arrogant developers”.

Questioned further, on arrogance and whether National Grid are guilty of cynicism rather than naivety [IACC Economic] distinguished between the members of the organisation and the organisation itself.

*[There is a] huge mismatch between the individuals and the organisation*

...

*the people from within the organisation, who are fronting it, are far from arrogant. It is the organisation which is being deemed arrogant because of the tactics they've [adopted]. The individuals are very approachable, very professional, very honest, will have conversations with anyone. So that arrogance is not for the individuals fronting it. [IACC Economic]*

[IACC Economic] is emphatic in his defence of individuals but speculates that some of this seeming institutional arrogance may be because National Grid as an organisation has not had to deal with this scale of development since “*probably the late 1950s early 1960s*” in a time after the war when the environmental agenda was not as significant and the impetus was to invest in infrastructure for the good. [IACC Economic] also makes the point that people are more aware now and social media gives the opportunity for anyone to have their say or be in the public eye and that National Grid as an organisation have a culture which is “*completely amiss from real-world culture*”.

On the under-sea option, [IACC Economic] recognises that this is not simply a cost issue, but also a technological issue, because this sort of solution has not been done previously, to directly connect a nuclear power station under-sea. As he asks:

*If you were spending £20 billion, would you want to take the risk on a transmission technology which is untested? From a commercial perspective, probably that risk wouldn't be taken. You know, from an investor perspective, from a developer perspective, they just wouldn't spend the money. Because there is no certainty, because if the electricity doesn't get to the market there is no revenue coming in. [IACC Economic]*

However, in making this point about untested technology, he also identifies it as a *commercial* risk, because the inability to transmit generated electricity has commercial consequences to the generator.

#### **5.10.2 Who should have a say**

Several respondents offered opinions on who should have a say on the nature of electricity transmission across Anglesey. For [Respondent Kilo], for example, this includes anyone who would be affected by the infrastructure and also the County Councils of the affected regions. [Respondent Kilo] also considers that those affected should have some final say.

*Well you would have expected ... Anglesey County Council would have an input, and Gwynedd would have an input, everybody else in North Wales who is affected would have an input, because it directly affects their lives, their everyday lives and their livelihood and the property values etcetera etcetera.*

...

*If they [the government] consider that we are important as people, then we should have the final say, on Anglesey. But ... because the government want the power station, and they have to take the[electrical] power away, so therefore I assume that the government would like to overrule any local objections. [Respondent Kilo]*

[Respondent Mike] also considers that many people might want a say, but is not sure whether this actually happens.

*I think a lot of people believe they should have a say. Whether they actually do, I don't know. [Respondent Mike]*

[Respondent Mike] gives the example of a landowner who may be directly affected by siting of a pylon on their land, but questions whether this landowner would actually be in a position to comment.

*If I was a landowner I'd be quite cross if somebody just turned around to me one day and said, you're having a pylon in your field, that's the end of it. Would I have a right to say anything about that? I don't know. [Respondent Mike]*

[Respondent Mike] continues to consider someone who overlooks a new pylon. [Respondent Mike] states that personally she would not be particularly enraged if a pylon appeared within her view, and would accept it as progress, but acknowledges that others may not feel the same way.

*If I was overlooking it, would I be cross if one appeared in my view all of a sudden? Possibly not, actually. I'm not that against progress that I'd be cross but I think there are people who would be [Respondent Mike]*

[IACC Economic] describes the role of the council as that of community leadership in the consultation process, and that the council will be asked for advice or guidance and “to have an input into engagement and consultation strategies”, such as determining who are the hard to reach groups and the strategies that would enable as much input from them as possible. He does concede that much of this engagement is somewhat old-fashioned, comprising “displays and open village halls”, which does not sit well with how the majority of residents now engage.



*[Whereas] the majority of today's residents engage, communicate, even with close family and friends, through social media. And I think there is a huge lag between the consenting system and social media and almost, it's as if people are afraid to embrace it.*  
*[IACC Economic]*

As [IACC Economic] says, for the younger generation of "15 to 20, 30 year olds" who are possibly going to have to live with this infrastructure for their whole lives, "they're not going to turn up at 6 o'clock on a Thursday night in a small community hall", rather it is through social media that they use to communicate and so it is more appropriate that this the engagement "gets their views through that system". On the other hand, those who will engage with the current way of doing things "are the people maybe over 50, who have an interest, have time on their hands, and that's how they engage and communicate." As [IACC Economic] says: "The younger generation in this country engage and communicate completely differently from the current communication and engagement methods of big developers." [Director, Welsh Government] also regards social media is an important and underused form of communication in this context, particular in engaging younger residents, and is preferable to "putting a few stands up and putting a book in a community centre".

[Respondent Golf] questions how people would get involved if they don't know whether a development even exists, let alone whether it would affect them in some way. In fact [Respondent Golf] has not attended any of the consultation meetings but suggests that perhaps if there were a local forum on the internet where you could be informed of things happening in your area - that might affect you - this might be a way of engaging people better. [Respondent Golf] also suggest use of social media such as Facebook. As Respondent Golf remarks,

*If you have a meeting or a consultation or something, where you don't really know what's going on are you likely to turn up to, just in case, just in case it affects you in some way?* *[Respondent Golf]*

[Respondent Golf] also reports that he has not received some of the key information from National Grid, including maps of the route corridors. Clearly resident within one of the areas potentially affected by the new transmission route corridors, his residence should have been one of those targeted for this literature. However, [Respondent Golf] noted that as he does not live alone, any literature of this type could easily have been discarded without his ever seeing it. [Respondent Lima] also states that she received little information from National Grid, apart from one leaflet. In [Respondent Lima's] case this may be because her home falls outside the directly affected area. [Respondent Hotel] and [Respondent Hotel Spouse] are unfamiliar with some of

the consultation literature and suggest they have not received it because of the relatively isolated position of their home.

When asked who the planning system serves [Plaid MP] quotes the Welsh poet, Idris Davies and his work, *The Angry Summer*<sup>37</sup>, about the 1926 General Strike. In what was seen as a betrayal of both miners and the wider trade union movement, after nine days the TUC called off the strike; this was without the agreement of the Miners' Federation and without any concessions being made to the miners' case.

*The telephones are ringing. And treachery is in the air and the smooth ones the experts of compromise are bowing in Whitehall,*

...

*'Who is the nation, gentlemen? Who is the nation, my lords?'*

In this case [Plaid MP] is making a point about whether this planning serves the public and if it does, who is this public. *"Is it Wales or is it England and Wales, for example?"* In this context [Plaid MP] says that *"we [Wales] are quite happy to serve the wider interest as long as we are recompensed properly ... perhaps part of the recompense is that it goes undersea."*

Referring back to when landlords could charge a tariff on coal passing through their land,

*Of course, when they were digging the coalmines landlords got very fat on a ha'penny a ton. You know, when the railway went through, every ton of coal they would pay a ha'penny to the landlord [Plaid MP]*

[Plaid MP] suggests that perhaps if there were some scheme like that *"we might be a bit happier"* but also contends that the process probably doesn't serve the North Wales area.

*But does it serve us? Well probably it doesn't, you know, we get the pylons and they get the electricity [Plaid MP]*

---

<sup>37</sup> [Plaid MP] is slightly misquoting here but the essence is correct.

...

The telephones are ringing  
And treachery's in the air.  
The sleek one,  
The expert at compromise  
Is bowing in Whitehall.  
And lackey to fox to parrot cries :  
'The nation must be saved'.  
Who is the nation, gentlemen,  
Who are the nation, my lords?

(Davies 2015, p.113)

When [Respondent Juliet] is asked who the planning system serves, she opines that it is exploited. By this, [Respondent Juliet] is implying that National Grid participate in the planning system but are able to push through their own preferred agenda or solution.

[IACC Economic] summarises the way in which the type and location of transmission infrastructure such as that on Anglesey is determined; it is determined nationally by the minister and that there is a *“formal statutory process that they have to go to [through], which involves options, which involves evidence, which involves consultation, which involves engagement, which involves communication.”* At the time of the interview [IACC Economic] considered that this was happening. The second phase of consultation was due to start within a couple of weeks.

[CADW] makes the point that the council are not *one* thing. So although the council have publically expressed an opinion against pylons there are many interests or stakes present which potentially may conflict.

*Especially if you take into to consideration the ecologists and the specialist advisors to the council, it starts to balloon onto a whole load of specialists all with slightly different interests, and potentially conflicting interests. [CADW]*

[CADW] raises the importance of the independence of these different voices within the council, rather than having the council speak with a single planning voice. Whereas for a typical planning application it is up to the council to weigh up these voices and opinions, for a Development Consent Order this is not the case, it is important that these distinct opinions are given and not simply represented by a single planning voice to the Planning Inspectorate.

As [CADW] says: *“Because what you don’t want is a situation whereby say Anglesey Planning, all of the specialist interests give their view to the planner, the planner then attends as a stakeholder, filters all that into their view, and then presents that as the view of the council”* [CADW] ... If the local planners weigh up or balance the arguments or interests first and then and then present their view to *“essentially another planner”*, the Planning Inspectorate, who will again balance arguments *“you are kind of skewing the balance in one direction”*. ... *“So that is why it is important to realise that they don’t all speak with one voice and that actually all of the interests have to turn up and represent their view because otherwise it could end up very skewed in one particular direction.”* [CADW]

National Grid also rely on technical stakeholders and their feedback to build the evidence to support their decisions, and these technical stakeholders may also be made aware of decisions *not* being taken, or routes discounted, which do not subsequently enter discussion with the general public. [NG1]

[IACC Economic] describes the key issue from a consultation and engagement perspective as one of National Grid engaging with *“a set of people who understand the issues, the constraints, the barriers, and what’s driving their decision making.”* However, while this may be the case for expert or industry consultees, it may not be reasonable to expect members of the public to understand the complexities presented. However [IACC Economic] does describe that there is a

*... small group of people who’ve – when I say small, maybe a thousand or two locally who have gone to the trouble of researching this, and I would say are very informed on the topic. I say there are a number of other people who are not informed, don’t understand the constraints, the issues, the reality of the situation, and are not making informed views and judgements. [IACC Economic]*

When pressed on whether it was reasonable for ordinary members of the public to have to understand the complexities of constraints, both financial and engineering, and perhaps it needed to be explained better [IACC Economic] suggests perhaps a third party might have to do that, but while he did not suggest who that might be he expressed some reservation that it is the developer – in this case National Grid – who has to demonstrate that they have engaged and consulted. However [IACC Economic] opines that this could lead to apathy among the community towards the consultation – *“well they would say that, wouldn’t they because they know what the outcome is going to be”* – and that the developer will always be open to criticism of the form, *“they know what they are going to do anyway, they are just consulting with us to tick a box”*. [IACC Economic] compares this with Horizon, who *“know they are going to build a nuclear power station”*. This [IACC Economic] suggests could lead one to ask the question whether there should be some sort of arms’ length organisation, whether the council, the government or completely independent, who should be doing the engagement. But [IACC Economic] then adds the caveat that this would simply prolong the process.

[Respondent Mike] was also prepared to speculate as to the sorts of other stakeholders that might exist with *“very different opinions”* such as for example *“companies who are generating the energy, who just want to get it out there; and then I’m guessing the councils and probably the Welsh Assembly have probably got some say in it”*. These examples suggest an expectation of some sort of democratic representation or democratic say in the matter. [Respondent Mike] also admitted she did not know where the decision was actually made as to whether a particular development would be accepted.

*Final say? I don’t know [Respondent Mike]*

[Respondent Mike] also speculates that if central government wants the energy development to go ahead then it will, although that said, development should be carried out with respect to the local area. In this respect [Respondent Mike] considers that a more local representation should have a better knowledge of or feel for the area. – specifically the Welsh Assembly. Though accepts that the population of for example London is larger than that of the whole of Wales. So the needs of relatively more people may outweigh those of North Wales.

*I shouldn't do the Wales v England thing, because I don't really believe in it – but if Westminster want the energy, they're just going to do it the cheapest way possible and get their energy and actually not necessarily – they should respect the local area and all the rest of it, but the Assembly should have a stronger, feeling of the locality.*  
[Respondent Mike]

However [Respondent Mike] also questions whether the Welsh Assembly would actually do anything as there is a North-South Wales divide where “*everything goes on in Cardiff and they forget about us*”. Continuing that “*maybe London is just as good [to represent North Wales] as Cardiff. Who knows?*”

[Respondent Mike] also expresses concern that MPs in Westminster are not particularly accessible – this following experience of visiting the Westminster Parliament in the past as part of a student lobby group. The author's own experience for this research has been that the local MPs and Welsh Assembly Member are approachable and relatively easy to access within their constituencies or through their local surgeries, although the interviews were somewhat constrained for time.

[Respondent Foxtrot] describes consultations as, “*Mouths but no ears*”; when asked if people are heard in the process, [Respondent Foxtrot] turns this around and states that people have been informed.

*I think the right people have been told. Totally different. All the population on Anglesey have been told. How many have listened ...* [Respondent Foxtrot]

[Respondent Foxtrot] evokes the idea of a silent majority. Describing the electorate as in a position of “*learned helplessness*”, where people do not consider it worth protesting or complaining because the outcome will not be affected: “*if they're going to do it, they're going to do it*”. Referring to wind turbines rather than transmission lines, he observes that a local community turbine development has divided the village, with vociferous opposition from a few, but he has little idea how representative those few are. He questions how many are silent, but in support of their view. And questions therefore how many silently oppose National Grid's

proposals, how many silently support them or sit on the fence, remaining silent because *“these things go through anyway”*. In common with [Respondent Mike] he suggests that *“those who shout loudest get heard”*.

### **5.10.3 Political Representation**

In the face of any large development it is reasonable that people should want to gather together in some way. This may be to learn about a development or to share information, or to protest. Community interests may be represented at several levels, including community councils, the county council and also by elected political representatives such as a Welsh Assembly Member or a Member of Parliament.

To illustrate the difficulty faced by members of the community in the face of large developments [Respondent Juliet] brought a lever-arch file full of papers to the interview. [Respondent Juliet's] purpose was not to discuss in the detail the contents of the folder but to emphasise the level of discontent and how much effort had to be undertaken by residents to understand and engage with the issue of HVOTLs on Anglesey. The folder contained copies of correspondence and press coverage. As [Respondent Juliet] observes:

*There's masses of it. Just masses. ... You see the volume, you don't need the content. But you can see the volume of public objection from the papers. [Respondent Juliet]*

Referring to this volume of objection, [Respondent Juliet] complains that nothing of this large public voice is referenced in National Grid consultation feedback.

*But do you see, just the volume of it, ok, but my point being that nothing, in terms of public voice in the papers is referenced in those 400 pages of feedback. Nothing is referenced about media coverage, so public in the media. [Respondent Juliet]*

[Respondent Juliet] asserts that this media coverage *does* represent public opinion as there have been no counter-statements, or retraction.

*There's no such thing as a counter-group, so this is public opinion. [Respondent Juliet]*

[Respondent Juliet] also complains that National Grid do not reference democratic opinion as they do not refer to sending of MPs, which are indeed the democratically elected voice.

*Our point is they can wheedle and deedle as they wish with technicalities, but our point is that they have ignored the democratic voice, and that is the only strength we have in our argument. You know, that is the one we are going to have to take to Parliament. [Respondent Juliet]*

[Respondent Juliet] while a community councillor, and so a representative of the community she lives in, expresses the limitation of this role.

*Community councillors deal with things like playgrounds and in our case, graveyards ... things that make their community a happy place to live, but usually we don't get involved in strategic decisions. [Respondent Juliet]*

She explains how she tried to elevate her concerns upwards.

*But because of our objection to the National Grid approach, attitude, and of course, preferred option, we've had to climb higher and higher and higher up the decision making levels to influence people because it's absurd [dismayed laugh] that they are going to get away with it [Respondent Juliet]*

[Respondent Juliet] describes Anglesey as having a history of divide and rule. Conscious of the weakness of voice of many separate communities when faced with any large development, community councils across Anglesey, and Gwynedd passed a motion on three points: objecting to pylons, a call for sub-sea cables, and an objection to the nature of the consultation. This subsequently was elevated nationally to community councils and town councils across Wales through the umbrella organisation, One Voice Wales, bringing in other areas which have been dealing with similar issues, such as Carmarthenshire, for instance. [Respondent Juliet] observes that far from dividing and ruling, the threatened developments have united communities across the whole of Wales. Rather than *"exploit[ing] long divisions in the council ... the community council will get together and we will show that we are united and the [island] council is then united."* [Respondent Juliet]

Criticism of National Grid from a community council's point of view is that National Grid showed little understanding or sympathy for the nature of the community councils, which are made up of volunteers and meet relatively infrequently.

*I think that the way they have consulted with the community councils was very poor. It was by accident that I heard that they would be willing to come to a community council to give a talk.*

...

*They will say that they were quite willing to go and discuss it with the community councils, but have they actually written to them is a different matter. [Respondent Kilo]*

[Respondent Kilo] continues that the consultation allows National Grid to iron out any possible objections to their preferred solution, but that they ignore the larger picture of similar objections across many regions as evidenced by One Voice Wales.

In common with [Respondent Kilo], [Respondent Juliet] complains strongly that National Grid did not take into account the infrequency with which community councils actually meet, and so showed a lack of understanding of the very stakeholders who should have been involved in the consultation. For [Respondent Juliet] the consultation was thus far from fair from the very start.

*The consultation process was very unfair from the beginning - you could see that they had no intention of consulting with [the] people; the fact that they couldn't call a meeting properly and give due notice to local councils. [Respondent Juliet]*

Several respondents raised a preference for devolution of competency for matters related to energy to a Welsh Parliament. [Respondent Delta] cites Scotland as an example. In Scotland, although much of energy policy remains a reserved power administered by the UK parliament, applications for electricity generating stations and overhead power lines and associated infrastructure are made to the Scottish government ministers (Scottish Government 2003; The Scottish Parliament 2016). Significantly perhaps for those opponents of nuclear energy, although the issue of nuclear energy is reserved the Scottish government can refuse applications under the 1989 Electricity Act.

[Respondent India] states that it is quite clear that this *is* not and *will* not be a devolved matter.

*I don't think there is any question that this is going to be devolved to Wales ... this process is Westminster and Westminster control the planning process [Respondent India]*

[Director, Welsh Government] explains that there *is* a democratic voice and that although the Development Consent Order is a UK matter, decided outwith Wales through the Planning Inspectorate, the local authority is a key consultee. [Director, Welsh Government] also points out that associated developments are a devolved matter. For [Director, Welsh Government] although development are linked to broader UK policy, there is still a democratic voice through the involvement of the local authority and others as consultees.

[Respondent Charlie] describes a meeting about pylons that he attended where local politicians were present along with television crews. [Respondent Charlie] expressed a general cynicism for politicians, but also makes the point that the democratically elected representatives themselves took on the responsibility for the making the case for the protesters, implying there is some



political leverage or effect on the outcome. However, as [Respondent Charlie] adds, there was no outcome or resolution from this meeting, despite the political presence.

*We went to a meeting on the pylons where every politician from all the parties met in Llanfairpwll, ... and they all stood and said, we're going to work together to make sure the undersea route is adopted. That's Plaid Cymru, the Assembly Members and all those people, were all there, and our local Labour MP. All there on the platform. All said they were going to do it. Television cameras were there. Not heard any more since. So, leave it with us, was the message we got. You don't have to go on strikes or campaigns. You leave it with us, we will see it through Parliament. [Respondent Charlie]*

[Labour MP] states that after the consultation he then expects to have an open meeting with National Grid. However, although [Labour MP] states he has previously met with National Grid “quite a few times”, and also along with the councils, there remain “more questions than answers”. [Labour MP] also suggests that National Grid have not given the full picture and that they are going through the motion of consultation. [Labour MP] however, still puts his faith in democracy because as a local representative, he will be able to raise any concerns in Parliament, [Labour MP] does backtrack somewhat by saying that although the secretary of state has the final say, if we [citizens] all said no to there could not be any electricity. Asked if as one MP, his voice carried any weight (with echoes of Tryweryn, see 5.7 above) he responded that he was “one of many”, as this problem is not unique to North Wales. [Labour MP] adds that he is irritated when he hears “people say, oh, this is poor little North Wales being treated unfairly” as other regions may face similar problems. [Labour MP] asserts that there is a lot that the Welsh Assembly and also the local planning authority can do, although he fails to clarify this. In the case of transmission for Wylfa Newydd the Welsh Assembly has little influence as this is reserved to Westminster, and local planning is only applicable for certain associated development. However, [Labour MP] does suggest that there should be a role not only in planning for smaller scale electricity generation, which is devolved, but also in the transmission and other infrastructure required for these developments. In the limited time of the interview, [Labour MP] reduced many points to soundbites. [Labour MP] summarises with this: “In the 21<sup>st</sup> century we should have 21<sup>st</sup> century transmission.” Quite what this is remained unexplained.

[Plaid WAM] also makes the point that Wales does not have competency for transmission and even under the proposed changes to limits for local competency on generation this will not change. However he also observes in the future it is expected that generation will be more decentralised to local grids, which while there will remain a need for baseload generation and hence a need for transmission lines, he states that we should be seeing an investment in

overcoming technical difficulties of transmission, making transmission undersea more feasible. This [Plaid WAM] also links to a desire to “*protect what wealth we have in Wales in terms of natural resources and amenity and tourism industry*”.

[Plaid WAM] also makes the point that every level of political representation on Anglesey has expressed opposition to pylons and that this seems to have been ignored or at least not reported. Although [Plaid WAM] described a good working relationship with National Grid and that they appeared to listen to his views, he also expresses the opinion that they did not appear to put any extra weight on these views as a collective view of his constituency. So in this context it could be questioned how much a democratic voice is worth.

*Every level of representation on Anglesey is opposed to the pylons, but it doesn't seem that we matter. And if you look at consultation summaries, whatever, there has been no mention by National Grid of the fact that all levels of representation on Anglesey are opposed to overgrounding. When they put it to the people or when they make press announcements, they should say, yes, we know that everyone hates these, but they don't*

...

*I don't know, but they seem to [listen], and I have a good working relationship with National Grid, but they don't seem to put any weight onto what I say or what the MP says or what the council says; they don't seem to print anywhere, and this proposal is opposed by all levels of representation. There we are. Interesting [Plaid WAM]*

[Horizon] expresses the case that any potential solution for a transmission connection must be justified to the regulator and part of this is a justification of cost. However this need not necessarily be the cheapest solution as other considerations may be taken into account. According to [Horizon] this is also where there is potential for political pressure and lobbying to play a part, although other respondents are less convinced of the ability for political representation to influence the outcome.

The protest against pylons involved local sitting politicians, in the Welsh Assembly and the Westminster parliament, and to that extent can be seen as cross-party. Few other respondents directly expressed a political affiliation other than that of being represented by a particular MP or WAM. However several respondents did express the desire for more localised or decentralised decision making.

[Respondent India] for example is a member of Plaid Cymru and expressed the opinion that Plaid can offer more support to local people because it is “*Wales-centred*”. This is not to say that she

favours independence for Wales, rather, along with some other respondents, she values decision making from the bottom up, rather than top down. She adds criticism of the Localism Act as *“opening up a bit of free for all, irrespective of what local people felt they wanted or needed.”* [Respondent India] also levels criticism at the new Planning (Wales) Act 2015, designed in part to support a more strategic approach to planning within Wales, which would allow planning decisions to be taken by a minister in the Welsh Government rather than locally. However it should be noted that this is part of a larger objection to centralised decision making over local decision making and this Act does not apply to those reserved developments such as electricity transmission infrastructure.

[Respondent India] raises a further level of control outside that seen with Nationally Significant Infrastructure in the form of internationally significant projects, and the role of TSOs from across European countries and their trade association, ENTSO-E<sup>38</sup>. Key for ENTSO-E and its member TSOs is the setting up of and optimal functioning of the European internal energy market. Part of establishing and extending this market is further interconnection throughout Europe. As part of this European integration the European Union identifies Projects of Common Interest (PCI); projects between at least two European states which support further (European) market integration, enhance security of supply and contribute to reducing carbon emissions. Examples of such projects include the NemoLink high voltage sub-sea connection between the UK and Belgium (European Commission 2013; NemoLink 2017)<sup>39</sup>. [Respondent India] argues that this international demand gives TSOs further ability to enhance their asset base with the construction of interconnections and that this is largely outside national or more local democratic control. This interview took place before the Brexit vote but nevertheless demonstrates broad concern over top-down decision making, largely out of sight or the control of those at a local level. [Respondent India] raises the likelihood of greater interconnection between Ireland and the UK for example, and the subsequent need for further transmission infrastructure to support this.

As far as [Plaid WAM] says, he will continue to fight the proposed HVOTLs. He considers that feelings are so strongly against them that they also threaten public support for Wylfa.

*We will continue to fight this, because I know, because National Grid tell me, that there’s an alternative, and we’ll continue to push it. And if we need to change tack, you know, we’ve concentrated on the sub-sea option, I’ll change tack and look at undergrounding,*

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<sup>38</sup> ENTSO-E European Network of Transmission System Operators for Electricity see <https://www.entsoe.eu/>

<sup>39</sup> The NemoLink joint venture between National Grid and Elia System Operator, will provide an interconnector between Richborough on the Kent coast and Herdersbrug, near Zeebrugge. The link will be 140 km long with a combination of undersea and underground cables and will have a capacity of 1000MW. (See National Grid 2015a)

*partial undergrounding, whatever it is. One thing that is worth noting is that I think this is more of a threat than anything I've seen to the kind of public support that there is Wylfa. [Plaid WAM]*

Lack of influence despite what appears to be concerted and united political representation against HVOTLs leads respondents to complain of a democracy deficit. All levels of democratic representation in the region have expressed their objection and disapproval of new HVOTLs, from the community councils, county council, Welsh Assembly Members and Members of Parliament. [Respondent Juliet] questions the legitimacy of any consultation with the people if every democratic representation still opposes the proposed scheme.

*For somebody like me that just wants to see fairness in the system, it's raising awareness of the democracy deficit we have, which I know we've been oblivious to in the past. And now ... we realise we don't have power over this.*

...

*Our MP objects to it; our Assembly Member objects to it. Our county council objects to it, local councillors, everything. So we've suddenly realised we don't have a democratic voice, because how can a body like the National Grid claim to have consulted with the people if every democratic voice objects to this plan. [Respondent Juliet]*

For [Respondent Juliet] this lack of accountability or representation means that the transmission infrastructure development may become politicised and echoes the historical exploitation of Tryweryn, for example (5.7 above). As the democratic process appears not to be working [Respondent Juliet] suggests that protesters are “going to have to turn to other things”. Though she does not expand on what these “other things” might be, the obvious implication is that a more direct protest or campaign action may be born out of this frustration. [Respondent Juliet] also expresses concern that this lack of representation will have implication for the younger generation, who may simply feel that there is no point in voting if nobody is going to listen to them anyway.

#### **5.10.4 Understanding of the process**

[Plaid MP], even as part of our democratic system and as a representative of his constituents with presumably access to information and assistance in understanding this information said that he found it “very difficult to get to grips with the [consultation] process ... if it is a consultation process ” and “the approval process after that”. As he notes, National Grid would say they were “talking to people and asking people wherever you look, but it is not the consultation.” So while National Grid may be communicating with members of the public and

other stakeholders, the actual consultation period where objections may be lodged is short. *"The consultation is sort of three week where you can get your, or whatever it is, you know, where you can get your objections in"*. But as [Plaid MP] says, the real battle takes place before that, and [Plaid MP] reports that ultimately the decision for such a large scale project will be political rather than lying with National Grid. At the time of the interview the National Infrastructure Commission had been recently formed and [Plaid MP] expressed some curiosity as to its role and range of powers and how it would fit with democratic accountability<sup>40</sup>.

Early presentations and discussions with National Grid took place in a period before the official consultation period which forms part of the DCO process. It was at this stage, before the public consultation period, that a new set of pylons across Anglesey were mooted as a solution to the new transmission connection and when as a consequence more organised protest began. As [Plaid MP] points out, when National Grid *"first started talking about pylons ... it wasn't a consultation, as they've said so many times subsequently"*. [Plaid MP]

[Plaid MP] when asked for his overall impression of the planning system described it as:

*Bloody complicated. And inaccessible to the person on the street. [Plaid MP]*

When asked if this applied even to someone in his position he continued

*Oh, even to me, yes. And, you know, it is one-sided. [Plaid MP]*

[Respondent Mike] When asked what she understood about the process by which the type and location of transmission infrastructure is determined, simply replied *"Nothing"*. But was then prepared to speculate as to who might be involved.

*I'm presuming there's a load of different stakeholders that have got very different opinions, because you've got the companies who are generating the energy, just want to get it out there; you've got the, I'm guessing the councils and probably the Welsh Assembly Government have got some say in it. [Respondent Mike]*

[Respondent Mike's] statement indicates an expectation that there will be some democratic representation within the process, through institutions such as the local council and the Welsh Assembly. [Respondent Mike] continues that as far as approval for the scheme is concerned she has little idea how it is decided. [Respondent Mike] is a little surprised that it is not a devolved decision.

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<sup>40</sup> The National Infrastructure Commission was established on 15<sup>th</sup> October 2015 as an executive agency of the Treasury to provide impartial, expert advice and to make recommendations to the Government on matters of large scale economic infrastructure in the UK. Economic infrastructure is defined as: energy, transport, water and wastewater (drainage and sewerage), waste, flood risk management and digital communications (HM Treasury 2017).

*Final say? I actually don't know*

...

*I was going to be, you know, a bit cheeky and throw out the Queen, but I thought that was bit silly. OK, it's a parliamentary decision. And it's not a devolved decision? ... That's interesting. [Respondent Mike]*

[Respondent Kilo] expresses that he has little understanding of the process by which the transmission infrastructure is approved or otherwise, however he is aware that it is ultimately determined by Westminster.

*I understand very little really. I seem to understand that the government will eventually – the government in Westminster – will eventually whether they are giving planning consent or not. [Respondent Kilo]*

Similarly when asked who controls the process of connection planning.

*I have no idea, but I think there is a government by necessity there to provide enough energy for the country, and they need to make sure the infrastructure is correct as well – is sufficient anyway. [Respondent Kilo]*

[Respondent Lima] also has little understanding of the process and has not been involved in it. Although a local councillor organised a meeting about the transmission lines, [Respondent Lima] did not attend and expresses regret that she should have attended. [Respondent Lima] also observes that she had been presented with no further opportunities to express an opinion.

*the day came and went and I didn't realise, it was too late when I thought about it.*

...

*I should have gone. Absolutely, I should have gone*

...

*Well, as I say, I could have gone to that meeting and put my point of view across if I'd wanted to, but I missed it. I've not heard of any other opportunities for putting my point of view. [Respondent Lima]*

[Respondent Lima] questions how much heed would be paid to public opinion from the consultation meetings

*But having gone through the process of doing these consultations, how much weight is given to the objections? Do they just sort of say, 'well we've done the consultation, there you are'? [Respondent Lima]*

[Respondent Lima] also questions who determines whether the consultation has been adequate and expresses no understanding of this at all. For [Respondent Lima] this part of the process lacks any clarity.<sup>41</sup> [Respondent Lima] would simply like to be clearer who makes decisions and how these people or institutions can be accessed.

*Well, I'd like to know who makes the decisions and how can you get at them.*

*[Respondent Lima]*

[Respondent Hotel] lives close to one of the preferred routes. When asked what he understood of the process by which new transmission lines would be approved and who was involved replied *"Nothing"*. He was not familiar with the process as outlined but accepted that there was a process and that National Grid had to show adequate consultation [Respondent Hotel] described that there had been *"certain forums"* where that they [National Grid] invited the public to go and see them, but also said that he had heard about these mainly after the fact. However he also added that there had been some improvement in communication as they had been sent a newsletter. This respondent's home is relatively isolated so it is possible that some communications may have been missed for them. This has been the case in the past.

[Respondent Foxtrot], even though he has been involved with consultations in energy sector, for example on Scottish Power's (the electricity distributor in the region) new RIIO<sup>42</sup> business plan, he expressed that he had little knowledge of the planning process for this transmission infrastructure.

[Respondent Echo] when shown a diagram describing the consultation process from the Planning Inspectorate (see Appendix C) stated that he had never seen the diagram, which is reasonable enough, but also did not recognise or relate to the process described. This indicates a disconnection between attending a consultation event and understanding how this fits into the broader planning and Development Consent Order scheme.

[Respondent Golf] although not familiar with the process of planning for transmission infrastructure says that *"he would have imagined something similar" ... "consultations ... then an executive decision being made by somebody"*. However, in common with some others, he assumes that it is the local planning authority which makes the final decision. [Respondent Golf] expressed the opinion that although the process of planning including the consultation can

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<sup>41</sup> The decision on the adequacy of consultation is made by the Planning Inspectorate based on evidence presented by National Grid and with assistance from in this case Anglesey Island Council. The final decision on the project will be made by the Secretary of State after receiving recommendations from the Examining Authority, i.e. Planning Inspectors within the Planning Inspectorate. Previously this role was performed by the Infrastructure Planning Commission, an executive agency of DCLG (Dept. for Communities and Local Government).

<sup>42</sup> RIIO is Ofgem's performance based model of network regulation (RIIO comes from Revenue = Incentives + Innovation + Outputs) (Ofgem 2010)

appear neat and clean on a diagram, in reality it is probably a *“bit more ... fudged”*. However this in his case probably indicates a mistrust of local planners and planning in general rather than a specific knowledge or opinion on the planning for transmission infrastructure.

Respondents – particularly lay respondents – show a limited understanding of the planning process for transmission infrastructure, and of responsibilities within this process, including of consultation. When asked who *controls* the consultation process, [IACC Economic] responds that National Grid control decision making, but operate within a process defined by government and if that process is not followed then when their planning application is submitted then it will be rejected. However, as he points out, it is up to National Grid to determine *“how deep, how wide, their methods of communication [are]”*, for example, this not being defined by the Planning Inspectorate. Rather than vague, he describes this as *“open”*. [IACC Economic] contrasts the nature of National Grid with other large developers. Other developers, he says, have Corporate Social Responsibility and want to be part of the community, and are *“therefore a bit more open and transparent in their approach”*; National Grid on the other hand *“is a quango ... governed by government and Ofgem”*. This leads to [IACC Economic] to speculate that National Grid – as *“a private company ... governed by public rules”* - hide behind rules set by Ofgem: *“they [National Grid] say, these are the rules we are given to play by and we have to play these rules, and I think they hide behind that at times”*.

[CADW] states that the consultation part of the process, the part that the public actually see, is *“entirely driven by National Grid”*. [CADW] adds that it is useful for National Grid to be driving this process as *“they know what their timetable is and what their funds are”*. When questioned on the matter of the consultation not really being a consultation and of accusations levelled at National Grid of arrogance in their consultation, he concedes that he can see why people might think this, but attributes this to a misunderstanding of the process and that options such as undergrounding will be considered but are not part of the early route consultation, rather they are part of mitigating impacts along a selected route. In this [CADW] describes a *“disconnect between ... the public, the consultees, the stakeholders and the decision making process”*, because it is not actually up to National Grid what they do, but the Planning Inspectorate and also to Ofgem, who negotiate with National Grid but *“the public and consultees are not really involved in that negotiation or discussion”*. [CADW] posits that the lack of involvement in or sight of this part of the process is what causes frustration. From [CADW's] professional viewpoint, he states that in his discussions on potential impacts of transmission lines, National Grid representatives relayed that they needed stakeholders to express their views strongly so that they could then justify any additional costs to Ofgem. [CADW] expresses confidence in this



process between National Grid and Ofgem but tempers this stating that he does not *know* what happens in these meetings or negotiations as they are not visible to others.

[AEI Director] observes that the planning process we now have is set up to make sure that these large infrastructure projects, such as the North Wales Connection, actually happen.

*If we believe what is said in Parliament regarding National Policy Statements, then I guess that we have got to accept that as a sort of strategic level, UK is saying that these things should happen. [AEI Director]*

However [JJ] goes on to state that the system in the UK is reactive and that even with the newly formed National Infrastructure Commission this is “*more about how to get these things done, rather than the thinking in the first place for doing them*” ... *more about how they put in HS2, or whatever, than the thinking behind the doing of it* [AEI Director]

[AEI Director] favours the idea of a more strategic electricity infrastructure stewardship group “*which takes an overview of where the UK is going with respect to electricity generation*”. For [AEI Director] thinking should be “*much more strategic*”, and looking at the potential generation for the future but also what infrastructure would be needed to support this and where it should be placed; “*more along the lines of central planning*”. [AEI Director] is not necessarily advocating a return to large scale central planning but would prefer a more strategic overview.

*Yes, in an ideal world I would bring back the strategic element of planning that the CEGB<sup>43</sup> had, but couple that with modern thinking in terms of community based electricity generation, so it is not just one thing. [AEI Director]*

However, [AEI Director] also refers to Tryweryn (5.7) and links central planning the state imposing its will, ignoring opinions of those at the periphery, but also criticises the reactive rather than strategic nature of development of the national grid.

*Again it is a very emotional thing, isn't it. And the whole issue of central planning tends to mean that you ignore the feelings of things at the periphery and the whole thing about central planning is that can also feel as if Big Brother is sort of kicking you in the teeth to put things in place.*

...

*So for me the whole blinking grid system is set up in such a way that it is all reactive. There is no organisation, as far as I can see, taking a proactive view of the electricity needs of the UK [AEI Director]*

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<sup>43</sup> Central Electricity Generation Board

[Respondent Foxtrot] also voices concern that the electricity grid is not being future-proofed, but rather is *“just meeting what’s needed for now”*. So new connections are predicated on a particular limited need rather than building in extra new capacity to allow for further localised generation, for instance. This larger debate, he states, is absent, and could have included further discussion on for example, under-sea or underground connections which in his view, would have had less of an impact visually and environmentally. For [Respondent Foxtrot] this links in to a wider debate around whether our national grid is still fit for purpose.

[AEI Director] queries whether local concerns are indeed taken into consideration and suggests that planning enquiries at a local level would allow this to happen.

*[It] requires local planning enquiries to ensure that if these things are happening then they are happening to take account of the concerns of all the local people. Now, jury’s out at the moment as to how that is going to work here. [AEI Director]*

But in the end [AEI Director] recognises that it is not possible to please everyone and that there may well be a perception of unfairness in the either the process or outcome of planning a development such as the North Wales Connection. [AEI Director] suggests that we may simply have to accept a certain level of unfairness.

*What is fair? I think life isn’t fair, is it? It’s about mitigation, I think. I think we need to accept that there will be levels of unfairness and then where we recognise that there are levels of unfairness, actually try and mitigate those in some way. [AEI Director]*

National Grid is a private company but regulated by Ofgem, and they have an obligation under the Electricity Act to deliver electrical connection for whoever wants to get connected to the grid. While the public can influence the outcome, this outcome is limited by constraints or rules set by Ofgem. [AEI Director] describes this and then suggests that some of the judgments made appear ill-defined.

*The process is defined by Ofgem ; Grid then sort of control it, The public can make comments and can challenge what’s there, but those challenges then are limited by whatever the rules are set by Ofgem.*

...

*So who influences it? Well in terms of the public, or whatever, the public can make comments and can challenge what’s there, but those challenges then are limited by whatever the rules are set by Ofgem. So if Ofgem say, yes you can take account of reasonable concern – if there’s a difference in the cost of two line of, I don’t know, £10 million – let’s think of a number – and one of them involves pylons and the other doesn’t*

*and people are against pylons, then fine, we are happy for you to spend an extra £10 million on that, but if it's a factor of , I don't know, think of a number, £200 million difference, we're not happy for that. So there seems to be judgements that come in to it, that are a bit woolly, shall we say. [AEI Director]*

As [AEI Director] summarises:

*The people are being listened to but they are being listened to in light of the ground rules the Grid are working to. [AEI Director]*

On the choices or options presented by National Grid, [CADW] describes how National Grid start “from a very fixed point, so every time a consultee, the public, [or others] ... says it needs to be offshore, [National Grid] said we're just not doing that”. [CADW] attributes some of the frustration arising from this as a misunderstanding of the process. [CADW] states that National Grid *will* consider options such as undergrounding, but that they have to determine a route first. When meeting with National Grid, stakeholders such as CADW raise different concerns in order for National Grid to get the path of least resistance; the route across the island that has the least impact.

To an extent [Respondent Foxtrot] traces the limited number of options for transmission back to a lack of debate around the landing point for electricity generated by the Rhiannon wind farm. [Respondent Foxtrot] makes several related points. Although Rhiannon does not constitute part of the revised needs case for the North Wales connection, [Respondent Foxtrot] refers to the need for Rhiannon to land on North Anglesey (close to Wylfa) and for the electricity to then be routed overland, in a case where the electricity is actually needed towards the east. This [Respondent Foxtrot] suggests may have led to a similar solution proposed for Wylfa Newydd alone, without further exploration of other possible options.

When asked who might be responsible for the process or who controlled the consultation, responses varied. [Respondent Golf] singles out the local authority, as in his opinion they have influence over the decision and may face consequences to their reputation from the decision.

*I suppose whoever has influence over the decision, or whoever's reputation or image is at stake because of that decision ... [in this context] the local authority. [Respondent Golf]*

Although [Respondent Golf] is not entirely incorrect, in that the local authority, as statutory consultees and as advisors to National Grid on the local consultation process can exert influence, however it would be stretch to suggest that they *control* the process. However, for [Respondent

Golf], this link to the local authority again raises the issue of trust (5.4) in the process as he remarks

*They don't have a great reputation. They're not ... you know, amongst the people of Anglesey, the local authority are not really a body to be trusted. Either in terms of ... I don't mean trusted as necessarily corruption, but trusted in terms of, well the efficiency in terms of the way they work the decisions that they make. Just because the local authority have decided to do something doesn't ... it's far away from that being a good thing to do, being the right thing to do. With this authority anyway.*

...

*I would say, my perception is, the residents of Anglesey don't have too much faith in their authority, their local authority. [Respondent Golf]*

[Respondent Golf's] lack of trust in the local authority means that any decision that they were involved in – or seen to be involved in – would have reduced legitimacy. This also places the local authority in the position where they could be blamed or scapegoated for any unwelcome outcomes from the development.

*I mean, if you say people aren't happy with a decision like this, even if the decision was made by a Secretary of State, it would be the local authority - why did you allow them to do it? Why have you allow this to happen? [Respondent Golf]*

When asked to sum up an overall impression of the planning process [NG2] expresses the opinion that it is an improvement on previous minimal consultation.

*I think it is much better than it was. I think that if you look back ten years ago to Section 37 of the Electricity Act, there was no visibility in reality, you know; the consultation was minimal; it would, you know, we'd do a minimal application, a bit of consultation, it wouldn't be multi-stage; there wasn't that requirement to show how you, how public consultation, stakeholder consultation has influenced what you've done, and you know, it would go into the minister and it might come out again in a while with minimal consultation and the answer would be yes, you can build it.*

Whereas since the 2008 Planning Act, people both know about developments and can have a say in how they are implemented.

*So for better or worse, people know about it now, and know where they can go to to have a say; even if that may not be taken into account in the way they'd like, they're free*

*to do it. I think that's more democratic than it was and that's very - [since the Planning Act came in] - recent. [NG2]*

#### **5.10.5 Purpose of consultation**

Discontent at the nature of the consultation and a perceived lack of influence on the outcome of the transmission connection leads some to describe a certain disillusionment at the whole planning process. This can be seen in some of the responses when asked about matters of the purpose of planning and who it serves.

[Plaid WAM] observed that National Grid had “messed up” in that they had clearly a particular solution in mind and so the consultation became a “box-ticking exercise”.

*They very clearly didn't consider anything other than overground routes from Wylfa. The second time they tried to consult, they gave the impression they were looking at the sub-sea. But as far as I can see it has been a box-ticking exercise. And they clearly have favoured an overland route from the start. And their consultation now, hey presto, comes up and suggests it should be the overground route. [Plaid WAM].*

[Respondent Mike] expresses uncertainty as to who the planning process serves and then suggests: “it probably attempts to serve everybody, but whether it succeeds for anybody, I'm not sure”. [Respondent Mike]

[IACC Economic] when asked a similar question responds, “Everyone”. When asked to expand, [IACC Economic] declares that, the process gives transparency of decision making, that it ensures a consistent process across different developments and ensures that people are given an opportunity to have their say. However, as [IACC Economic] says, the issue is that when the outcome of this process does not align with what people expressed opinion, they then criticise the process.

[Respondent Mike] makes a similar point, suggesting that whatever the outcome, some will not agree and feel that the outcome is unfair.

*Whatever the outcome is there are going to be people who aren't happy with it and feel it's not fair. You can't please everybody, but whether it's, whether fairness is about pleasing everybody is another question. [Respondent Mike]*

Here [Respondent Mike] questions the nature of fairness. And adds that there are “3 million people living in Wales and 8 million living in London [chuckles] so getting the energy out of here probably serves more people than it inconveniences.”

[Respondent Charlie] observes that while there used to be a system of public enquiry under the planning system for major schemes that this has now changed and that there has to be *“proven evidence of consultation with the public, and engagement”*. When questioned as to what he considered the purpose of this consultation [Respondent Charlie] was slightly dismissive and expressed a level of exasperation and said that although he had expected that that it would be *“to get people on board”*, having been to one of the early meetings with National Grid found that *“they [National Grid] weren’t prepared to engage at those meetings”*. [Respondent Charlie] continued:

*It was ‘There you are. This is who you can write to’. [Respondent Charlie]*

[Respondent Charlie] characterised the meeting as a presentation rather than a test of opinion or an initial test of possible solutions. However [Respondent Charlie] had indeed written to National Grid as part of the process of consultation and had understood that he had to register as an interested party in order to express his views. [Respondent Charlie] also commented however that there a lot of people *“don’t realise what’s going on”* and have *“such busy lives”* that they may not be able to engage with the consultation. As he says, planning objections are *“almost a pastime for the retired”*.

[Respondent Charlie] expressed cynicism about planning for large projects, believing that the outcome is pre-determined

*I think that the outcome is, on big project like Hinckley Point, Wylfa, they’ve all been pre-determined. There’s no way the public were ever going to stop Wylfa being built. I think it was just a question of going through a consultation. [Respondent Charlie]*

[Respondent Echo] expresses the opinion that although there were consultation events around the region these served little real purpose as *“everything was already done and dusted”*. [Respondent Echo] characterised the consultation as window dressing. Although he did acknowledge some change from original proposals in that that National Grid *“were happy to go under the Straits rather than over.”* [Respondent Echo] observed that the option to go around the island (i.e. the sub-sea option he prefers) was not included on the list of options under discussion: *“That’s not offered”* [Respondent Echo]. The consultation was on the broad route corridors for four overland options, between Wylfa and Pentir.

Drawing on some experience of planning for highways in particular but extending this to include large schemes in general [Respondent Charlie] believes that planning has little influence on larger schemes, which tend to go through more or less as the developers originally intend

*For the large projects ... I'm cynical I guess. I think that large organisations ... they've had schemes in the pipeline for many years. They know they want to do it, they know they are going to do it, they know how they are going to end up doing it, but they go through the planning process, generally, to tick the boxes. And then the public go through the motion of objecting, and they are noted. And then they are overruled. And then it is built. [Respondent Charlie]*

[Respondent Charlie] also characterises the apparent concession by National Grid to place the transmission lines underground in the AONB near the Menai Strait as a “[pretend] win for the objectors.” Although admits he doesn’t understand the engineering involved - he comments that “those sort of things aren’t really explained” – he also expresses that the route makes sense and that there will be good engineering reasons for it and that the route would as far as possible avoid homes, for example.

[Respondent Echo], while not believing the consultation is adequate, comments that as far as National Grid are concerned they *will* have adequately consulted the community.

*Well, yes, they probably have. In their eyes. In their eyes they will have printed that they've talked to lots of people and lots of organisations, but whether they have actually listened is another matter. [Respondent Echo]*

[Respondent Echo] demonstrates an understanding of the sorts of constraints that may be considered when planning a transmission route.

*Well they look at the land, they look at population hubs, or not; they want to avoid those. They want to come places like here [laughs] if the land is suitable. They look at archaeological and all the wildlife considerations - they have to. [Respondent Echo]*

Then [Respondent Echo] when asked to consider in the light of so many constraints why he thinks we have a consultation, he reiterates, “Window-dressing”. [Respondent Echo] extends this to the influence of groups such as CPRW and other organisations involved in the consultation, such as the National Trust, farmers’ organisations, and tourist organisation. He states that

*National Grid is such a powerful, big powerful, organisation that they will ride roughshod over everybody. ‘Cos they will get government support rather than, I mean, at the end of the day, if everybody said no and barred it, the government would move in and say you’re having it. [Respondent Echo]*

Thus according to [Respondent Echo] the consultation is only a consultation as far it does not disagree with UK Government policy or National Grid and the government's wishes. Despite having attended consultation events, [Respondent Echo] is also unclear about who decides on what scheme should actually go ahead.

[Respondent Foxtrot] also does not think *"that the consultation processes for National Grid have been particular consultative"*, and laments that *"this is the way these processes work these days. Decisions are made long before the consultation happens."*

[CADW] is more measured on the scope of the consultation with respect to members of the public or lay consultees – as opposed to professional stakeholders such as [CADW]. [CADW] does not think the process is a *"total stitch up ... from my perspective "*. In [CADW's] role he has been able to influence the decision making. [CADW] describes how National Grid has changed stance on crossing designated historic parks and gardens, for example.

*The first meetings I had with National Grid going back four years, five years, maybe not quite that long, four years, they were seriously considering overgrounding through those parks and gardens. That was their option. And it was bonkers.*

...

*I mean, they are wooded, heavily wooded areas, they are nationally significant, they are designated areas, and they were proposing just clear felling huge swathes through both of those parks and gardens and just having an overhead line running right across.*

...

*There is no way you could justify that in my view, but they were seriously considering it, and as I say we had that conversation about, well can you really justify the increased cost and I said, well, yes absolutely, I can, you know, I have no doubt in my mind that it's worth that sort of figure. It's not my decision to make; it's somebody else's decision to make that call. But that's why I think there is this disconnect between Ofgem who are clearly making those decisions and who are deciding what's too much to spend and what's enough to spend*

[AEI Director] also acknowledges how National Grid can *"can see the sense that why would you want to shove pylons in the Menai Straits area, it's a beautiful area"*, but queries how this impact can be costed.

[Respondent Echo] describes how, despite the vast majority of people on Anglesey being opposed to HVOTLs, this is still the preferred solution. [Respondent Echo] does concede that at least people have been able to express their opinion, but states that this has little real meaning.



95%<sup>44</sup> of the island have said no to pylons. So they're still going to put them there, so they're not listening

....

*[However] we have had the opportunity to speak out, directly to [National Grid]. And there have been quite senior people at these consultations. So we have been able to speak our mind ... and they [National Grid] have taken it on the chin.*

...

*Yeah, we've had the opportunity, but personally I feel that it was just window-dressing. [Respondent Echo]*

[Respondent Hotel] also feels that having a say will have little effect in the eventual outcome

*I just feel that no matter what we say here or there ... well on Anglesey, when you complain to all the other people that are on Anglesey it is going to have very little effect on the overall picture. You know, they are going to do what they feel they need to do anyway. I'll put it that way. [Respondent Hotel]*

[Respondent Mike] also states that although the exact details may remain undecided the main decisions have already been made.

*My overall feeling is that it's going to go ahead regardless, and go overground. I think we pretty much know that anyway.*

...

*As I say, it feels it is already at the point so there is no decision. My feeling is it's going to happen. The exact corridor, who knows. Who shouts the loudest. [Respondent Mike]*

[Respondent Golf] states that consultation is not about getting the opinion of those consulted, but rather it is about getting their approval. [Respondent Golf] continues that consultation is not really about informing - because if informed you might take another view - but rather it is about influencing you. [Respondent Golf] is speaking in general here and admits that *"this is again my own cynical view"*.

*One of the big problems here, in that they don't necessarily want your opinion; they want your approval.*

...

*If you're a very busy Secretary of State and you've debated these things amongst your peers, I suppose public opinion is under challenge, isn't it. How do we try to convince*

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<sup>44</sup> This is an unsubstantiated figure [Respondent Echo] has heard and is now reporting, but it is also clear that he means the large majority

*people that this is the right thing to do?*

..

*What do they want from the process[?]. My opinion would be, not what we think they want from the process. [Respondent Golf]*

[Respondent Golf] expresses concern that if people believe their opinion does not make a difference they will not engage and this in itself can shut down debate and result in more adversarial positions being taken by either the community or the developers.

*Because you don't engage either, do you, if you think they don't really care what I think. Then why would you spend all your time and energy into trying to extract the information that they're not giving out easily, and then once you've got it and you've formed an opinion, nobody cares about it anyway. There's nothing you can really do with your opinion. Unless you feel strongly enough, and everybody else feels strongly enough that you can sort of mobilise it. But it shouldn't be, it shouldn't be an adversarial thing, should it. It shouldn't be the case that if the whole community don't like it, that they need to fight those authorities. [Respondent Golf]*

[Respondent Alpha] views the consultation as something to humour people or as a sop. In his view many of the decisions will be made by National Grid and the government behind closed doors. He believes that in the end the outcome will be determined by technicalities; thus consultation is seen as 'appeasement' where the technical arguments will win through. [Respondent Alpha] adds that energy flows north to south and that is also where the political power is.

*I'm very sceptical about the whole planning system really. Because I think that what will happen in the end is that two guys, like us, will sit down over a very posh meal, not a coffee, in London, one from National Grid and one from the government, and they will say 'We want a line from Wylfa to Pentir, we want to put it that way, let's go for it'. And I think that National Grid will always push through what they want, with a little bit of sympathy for local opinion, partly because of the technical needs for it, I would say a lot of what they do would be ruled by technicalities of it, which I would perhaps give them some sympathy for. But people who have never worked for them will say 'Why's that pylon, we don't need it'. All energy really flows from north to south. So much of it ends up in London. [Respondent Alpha]*

The following, also from [Respondent Alpha], illustrates several points. Firstly, there is conflation of National Grid and Horizon. The respondent is familiar with the electricity industry and yet still

substitutes the generator for the transmission system operator in this case. [Respondent Alpha] also suggests that people either do not realise the detail of any proposals or do not think it is important until it becomes more concrete or immediate. While squeezing in some criticism of vote chasing by politicians, [Respondent Alpha] also restates that no matter what the democratic voice is, this will be outweighed by technical arguments.

*You get this - Horizon is it? – notes through your letterbox once every 3 months, 6 months. I'll look at it. My partner, she doesn't. My neighbours probably don't even get as far as looking at it. I think in general people will not look at it. I will. But, the government dash way up north. 'Well, we told you'. And then people won't complain until this happens 'Oh, I didn't know it was going to be like that.' It's just something that happens and people will think ... I did go to a meeting in Llanfair PG, 6 months, 8 months, a year ago, where local MP, everybody who counted was there saying 'we don't want this, we don't want pylons across the island'. But a lot of it was politicians, well looking for votes for the next term, but I think what has to happen technically is what will happen in the end. [Respondent Alpha]*

[Horizon] offers a different opinion from [Respondent Alpha's] on the idea of a cosy chat between developers and regulators and highlights the clear separation between infrastructure developers such as National Grid and Ofgem the regulator.

*There's a very clear distinction [between developer and regulator]; you can't have those cosy little chats with regulators. [Horizon]*

Because of the technical nature of some of the arguments regarding various route options and technologies, [Respondent Charlie] suggests that an independent review would be better, and then asserts that through the “current self-policing planning process”, this is exactly what has been lost.

[Respondent Mike] suggests that to an extent the consultation is “to massage some egos”; to “make them feel as if boxes are ticked”. However [Respondent Mike] also acknowledges that given that National Grid has an obligation to demonstrate adequate consultation it is also *best* “for [National Grid] to get it right first time”. [Respondent Mike] also questions whether there is an appeal process and whether if the National Grid also has a right to appeal if this is not asymmetric. This “public appeal vs corporate appeal” raises implications of lack of power resting with citizens compared with a large corporation.

For [Respondent India] the consultation and planning process is also to give people the sense that they have some say; she suggests that if people feel that they have no control or that they are just being ignored they will feel disenfranchised and angry, or even revolutionary.

*It's dead simple, because if they didn't [have this consultation process], if people really felt there was no way they could influence the shape of the places where they live, and how essential services were provided for them, then, you know, the ultimate in that is a sort of revolutionary state, isn't it. When people begin to think that the state is just ignoring them on every level, then they start to get a bit cheesed off about that, don't they. And so the politicians, they do have to put up some sort of pretence of listening.*  
[Respondent India]

[Respondent India] continues, that the consultation “*is a sop; for them to continue to do what they think we need*”. That is, the consultation is a process which allows the electricity industry or the state to act as it sees fit rather than as the customers or electorate desire. As such [Respondent India] describes the process as a “*pretence of democratic process, in order in order that the people who want to make the decisions, some of whom want to make money out of the decisions, can carry on making the decisions they want to make*”. Given this expressed opinion it is not surprising that [Respondent India] when asked about the fairness of the process replies: “*Not by my understanding of the word fair.*”

[CADW] when considering whether the consultation is indeed that, or whether as [Respondent India] said, the consultation is in fact a sop, and the major decisions regarding the transmission infrastructure have been made, states that he can see why some might think that, and why some might see National Grid as arrogant in their consultation. [CADW] describes how National Grid start from a relatively fixed point and it is difficult for consultees to influence that. However [CADW] also points out that the consultation is about the broad route, and that mitigation or amendments such as taking the transmission underground happen at a later stage. Thus according to [CADW] many misunderstand the process and this causes frustration.

*I can see why. And it's because they are – it's what I was just saying about the sort of least worst assessment and the path of least resistance - so they're starting from a very fixed point, so every time a consultee, the public, NRW<sup>45</sup>, says it needs to be offshore they [National Grid] said we're just not doing that, and so I think maybe that is frustrating to everybody, there's no kind of engagement there, but partly that is a misunderstanding of the process they are going through, because they will consider those options,*

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<sup>45</sup> Natural Resources Wales

*undergrounding or whatever, it's just that we are not really at that stage yet; we've not even got a route yet, in order to say something needs to be undergrounded. So I can sort of see where that comes from. [CADW]*

#### **5.10.6 Decision making**

Having considered the nature of the consultation, its purpose and also of representation of views for that consultation, decision making following the consultation is considered. Some matters related to decision making have been raised previously in relation to desire or otherwise for devolution of energy matters to the Welsh government (for example p178).

Several respondents express a preference for impartiality. [Respondent Lima] for example, when asked who should make the decision, expressed just such a desire, preferring that the final decision for the transmission connection is not unduly influenced by shareholders, or other lobbies.

*That's a tricky one, isn't it? You would like to think that it was someone who was impartial, and not influenced by shareholders and people with an axe to grind. Also someone who has got the technical expertise to assess what is the best way of doing things in this particular field. Because you do have to know what you are doing, don't you. But presumably that would involve some sort of a committee, would it. [Respondent Lima]*

[Respondent Lima] recognises that that National Grid may well be the experts but remains suspicious of profit motive for the company.

*They are the experts, but they also have got shareholders to answer to. And maybe the shareholders would rather have more profit ... [Respondent Lima]*

When considering further, [Respondent Lima] suggests that Ofgem are impartial and perhaps they should decide what the routes should be. [Respondent Lima] is not entirely convinced by her own suggestion, but is attracted by the idea of an independent, but more state controlled solution. It could be argued that this is in fact what The Planning Inspectorate offers.

*Ofgem might be, they don't have shareholders, they are experts in the field, they would be impartial, in coming to their decisions.*

...

*But they are laying down the rules and regulations anyway, aren't they? [Respondent Lima]*

[Respondent Golf] posits that a decision could not possibly be made “*on an objective basis, taking into account everybody’s view*” and that the decision is necessarily going to be subjective and compromise some people and their views more than others. In this case view refers to opinion rather than vista, but the irony of the term is not lost.

*You can’t keep everybody happy. [Respondent Golf]*

Several respondents raise the matter of devolution of decision making regarding larger scale energy developments (see also 5.10.3, p178). [Respondent Kilo] is aware that the Welsh Assembly has no real say where overhead transmission lines are concerned and considers that the Welsh Assembly should have more influence in this matter.

*I think that if the Welsh Assembly have a viewpoint on this, it should carry some weight.*  
*[Respondent Kilo]*

While acknowledging that Nationalism can have also unpleasant connotations “*because nationalism holds quite a lot of values that can be quite dark*” [Respondent Foxtrot] also expresses his belief that decision making should be more local.

*I believe local people should be making local decisions for themselves and at the most local level as possible. [Respondent Foxtrot]*

[Respondent Foxtrot] expresses concern that Wales cannot be adequately represented in the UK parliament simply because of the relatively small number of Welsh MPs.

*How can 45 or whatever number of MPs in Wales be looking out for the best for Wales when there are 600 of you buggers in England. How can we vote anything that’s going to be good for Wales in? It’s impossible for us to do. [Respondent Foxtrot]*

[Respondent Foxtrot] accepts that this could also be argued for any region but calls for greater devolution. [Respondent Foxtrot] compares this with the gradually increased independence of Commonwealth countries, in particular Australia. [Respondent Foxtrot] suggests that Wales could take more responsibility for itself, be more self-reliant, and yet still remain as part of the UK and of Europe<sup>46</sup>. [Respondent Foxtrot] liken this to ‘*cutting the apron strings*’ and to a teenager gradually leaving home, remaining as part of a family, but being independent.

*I’m not saying we don’t want to be part of this family any more I’m just saying we want to look after ourselves. And I guess that’s where a lot of my takes comes from, because I’m saying let’s look after ourselves, because you can’t trust other people to look after*

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<sup>46</sup> This interview took place before the Brexit vote

*you because they've always got their own interests. It's human nature. [Respondent Foxtrot]*

However not all would agree with [Respondent Foxtrot]. [Respondent Golf], for example, is suspicious of local decision making, because of the vested interest he perceives in this (see 5.4 p110).

Understanding over who decides whether a particular the scheme should go ahead following the consultation is patchy, with various speculations as to who is involved and who is responsible. Respondents who did not already know who made the final decision made various guesses, from National Grid itself to some vague part of central government – generally realising that it is not a Welsh National decision and therefore it must be a decision taken in Westminster. [Respondent Hotel] suggests that the county council is probably involved although will not make the final decision

*I mean they go to council and it is discussed in council, but it is only their recommendations; they don't actually have a decision [making power]. [Respondent Hotel]*

For some this lack of local decision making is unfair because the decision will be a political and financial one made elsewhere. When asked whether what will be decided will be fair [Respondent Hotel] replies:

*No. Not to the people who are on the ground. Because it is a political decision, based on financial, the financial commitments and everything. [Respondent Hotel]*

[Respondent Golf], referring to *planning in general*, contends that having too much input and too many different opinions makes making a decision more difficult, requiring more of a balancing act. [Respondent Golf] also states that he would not blame National Grid if an outcome was more favourable to them. He recognises that they are a private company and as such, even though regulated, seek to make a profit.

*It's a capitalist economy, isn't it, and if a private company – which that National Grid is – wanted to do something, I don't blame them. If they're able to do it; if they're allowed the discretion to do it is another matter. So the notion of government should be there to regulate and protect in this case. To make sure that the right thing is done. [Respondent Golf]*

But [Respondent Golf] also adds that it is the role of the state to “*regulate and protect*”. [Respondent Golf] questions whether the process can indeed make sure “*the right thing is*

done”, if there was an *“implicit [or even] unconscious decision right at the beginning”*. He contends that objections to any preferred solution (by the developer, in this case National Grid) will have been anticipated and considered well in advance, allowing them to be set aside or rejected if so desired.

[Respondent Golf] also raises the point that although he might not like the process, he may still be satisfied with the outcome. Putting himself in the position of a local authority, he suggests that the end result of a route which only affects those who are already affected by pylons to an extent, by shadowing the existing transmission route, may be a desirable outcome because it will engender less anger amongst the island as a whole. However in the case of Llanfairpwll, which he recognises as a tourist destination, he also accepts that at the train station and retail outlet, where many tourists congregate is also a place where additional pylons will be very noticeable.

[Respondent Juliet] rails against National Grid’s process, accusing them of reminding representatives of the community in a meeting *“that it was London’s decision, so basically they were saying ‘Don’t bother objecting to these pylons because you are powerless’”*. This [Respondent Juliet] defines as *“the sheer arrogance of the initial meeting”*, and it was this perceived attitude that caused Respondent Juliet to *“feel that this is something [she] wanted to stick up for”*. Rather than get the community onside for this development, and fostering a spirit of cooperation and understanding, this meeting obviously had the opposite effect.

[Respondent Juliet] in common with others, perceives a major problem in the planning system not being controlled by a locally accountable body. Ultimately the decision is controlled in London, and Anglesey and North Gwynedd have little democratic influence, with only two MPs among a whole chamber who are *“going to have to vote in terms of cheaper electricity because of fuel poverty”*. This does not, she feels, serve Anglesey well. She adds that the planning set up is exploited by National Grid to obtain the cheapest, easiest solution. Highlighting suspicion of the profit motive she adds that National Grid is *“of course a private company accountable to shareholders”*.

[Plaid WAM] when asked who the planning process serves is quite emphatic that it is National Grid and Wylfa *“[and] not the community. Absolutely, clearly.”* [Plaid WAM] continues that the transmission solution is being pushed through in order *“to give investors in Wylfa confidence to invest ... [and it] matters not what the people of Anglesey think”*. The implication from this is that the consultation is not fair and [Plaid WAM] says as much when asked.

*Nope. I don’t think it is fair. I haven’t been convinced that it has been a fair and proper consultation. [Plaid WAM]*



[Plaid WAM] also considers that National Grid controls the process of planning. [Plaid WAM] expresses the opinion that while the decision of transmission infrastructure is currently made in Westminster by the Secretary of State it should be devolved to Wales. He considers that the decision being made outside Wales will affect the outcome of that decision. He also expresses the concern that the various institutions involved can pass responsibility or blame between each other.

*One problem we have is that the National Grid can blame UK government, and say, ultimately it is a UK government decision, and we make our suggestions, but it's down to UK government; and UK government give the impression, it's not up to us usually, it's up to Grid, whatever Grid say they need we've got to go with that. So they can blame each other. So it's difficult to know who to target. And when the ultimate decision is made, each will pass the buck and say it's not them. Clearly that's not acceptable. [Plaid WAM]*

[Plaid WAM] calls for a solution that represents a genuine mix of public opinion, technical considerations and financial considerations, but considers that at the moment this is not happening.

[Respondent India] also suggests that those affected by the decision should be able to contribute to the decision making.

*Well, it seems to me that the people who are going to be affected by it, if they feel they are going to be affected by it, they can evidence why they are going to be affected by it, either for the good or the bad, and they should be able to contribute towards the decision that is made. [Respondent India]*

Decision making for energy of the magnitude or scale of Wylfa Newydd is reserved to Westminster but associated development is determined locally. As [Horizon] describes

*What you find is that for everything that is in the nuclear island, inside the fence, goes off to London. Everything we need outside there, such as road improvements, temporary worker accommodation, park and ride facilities ... everything we will need to build and in some cases operate Wylfa Newydd, for example we will need an offsite alternative emergency control centre and environmental survey laboratory – it's a regulatory requirement, got to have it – but other things, park and ride, marine offload facility, temporary worker accommodation, all those will go to – road improvements – all those go to Anglesey Council's Planning Department.*

As [Horizon] point out, this split gives rise to the possibility that a local government could refuse developments essential to the construction or function of a larger development, such as a power station which is permitted under a Development Consent Order from Westminster. In contrast to the Wylfa Newydd development in Wales which on the whole been supported, this is the position that the Scottish National Party have taken with respect to nuclear developments in Scotland – *“we don’t want nuclear; we will not grant any associated development planning, so forget it”* [Horizon]. This split in decision making may apply to transmission infrastructure with the overhead lines being subject to the Development Consent Order regime through Westminster, but with associated development such as transformers or switching being determined locally. [Horizon] is unclear on the details of this. Certain essential equipment such as, for example, a sub-station may simply be permitted under permitted development rights under the DCO.

[NG1] and [NG2] explain that National Grid have to balance getting consent for a project and complying with a directive to be economically efficient, satisfying both the Planning Inspectorate and Ofgem. For the Planning Inspectorate, National Grid have to demonstrate that they have satisfied requirements of the policy frameworks *“and that is not about money at all ... That is about putting in a nationally significant project and for that to get permission, to get consent to do.”* [NG1]. Secondly National Grid have to satisfy Ofgem that the solution proposed represents value for money. This includes justification of extra spending for a more complex or costly solutions than overhead transmission lines in within the area of an AONB, for example, where the cheapest most direct route may not obtain consent from the Planning Inspectorate. Again [NG1] summarises the balance and tension of respecting the value of landscape and communities and yet delivering an economically efficient solution: *“It’s complicated”* [NG1]. [NG1 and NG2] emphasise the need for evidence to support decisions, that any decision made when determining the solution for transmission needs to be justified and must be based on credible evidence, such as that provided by land designations.

*I think ultimately for everyone who feels that, you know, it’s the right thing to underground at the Menai, there will be people who think we should be underground outside their house, and I need to be able to stand in a hall and say what the difference is ... and I need to be able to point at that [scientific evidence].* [NG2]

‘Not near my house’ is not enough, there must also be more credible evidence, and then although others may not agree, they recognise the evidence behind the decision. As [NG2] continues *“we need to be able to stand at enquiry and justify all of those decisions.”* [NG2]

With this in mind [NG1] emphasises that it is the *“quality of response rather than the quantity ... qualitative rather than quantitative [sic] responses that are important to [National Grid]”*. [NG1] continues *“So it is not about x number of people said this, y number of people said that, we’re going to go for the higher number. It is what they’re saying in that that is important to us.”* [NG1]

This raises some points about what is democratic, as even if the vast majority express the same opinion, unless by some judgement this opinion is considered valuable it can be discounted. [NG1] pre-empts this criticism with the assertion that the framework within which National Grid and others work was created by a democratic society, by the UK Government, and there is a process *“there for any democrat to get involved with or to influence or to be a part of.”* [NG1].

*So that is where the democracy comes in, which is the framework that is set for us; it is not set by us.* [NG1]

[NG2] cautions against potential inequalities raised if the consultation process were not distanced from the community somewhat. [NG2] raises the concerns that if there were democracy in where infrastructure is placed, this would actually lead to unfairness, where *“areas of social deprivation end up with more infrastructure because they can’t exercise that sort of ability to deal with democracy”*. In contrast with those who are affluent, well-educated and articulate, those from more deprived communities *“[may be] too busy thinking about making ends meet rather than worrying about the quality of their landscape”*. National Grid, [NG2] asserts, *“are guaranteed to operate on a level playing field”* and will not necessarily seek the slightly more straight forward approach of placing infrastructure in deprived areas where people may be less able to articulate opposition. However, unlike some other kinds of development, transmission lines tend to avoid communities. In part this is a policy but in part it is the nature of the connection being implemented, from a large scale generator to a point of distribution. When considering the idea of environmental burdens falling disproportionately on poorer communities, [NG1] raises this difference and contrasts electricity transmission with other infrastructure

*We are slightly the opposite because we look at a community as a community, and we tend to avoid as much as possible ... Whereas a local network is focussing on bringing power into a town, so their focus is into it, whereas our focus tends to be, avoid the people. So, route away*

...

*If there is a road network you are taking the road to where people are; if there’s a train*

*network, it's to where people are; if it's a DNO it's to where people are, but we're completely the opposite. [NG1]*

As [NG2] adds, in the case of Anglesey, the more deprived areas tend to be the more urban areas and these area are precisely the areas which would be avoided by National Grid.

For [CADW] it is the involvement of the multiple agencies of National Grid, The Planning Inspectorate and Ofgem that actually leads to some of the frustrations among the public. As he comments, the decision on the final transmission solution is not up to National Grid; this decision is made by the Planning Inspectorate through their recommendation to the minister. However it is the involvement of Ofgem that [CADW] believes leads to some of the frustration, because while Ofgem negotiates directly with National Grid, the public and other stakeholders have no sight of this discussion.

*There is another issue here though, ... there is a bit of a disconnect between us, the public, the consultees, the stakeholders, and that decision making process, because it is not up to National Grid what they do, it is up to the Inspectorate, the Planning Inspectorate, when it goes to them. But there is also another player here, which is Ofgem, and they are negotiating directly with National Grid, throughout the process, and the rest of us, the public, the consultees, we don't really get involved in that negotiation or discussion.*

...

*And I think that's possibly where most people are getting frustrated. [CADW]*

[AEI Director] summarizes National Grid's findings as "we've concluded pylons are the best thing because it is the cheapest thing, and, in terms of the system, it is the best thing to have". [AEI Director] describes opposition to pylons and also considers that National Grid perhaps always intended to take the connection underground in the vicinity of the Menai Straits, but also that National Grid have to justify their spending to Ofgem.

*People fed back, 'we don't like pylons at all. We want it to be sub-sea. The Grid said, sorry, that is not the way we are thinking, and in terms of our justifications we can't justify going sub-sea, so we are still going for pylons, but we will underground in the vicinity of the Menai Straits, because so many people have [objected] ...now, part of me is thinking that Grid always were going to go underground in the vicinity of the Menai Straits and what they were doing is playing a silly game.*

...

*They have got to justify every penny that they spend, to Ofgem, and if Ofgem don't*

*accept the money that is being spent as valid then they will not pay National Grid. [AEI Director]*

[AEI Director] speculates that there may be a deliberate strategy on the part of National Grid which polarises community opinion, and this strategy allows National Grid to use the strong pushback as leverage against Ofgem to mitigate or alter a proposal. [AEI Director] suggests that National Grid are able to use strong objections to one solution to justify alternative solutions.

*When National Grid go out for consultation they will say some things that tend to have a polarising affect in a community and then come back after the community has justified why it thinks things shouldn't be as bad as that. You know, for example in mid-Wales recently, I think they have come out with undergrounding in parts of mid-Wales, haven't they, whereas previously they hadn't. And I think there has been something down in Somerset, where I think they have agreed to underground in bits of, the Mendips<sup>47</sup> I think, down there. So, it seems to be little bit of a strategy*

...

*and then once there is a bit of pushback, they then as National Grid are able to go to Ofgem and say 'look, we've had this tremendous pushback in this area; I think that is what they've been able to do [AEI Director]*

The idea of a strategy which polarises opinions and thus gives strong feedback was put to the National Grid representatives in interview, and while they dismissed the idea of this type of deliberate strategy, they did acknowledge their need for strong pushback.

[AEI Director] was able to summarise some of the possible connection options which were not subsequently carried forward for Wylfa Newydd. He states that National Grid have not done a good job of explaining why options dismissed at early stages are not good options for Wylfa, whether this is because of cost or network resilience for example.

*I think Grid cocked it up at the very beginning in going out with sort of saying we've got these five options, and what they haven't done is done a good job of explaining why those ... options are not real options for Wylfa. [AEI Director]*

[AEI Director] characterises National Grid as poor communicators and the ill feeling regarding the route options as mismanagement rather than an arrogant imposition of a decision.

*I think they are very poor communicators; very, very poor communicators, yes mismanaged I think. [AEI Director]*

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<sup>47</sup> Mendip Hills are an AONB in Somerset, to the south of Bristol. The area is roughly triangular between Weston Super Mare, Wells and Bishop Sutton.

From National Grid's point of view, given the accepted need to connect Wylfa Newydd to the rest of the electricity grid, National Grid will have several strategic options to achieve this, which as part of the development process are made public. As [NG1] says, this can go back many years, and as options for connection become more refined, or ruled out or not developed further, eventually a chosen option is put forward. But [NG1] stresses that National Grid starts *"genuinely from a perspective of needing to conform with the obligations and guidelines set by the government ... and [taking into account] the statutory stakeholders and other stakeholders such as the council, such as the public, or other groups"*, but specifically with respect to pylons, [NG1] makes the point that overhead lines are always going to be one of the options available.

When providing a new connection into the electricity network, such as for Wylfa Newydd, National Grid attempt to achieve the *"most efficient, reliable, effective way of doing that. So that is our starting point"* [NG1]. This starting point affects the range of potential solutions for final consideration.

So when discussing why the connection will be routed into the sub-station at Pentir rather than to, for example, the sub-station at Connah's Quay to the East and nearer to Deeside, the notional destination for the transmitted electricity, this is answered in two parts. Firstly, a connection to Connah's Quay would not be considered appropriate because it would involve a sub-sea connection and as [NG1] summarises, there are problems with this *"partly to do with timescales, partly to do with cost and partly to do with technology"* and this in turn means other options were considered superior. As [NG2] explains, given that there is an existing nuclear power station and a circuit to take the power away, and given that the new generation will be more substantial, National Grid *"need to build something"* and so *"look at where on the system [they] can accommodate that"*. The circuit from Pentir is *"a really robust part of the network, and is the closest part of the network that would have the capacity to take that [power] away"*. Although sub-stations further away may have the capacity to take this additional power, the extra distance of the route also means that *"you are affecting more people, more environment, so you always look for the shortest option to try to get that power away. And that is Pentir."* [NG2]

As far as the consultation process with members of the public is concerned these broad assessments have already been made by the time consultation begins and so the consultation becomes one of routing transmission lines from Wylfa to Pentir.

[NG2] describes how, *"on this project we have tried to consult at earlier stages"*, looking at other routes and corridors on a wider basis around the island, including corridors far distant from the

existing transmission lines to gauge opinion. [NG2] acknowledges that National Grid received a lot of feedback around the project generally and around options such as sub-sea and completely underground solutions. The consultation also gave rise to a suggested route not initially proposed by National Grid, the so-called hybrid route, a route down the west of the island.

*The hybrid route wasn't something that we identified. It was something that came back from the consultation, that was suggested by consultation, and we then looked at and did an evaluation of. [NG2]*

[NG1] states that National Grid seek balance, and while the views of the public are an important part of this balance, *"they are one part of this balance"*. National Grid also consider other opinions other viewpoints, including from organisations such as Anglesey Island Council and CADW, for example and *"myriad other organisations as well"*. [NG1] summarises how National Grid presents the context of consultation:

*We talk about the views of the local people being important and strong, but not being the only thing that we need to look at. [NG1]*

[NG2] continues, explaining that National Grid operate within a legislative and policy framework and thus *"[do not] start with a blank sheet of paper and ... just make it up"*; they must consider National Policy Statements, such as EN1 for overarching energy policy and EN5 on energy networks, UK national legislation, Welsh legislation and also European legislation. As well as overarching legislation, National Grid must also consider designations of areas along any potential transmission route, such as National Parks, AONBs, SSSIs, and Welsh historic landscapes, with such designated areas conferred protection from development. And within this framework, National Grid must also consider cost and efficiency. [NG2] National Grid thus *"have to try to balance all of that to find a scheme that accommodates all of those as best [they] can"*. Within this framework some aspects of a scheme can be influenced and others cannot. [NG2] suggests by way of illustration, that the policy framework would make it very difficult to place a new overhead transmission line through Snowdonia National Park, even if there was overwhelming public support for it.

[NG1] summarises this:

*The planning regime requires us to consult on things people can influence, in that policy framework. So it would be completely wrong of us if we know something, exactly like I said, if we know something is against policy to allow people to think they can influence it; that would just be wrong. We try to make that clear in our material. [NG1]*

This extends to some of the potential options for transmission across Anglesey. Dealing specifically with the view that the transmission lines should be placed underground, [NG2] adds:

*So at the moment we are getting a lot of feedback about completely underground and I think in policy terms I'm happy that wouldn't be the right answer. So it would be wrong of us to go out and say to people, what are your views on a fully underground solution, because we're just building their hopes up for something that's probably not going to happen. [NG2]*

At the time [NG1 and NG2] were interviewed the broad route corridor from Wylfa to Pentir had been selected and National Grid had opted for an undersea crossing of the Menai Strait, with the lines being taken underground in the vicinity of the crossing, although the exact crossing point and details of this crossing were still to be determined. In the earlier stages an overhead solution had been considered for this part of the route but as [NG2] says, National Grid recognised the AONB designation and potential effects of an overhead line on this area and took into account this designation rather than simply opting for the most economic and efficient route, which would be a straight and overhead line. As [NG2] explains, National Grid when building a new link does not simply start with the cheapest option and adjust it to make it more palatable. National Grid does however start with some basic principles such as being economic and efficient and using existing infrastructure where possible. In order to develop solutions other than the most expedient National Grid then have to justify this to the final decision maker, in effect the Minister in Westminster, and support and feedback from technical stakeholders and members of the public are an important part of this. In general terms, a shorter route will have less impact simply because it is shorter and therefore travels through less landscape, but this does not mean necessarily that the shortest route will be chosen. [NG2] explains that if feedback gives a reason why a route other than the shortest should be adopted then National Grid would look at an alternative. However, as [NG2] points out, it is hard to deal with individual objections of the type *"I don't want it near my house"*,

*Because everyone will say I don't want it near my house, and that doesn't become a differentiator for us. [NG2]*

[AEI Director] recognises this problem and believes that National Grid *do* heed feedback, but the opposition or feedback cannot simply be of the order of *"I don't like it"*

*They are listening, you know, there is listening on it, but you have got to make forceful arguments back, and that is what I sometimes feel that people don't fully appreciate,*



*that the arguments that they make have got to be really robust arguments; the fact that I say I don't like it because it upsets my house isn't good enough [AEI Director]*

[Respondent Alpha] also recognises this

*When I wrote my objection in, I can't write in my objection saying, you'll spoil my view.  
[Respondent Alpha]*

So responses need to be more sophisticated or “*of a higher quality*”, around things or characteristics that are in the region and how they are valued locally. To a large extent, National Grid also rely on land designations such as that of the AONB to inform their decisions. These designations give land value, not in monetary terms, but value “*from a community perspective, from an ecological perspective ... from an economic perspective as well*” [NG1]. This assessment of land is not carried out by directly by National Grid but by landscape architects employed by National Grid – “*so they're professionals*” [NG2] In Wales, National Grid's decision making is informed by LANDMAP, a tool providing nationally consistent, quality assured special datasets. Produced by Natural Resources Wales, LANDMAP categorises all land physically and also historically and culturally (see Natural Resources Wales 2018 for more information). It is this evaluation – with no monetary value attached – coupled with that of other designations such as landscape character areas given by the local authority, which National Grid rely upon when making their assessments. As [NG2] summarises

*It's not us just randomly going out there and saying, we can get away with this. We need to be able to point to that science for the decision maker at the end of the day. [NG2]*

[NG2] opines that it is important for National Grid to be the agency to balance conflicting requirements because they are external, from outside the area affected. Whereas organisations such as the local authority or Natural Resources Wales remain within the community and continue to have a relationship with the community after the project is completed, National Grid will move on. By taking on this role National Grid are in a position to save some of the difficulty that may be faced by organisations which remain.

[NG1] takes issue with the notion that National Grid do not listen to feedback. [NG1] describes their role within National Grid as one of “*trying to explain what we are doing and the influence the public have*”, but admits to frustration with accusations that National Grid have not listened.

*Because we've got a long list of things we can show people where we have listened, where we've looked again at something that's been important to them, where we have taken action. [NG1]*

Although [NG1] states that undergrounding the whole route – which has been the subject of much feedback – is “*something that we’re not able to do*”, [NG1] continues that “*National Grid have managed to do a number of things which have come through as part of the process as well as part of the final scheme*”. [NG2] describes how, in response to feedback, National Grid eschewed a viable overhead route to cross the Menai Strait, which would have had a visual impact on the wider community and also on some registered parks and gardens, and decided upon an underground and undersea solution instead.

[NG1] points out that as the consultations and development process continues, and feedback is considered and acted upon, protesters tend to drop out of the process as their complaints are dealt with and objections met. This leads to a distillation of opinion where those remaining feel they are not being listened to.

*So we then put the announcement out a few weeks ago, saying that, if we are in this area it will be underground. And those people are going, yeah, great. We never ever hear from them again; so you never get that feedback from those people you’ve listened, you’ve been able to listen to and do what they want. They just forget about you.*

...

*So they never, they wouldn’t write you a letter saying, you listened to what I said, thank you. ... Nobody ever writes us a nice letter.*

*So, in effect what you are doing is reducing the people who think you’re not listening to them, to the ones you can’t accommodate in policy and financial terms. [NG2]*

As [NG1] summarises:

*The views of the people then have been distilled. So the volume is getting less but the strength of feeling is getting stronger. [NG1]*

Ultimately however, [NG2] summarises, the Planning Inspectorate are testing how National Grid have applied policy, and make the recommendation to the minister on these terms. [NG1 & NG2] describes the UK Government as providing check and balance, by having two agencies, the Planning Inspectorate and Ofgem, with “*one part of government which is saying, you need to comply with planning guidance, and there is a separate part of government saying, did you need to? Was this the cheapest option? [NG1] And we sit in the middle, maintaining the tension between those two. [NG2]*”

And National Grid will have to defend the development during a public examination where, “*anybody can come up and say, you didn’t do this, they should have looked at this more, that*

*hasn't been taken enough into account", and National Grid have to demonstrate how they have dealt with anyone who had a query or issue.*

[NG1] summarises how powerful and open this process is:

*I think that is incredibly open and it is a place for people to give their views, and there is an independent group up there, who haven't been appointed, they're independent inspectors working on behalf of the Planning Inspectorate, who are part of Government, and they will write a report which goes to Government. So, that is a very powerful process. For me. And let is say that it is something we think about greatly.*

...

*It gives us confidence that an independent external expert body agrees or disagrees with us – we hope he agrees with us – and that then goes to the Secretary of State, so it's not, as you say, it's not a decision made in a closed room. It's made in the area, in public, with every side of the argument that wants to be heard participating in it. [NG1]*

*And it looks back through the entire process - what we've done from the start, and how we've engaged. So it's not just what's happening that day, it looks back on everything.*

[NG2]

National Grid then defend decisions *"using that policy framework, but referring to feedback from things like local authorities, public [and so on]"* [NG2]

[NG1 & NG2] expresses approval for the process being divided among many organisations rather than in the hands of just one, such as the CEGB, with National Grid independent of all generators and distributors, as this allows a wider range of influences on any decision making. Fairness is ensured by operating within a policy framework and involvement of many organisations and agencies within the development and decision process and the separation of different parts of the electricity industry. As UK Government sets policies and the framework within which the agencies such as Ofgem, the Planning Inspectorate, National Grid and electricity generators operate, it is for the government therefore to ensure that this is satisfactory, and if this system is not fair then under a democracy *"if it is not fair, people need to speak out and democracy will take care of that [NG1]"* Quite how *"democracy will take care of that"* is unclear, considering that one of the chief complaints from several other respondents is a lack of democracy, as even though political representatives have united in opposition to overhead transmission lines, this remains the preferred solution.

### 5.10.7 Stakeholder influence

Respondents were asked to describe their stake or relationship with the new electricity transmission connection toward the beginning of the interviews (see 5.2.3). In addition, towards the end of the interviews, having spent some time thinking about and discussing the topic, respondents were again asked to consider their stake but in terms of level of interest, level of understanding and level of influence in the matter. They were asked to summarise this as a score from 0 to 5, where 0 is none at all and 5 is a great deal. Not all respondents would be drawn on a number but several also made comments in response to the question.

As may be expected, lay stakeholders express a high level of interest, but lower levels of understanding and certainly of influence. [Respondent Alpha] stated his level of influence as 0, placing the local councils at around 5%. [Respondent Lima] describes her interest as having risen exponentially since being involved in the research, but also that she did not know enough to have an interest previously. [Respondent Lima] places her level of interest at around 3 before the interview, rising to 4 afterwards. [Respondent Lima] also admits that her interest would be much higher if she were directly affected by a pylon, suggesting that it would be 5 or even 10½ if this were the case. Despite this new found interest [Respondent Lima] puts her understanding at 2 and her level of influence firmly at zero. [Respondent Mike] also admitted to low levels of interest initially, and when asked if this was because she would not be directly affected, or because she did not consider the topic important, stated that having thought about it (as a result of the research) that it was important. She also expressed limited understanding of the planning process although she was aware of opposition to pylons. Based on her ability to understand economic arguments she placed her understanding at 2. Initially [Respondent Mike] placed her level of influence at zero, but then tried to work out ways in which she might be able to exert influence - through her job or influence on her employer, for example - and suggested a tentative 1. [Respondent India], who had expressed a high level of interest and understanding, described her level of influence as virtually none, despite being reasonably well informed.

*I'm not saying I don't have any influence at all and bear in mind I've tried to find out quite a lot about this. ... I'm reasonably well informed and I think I would have virtually no influence on that process, whatsoever. [Respondent India]*

Professional stakeholders, predictably, identify a high level of interest and also of understanding. [IACC Economic] admits to an interest of “4 or 5 maybe even 6”. This high level comes from his “professional responsibility for managing the planning performance agreements with the National Grid on behalf of Anglesey Council ... So probably I am a 6 in terms of professional interest [laughs]. Can't hide from that one.” [IACC Economic] also chose 4 to 5 for

understanding. However, even with this high level of interest as a stakeholder, [IACC Economic] chose his level of influence as 0 or 1.

[Labour MP] refused to be drawn on numbers but expressed a long standing interest in energy matters, and his position on the Energy Select Committee. When asked about influence he described his influence as building trust with stakeholders. As a Labour MP sitting in opposition he concedes that his influence has waned: *“opposition is easy but it doesn’t make government decisions”*.

[Plaid MP] states that his level of interest was 5 as chair of the Dim Peilonau group and is now falling back to level it was at before he became involved with the protest, to around 1. [Plaid MP] explains that he had to give up the chair of Dim Peilonau in order to fight a parliamentary election. He adds that he does not feel very influential, although does not place a number on this. Dim Peilonau has more recently shifted focus to become an Anglesey only campaign, meaning that the campaign now falls outside [Plaid MP’s] constituency.

[CADW] states that his interest and understanding have both increased as a result of being involved as a stakeholder, and put both interest and understanding at 5. [CADW] is more measured on his influence, placing his influence as part of a stakeholder group in the middle at 3.

*It’s difficult isn’t it? ... I feel that we’ve influenced things already with the park and garden issue but there are other issues like that standing stone where I feel that there is not good option, it’s just going to be the least worst option, so on balance I’d probably say 3, because there have been some cases where it has worked brilliantly and other cases where we feel that there is not good, there is not going to be a good outcome here, it’s just going to be a disaster either way. So yes, I’d probably, somewhere in the middle. [CADW]*

[AEI Director] also expresses high levels of interest and understanding, putting interest 5 and understanding at 4 ½. Despite being Programme Director for Anglesey Energy Island, [AEI Director] initially places his level of influence at 0. However, on reflection, when reminded of conversations he is able to have with other stakeholders and with National Grid, [AEI Director] amends his level of influence to 2.

[Horizon] places his level of understanding at 4, stating that he does not have the detailed technical understanding to get a 5. He also places his level of interest at 4, explaining that it is high because he needs to be aware of public sentiment towards National Grid as this could in turn feed into growing opposition to Wylfa Newydd. [Horizon] also chooses a relatively low level of influence, at 2. He explains that this is not on the overall project, but as a broker or mediator,

between the public and National Grid for example. [Horizon] also puts Horizon Nuclear Power's influence at only 2 – 2 ½ even though Horizon and the technicalities of the nuclear power station strongly influence possibly transmission solutions and in particular that of an undersea connection. [Horizon] states that Horizon Nuclear Power's influence mainly just confirms National Grid's own technical evaluation. [Horizon] makes the distinction between stating that Horizon do not object to underground rather than stating that the connection should go underground. Thus in the case of an undersea connection Horizon is not influencing National Grid, rather supporting their position that technically an undersea connection does not work.

The levels of interest, understanding and influence chosen by respondents are in line with what might be expected from these respondents, with professional stakeholders choosing higher levels of understanding than lay stakeholders. For levels of influence, it is unsurprising that lay stakeholders choose a low level of influence. What is perhaps more significant is that even those with professional stakes consider themselves to have a very low level of influence.

## **5.11 Together but separate / separate but together**

Wylfa Newydd and the transmission connection may be thought of together or separately depending on circumstances. This can be in terms of planning and consent or in terms of protest.

### **5.11.1 Generation and Transmission**

The development of the Wylfa Newydd nuclear power station and that of the transmission lines to take the electricity generated are intrinsically linked and yet they are subject to separate planning consents; each must obtain its own Development Consent Order.

The inexorable interconnectedness (literally and figuratively) of generation and transmission is raised by one respondent, who is opposed to nuclear power, in the clear statement

*No Wylfa, no pylons. [Respondent Delta]*

(In an earlier conversation [Director, Welsh Government] makes the point that at the time, some 18 months into the consultation process, and still early in the research process, it could not be stated that the solution *will* be pylons, although it may be preferred.)

[Director, Welsh Government] makes the point that although opinion may be in favour of the new nuclear power station, because of the separation in planning of the power station and its transmission connection, it is not appropriate to express a preference for underground

transmission, for example, as a condition when responding to planning consultation for the power station. Although it is not possible to have the power station without the transmission lines, the planning for each is compartmentalised and separate. [Director, Welsh Government] contrasts this separation with the era before privatisation of the UK electricity industry where the development of infrastructure would have been integrated “end to end.” [Director, Welsh Government] also asks whether some might question the separate planning processes when it is not possible to have the generator without the transmission.

*But, the big, big issue in all of this, and it's a the conundrum we're facing all the time, [as a] citizen of Anglesey, ... you don't make a separation of the planning process and the approval process for a power station with connecting it to the grid, although you can't have the one without the other. But they are compartmentalised because of policy and legislative reasons.*

...

*Whereas in the old days, all of this would have been done, from end to end, totally integrated, through the Central Electricity Generating Board. So there is a whole issue here about, and with the perverse consequences of privatisation and regulation and carving things up separately. So people here want to say, I'm for the nuclear power station but I'm against the pylons and put in underground or underwater and it'll be OK. But there is a totally separate planning consenting regime for a new line*

...

*Put yourself in the shoes of an Anglesey resident, why does the system have a separate planning consent for a nuclear power station and the wire when you can't turn on the power station when it's not connected to the grid? [Director, Welsh Government]*

[IACC Economic] summarises the problem of perception of transmission infrastructure and electricity generation:

*Transmission infrastructure has never been aligned with electricity generation. They are separate things, they are governed by separate consenting processes, and as a result, there is a different perception of them. For example, nuclear power station, people here will go, there's 1000 jobs. For those 1000 jobs, nobody wants a nuclear power station on their doorstep, but we think it's worth it, yes. Then you have grid lines and you go, there will be grid lines across the island, what's the benefit, and they go, nothing. So there are no tangible, visible benefits of that development of that infrastructure for the area. But they are actually interlinked; they are one and the same. You would not need one without the other, but the way the planning process is structured is determining how the*

*developers communicate and engage and put messages out locally. So you could say that the planning system and the consenting system in the UK is actually driving that fragmented approach, with different organisation consulting on different pieces of infrastructure as if they are separate, but actually from a local community perspective they are one and the same.*

*[IACC Economic]*

[Director, Welsh Government] and [IACC Economic's] point about transmission and generation being considered as one and the same is evidenced by [Respondent Hotel] who when interviewed had clearly grouped Wylfa and transmission together in his mind. When asked why he considered them as being a part of the same thing responded: *"Well, you would, wouldn't you, if you lived here?"* When the point was put that perhaps Wylfa is decided first and then the transmission to connect it is a separate issue, [Respondent Hotel Spouse] was adamant: *"It is, but not to the people of Anglesey. ... Because it is all part and parcel of the same thing."* [Respondent Hotel Spouse]

[IACC Economic] also questions the planning system and compares a power station and transmission lines with train stations without tracks.

*The nuclear power station is the station, the gridlines are the tracks, to go from one station to another, why would you have a station without the tracks, why have the tracks without the station. So actually you could question the government system that they've created. [IACC Economic]*

[IACC Economic] continues that although the projects have been portrayed as completely separate they are in fact intrinsically interlinked and that from the perspective of those on Anglesey the consultation has been driven by the consenting process – that is of DCOs for each development – and that as a result of this the power station and transmission connection have been completely separated. Although the power station and transmission are intrinsically linked they have not been presented or consulted on in those terms.

*I think that the way both projects have been sold is completely separate, even though it is like a motorway, the power station is a roundabout, the pylons are the roads which come in and out of the roundabout, or in railway terms, the power station is a station and the grid lines are just like the tracks coming in and out.*

*They are interlinked, but I think from an Anglesey perspective, from a consultation perspective, it has been driven by the consenting process, and as a result they have been*



*completely separated.*

*And they haven't been linked together in relation to, well if you don't have don't have a power station you won't need the grid lines; if you don't have the grid lines you won't build the power station there. So they are actually intrinsically linked, but I don't think, they have never been presented, discussed, consulted upon, in [those terms]. [IACC Economic]*

[Director, Welsh Government] raises implications of separating out the development of generation and transmission in this way on broader strategy. Referring to National Grid's remit to connect power stations when requested, including for Wylfa Newydd, [Director, Welsh Government] concludes that the separation of generation and transmission has impacts on long term strategic planning.

*So you've got a private business, heavily regulated, making connections on a first come first served basis, prioritising the developments on Anglesey by the timing, not by the benefits it brings. So there is no strategic [planning] [Director, Welsh Government]*

[Horizon] recalls long term planning done under the CEGB and offers the example that land purchase for the construction of Wylfa and Trawsfynydd was sufficient to also build replacement power stations when these reached end-of-life. When considering possible generation projects around and on Anglesey, [CADW] expresses that it seems a little odd that National Grid are obligated to undertake major infrastructure projects but with little influence over the overall process for deciding what those generation projects should be. [CADW] speculates, *"Presumably Ofgem do"*.

[Director, Welsh Government] also expresses the concern that the deliberate compartmentalisation of a previously cohesive electricity industry in the form of the CEGB means that *"the whole is no longer greater than the sum of its parts"*, and also that as a further consequence of such separation he suggests that solutions are considered before the public has any chance to comment and that by the time the public have their say it is too late, *"the deal's been done"*. He comments that the separation of the solutions is inappropriate because *"if policy says you are going to have eight nuclear power stations, you are going to have transmission to connect them all up"*.

[Respondent Juliet] echoes the sentiment of a lack of strategic planning when discussing NIMBYism (p136). She dismisses NIMBYism and criticises a lack of strategic planning in terms of

the larger network, rather than consulting on one brief at a time in isolation, and then in the case of Anglesey, when the *“brief has changed ... not consulting again”*.

*So planning is required and planning is what we are calling for; what we are seeing is bit part planning rather than strategic planning in the terms of it being a European network, or something. We are calling for better planning, in terms of looking at the bigger picture rather than us having to deal with iso[lated] – basically we have a situation now where the Grid has consulted on one brief and now that brief has changed but they’re not consulting again. [Respondent Juliet]*

[Respondent Juliet] expresses the view that because the brief has changed, a new consultation should take place, and this should form part of or reference an overall strategy for electricity transmission.

*So we are having to deal with bit part things rather than a government, strategic view, about the energy needs of the UK and the transmission processes for that. So we are all for planning and we see the deficiencies in the current planning system, because there is no strategic view. [Respondent Juliet]*

Some of the changes to the brief that [Respondent Juliet] refers to above relate to the changing generation mix within the region, including for example, the shelving of the Rhiannon wind farm and the change to the reactor design at Wylfa Newydd. Changes such as this have the potential to affect the transmission required in the region.

[Horizon] having explained some of the background to the Wylfa development and the changes in ownership and reactor design along the way, emphasised that the process for determining the connection is a *“totally separate process”*. Although [Horizon] expresses an understanding of the different possible solutions for the transmission connection, and accepts that as far as National Grid are concerned there are *“challenges that they need to overcome whether it is for an overhead line or undergrounding”*, [Horizon] does not know what the resulting will be; underground, overground, or some combination. Whatever the case, [Horizon] adds National Grid will have to justify their preferred option to Ofgem the regulator.

As far as Horizon Nuclear Power goes

*We’ve asked for a grid connection to Pentir; how that is delivered is National Grid’s job ... they go off and supply that following their own guidelines and processes. [Horizon]*

When asked whether the generation and its transmission could be considered together, [Horizon] asks, *“to what benefit?”* As far as [Horizon] is concerned, Horizon is a developer, a

customer of National Grid as is every other developer, and it is up to National Grid to develop what they need, whether for connections for new customers or for enhancements to the existing network.

[Horizon] clearly separate the roles of the developer or generator from that of National Grid.

*National Grid has a role. Horizon has a role; a developer has a role, you know, meeting the government's target of amount of generated electricity via nuclear. The connection stuff sits firmly with National Grid. [Horizon]*

However, [Horizon] is prepared to speculate that it may be possible for a developer to influence the type of connection, for instance by being prepared to pay for a connection to be underground irrespective of the subsequent cost to the consumer.

[NG1] on the other hand, does not fully accept that the power station and its transmission are planned entirely separately as the two schemes are being planned and consulted on at around the same time; *"they are not disconnected by years and years ... They will go through the Planning Inspectorate regime ... within the same 12 month period"*. [NG2] adds that it is just common sense that *"ultimately if they [Horizon] want to get consent for something that produces electricity they are going to need to get the electricity away"*, and that without this consideration there will be caveats on the consent, making it harder to attract investment. For this reason [NG1] explains, the Planning Act does say that networks and generators should come forward, if not in the same scheme, at the same time. While the developments are *"not part of the same thing"* and there is no joint venture, the developments are not separate either.

The separation of planning for the nuclear power station and the transmission infrastructure also means that costing are separated out and for each development, generation or transmission, the costings may be considered separately rather than as a whole. In reference to the various connection options, which will vary in cost considerably compared with each other, as a percentage of an expense as large as the construction of the nuclear power station the differences are less stark.

[Respondent Charlie] for example, makes precisely this point, identifying the separation of the transmission lines from the power station as an issue, in that the relative cost increase on the transmission is high for solutions such as underground or undersea, whereas the relative cost when considered across the whole project is less so.

*What I would say is that National Grid is just looking at the transmission lines as an item in their own [right]. They aren't saying, this is the cost of the nuclear power station, ... -*

*billions of pounds – and the cost of transmitting that to England, where it is needed, is so many hundreds of millions, or whatever, to do that; which is 1% of the cost of producing the power or creating the energy source. What they are saying is, oh this is so many millions and if we go that way it will be twice as much. But it still might only be 2% then.*

*[Respondent Charlie]*

[Labour MP] when asked whether perhaps the two large schemes, Wylfa Newydd and its transmission infrastructure should be considered together – effectively as one DCO – thought that this would be difficult to do, but that a more strategic overview linking all the parts of energy development would help in a *“plan for Britain”*. By accepting the development of the new nuclear power station, and the *“benefits in economic and social terms [which] are considerable”*, he also accepts the transmission infrastructure but asks that it be done *“tastefully”*.

When questioned as to who benefits and who loses out from new infrastructure [Respondent Kilo] stresses the separation of the generation and transmission. While expressing the opinion that there are local benefits from jobs from the power station, he also expresses the opinion that North Wales loses out from hosting the transmission and that they need to be considered separately

*You’re talking about taking the electricity away. I think you have to separate that from Wylfa, otherwise I don’t think you will get a clear picture. [Respondent Kilo]*

[Respondent Golf] finds it helpful to separate out the two parts of the decision, firstly whether new transmission infrastructure is required and secondly, what form it should take and where it should be placed. In this separation [Respondent Golf] also makes the distinction that having the infrastructure benefits the UK as a whole, but where it is placed only affects those local to it. [Respondent Golf] considers *“the decision as to whether [the new transmission link] is going to happen is ... foregone”*

Being unable to either fully separate or fully join generation and transmission leads to complaints about a lack of strategic planning, but also about an inability to consider cumulative impacts from different schemes. [Respondent Juliet] bemoans the lack of strategic thinking for the generation and connection. When trying to engage with the planning for new transmission she states that she was *“passed from pillar to post”*, with *“[National] Grid [saying], well we’re just doing the developers’ beckoning, whilst the developers are saying, well, it’s up to the Grid”*. [Respondent Juliet] continues that the developers are *“supposed to show a wider cumulative impact assessment”*. [Respondent Juliet] states that they did approach developers from

Rhiannon [wind farm] and Horizon but although these developers have to consider community impact, neither developer provided a Community Impact Assessment in term of the pylons, which as [Respondent Juliet] adds, were going to be necessary. She contends that Llanfairpwll, in particular, as the *“bridgeway from the island”* is *“a very strategic community”* and as such it would be unreasonable to claim that developments on the island are not affecting this community. So while Wylfa may have a stakeholder group of the communities around Wylfa, in terms of strategic planning *“areas like Llanfairpwll are vitally important because they are the corridor in terms of transmission.”* Thus, she asserts, *“for either one of the developers to claim that we weren’t part of their community impact assessment would be ridiculous”*.

In fact it was communication from the Planning Inspectorate that led community members to consider the principle of cumulative impact as reasonable grounds for opposition to the overhead transmission lines. The way [Respondent Juliet] described this communication characterises it as a breakthrough in solving a mystery or puzzle.

*The letter where the planning inspectorate told [us] about cumulative impact, that put us on the trail of the fact that that hadn’t been done by either developer. [Respondent Juliet]*

Although National Grid is responsible for the transmission connection, [Respondent Juliet] asserts that even Horizon admit they *“have made a potch of this one and are quite embarrassed by it”*. What is not clear is who *they* is in this, whether it refers to Horizon, National Grid or a general they. However there is a clear link between the success or otherwise of one part of the energy development and the good or ill feeling towards another.

[Respondent India] also mentions the idea of a cumulative impact and the capacity for a place to withstand several developments before it changes its nature

*That’s a question we haven’t even got into, which is about capacity and landscape capacity, for taking all the different kinds of things, the power station, the turbines, the power lines, and how that alters the character. [Respondent India]*

[CADW] describes how, in reality, there are limited options as once the power station has been decided the options are limited by the source and destination of the transmission.

*[I think the reality is] that you’ve got options about where you put a nuclear power station and wherever you put it, it is going to have harms and it is also going to have benefits, as you say. Once you’ve made that decision, the connection is incidental almost. There’s very limited options. It has to go from A to B. There is no choice about*

*whether it does or does not happen. It has to happen otherwise there was no point agreeing to the [power station] [CADW]*

When asked about the fact that the power station and its transmission are considered separately, [CADW] states that there is an inevitability about the transmission once the power station has been given the go ahead. He makes the comparison with other infrastructure which accompanies the power station such as road improvements, which will be determined by the local authority. Without drawing a conclusion [CADW] does muse on the fairness that the political power to make these decisions is centralised but he reiterates that the *“real problem is ... a certain amount of inevitability”*. [CADW] suggests that what the public do not like is exactly this, *“That these things are going to happen whatever you say, they are still going to happen.”* and that this is where frustration arises from.

### **5.11.2 Protest together but separate**

In the early stages of their existence the Dim Peilonau (No Pylons) protest group were faced with a choice of whether to align with other local groups, such as those opposing the new nuclear power station or those opposing wind turbines. Dim Peilonau made the strategic decision to consider the issue of pylons in isolation from other related issues. As well as being careful to ensure that there was no political angle to their protest, the group also sought to involve people from the geographically distinct regions on either side of the Menai Strait, both Anglesey and North Gwynedd. Thus the group decided to remain agnostic on wind turbines and nuclear power and *“concentrate on the pylons issue” [Plaid MP]*. They also opposed pylons in principle rather than fight field by field - *“should the pylons be here or the other side of that field there”* – and pushed for an undersea solution for the transmission. Although the protest considers pylons separately, [Plaid MP] also considers the new installation of the nuclear power station, with whatever transmission solution reached, potentially lasting 60 years. This could mean *“a lifetime of pylons ... with no real direct benefit from the generation”*, so as [Plaid MP] states it would be reasonable for the region to have some sort of payback and *“that payback would be to have [the transmission] under the sea.”* While Dim Peilonau’s protest against pylons deliberately separates that issue from that of the generating source of electricity, this argument of course makes a direct connection between hosting a large centralised generator (in this case a nuclear power station) and mitigation for its associated transmission. In the case of nuclear power in particular, it is the nature of the power station that affects the possible transmission methods. As [Plaid MP] explains, according to National Grid a direct undersea connection from a nuclear power station would be a *“novel way of transmitting and ... extremely expensive”*.

[Respondent Juliet] makes the point that the issue of pylons, in her experience, has served to unite people with otherwise differing views. When distributing leaflets in Llanfairpwll as part of the campaign against pylons, she observes that some will ask whether she is pro or anti Wylfa, or pro or anti wind turbines. [Respondent Juliet] then tries to separate this out saying “*we are not dealing with generation, we are dealing with transmission*” at which point the response will be “*oh yes, get rid of those pylons*”.

[Horizon] also describes the wish from those opposed to pylons to clearly separate this issue from that of the new nuclear power station, and how Dim Peilonau have sought to distance themselves from the anti-nuclear group, PAWB, in this matter.

As [Horizon] reports:

*[Dim Peilonau] have said to me quite specifically, we don't want people getting mixed up because there are two different things here, ones the power station we want to see, but there is a different way of connecting it. [Horizon]*

Others less involved have noticed this separation of the issue of Wylfa Newydd and the transmission lines. [Respondent Mike] describes how there are very active groups opposed to overhead transmission lines across Anglesey and an undercurrent of dissatisfaction with the idea of pylons.

*I've realised there is still a bit of an undercurrent of, protest isn't quite the word I want, but people being less happy about it.*

...

*Transmission-wise, I think there have been some very active groups, and I think they have spread the, discontent shall we say. They've shouted quite loudly. [Respondent Mike]*

[Respondent Mike] is also aware of opposition to new HVOTLs in other areas and suggests that although not combining protest or campaigning together, one group may piggy-back on the experience of another. [Respondent Mike] recognises that the campaign against pylons and that against Wylfa Newydd are separate and observes that the anti-pylon campaign is actually more visible. This may be because – as others have stated – there more acceptance of Wylfa Newydd. Although [Respondent Mike] speculates that this may be simply because those campaigning feel they can still influence the outcome with respect to transmission.

*I have to say, I have seen more about pylons than I have about Wylfa. You know, in Waitrose they've got posters up, No More Pylons. I drove around the villages where the horse is, there are signs on telegraph poles, No More Pylons. It's a more visible*

*campaign, I think, and maybe something that people feel they can influence, whereas the Wylfa B decision is happening. Maybe they feel that this is still at a stage where they can influence it so they are shouting. I don't know. [Respondent Mike]*

## **5.12 Comparison, Conflation and Confusion**

Several respondents use comparison with other familiar developments when rationalising and making sense of the proposed transmission infrastructure. Using the familiar to understand the unfamiliar may be useful but also may lead to conflation of planning regimes and some confusion on either the infrastructure itself or the regime under which it is planned.

### **5.12.1 Wylfa and National Grid**

For some the link between the nuclear power plant and transmission lines leads to a conflation of the roles of Wylfa and National Grid. For example, [Respondent Hotel] had made the assumption that a newsletter received from National Grid, outlining potential route corridors for the North Wales Connection, was in fact from Wylfa or Horizon Nuclear Power, as this exchange demonstrates

*I: Interviewer; R: Respondent*

*R: They have started sending the newsletter*

*I: Who's they?*

*R: Wylfa*

*I: Not National Grid then?*

*R: No. No. It's all to do with Wylfa ... Yes. We have not heard anything separately from National Grid.*

And when shown the North Wales Connection leaflet again

*R: Well, was that National Grid? It all came under the things from Wylfa. Let's see ... Oh yes, this is the last one that came. I thought it was all part of Wylfa. So that's my mistake then.*

[Respondent Hotel] was under the misapprehension that it was Wylfa (or Horizon) who were responsible for orchestrating the process of determining the transmission infrastructure or at the very least the communication with the public. Some of this confusion may arise because several pieces of literature arrive on the door mat at the same time – although it is not entirely



clear whether this is indeed the case. It may simply be that [Respondent Hotel] conflates Wylfa Newydd and its connection and considers them as one thing. However the influence of Horizon Nuclear Power on National Grid is also questioned by [IACC Economic] who observed that when National Grid held consultation events, Horizon officers were also present at these events.

Whatever the case, for some respondents there is confusion about where information comes from and whether the same information presented in a different form is in fact different. This could lead to information being discarded as it appears to be something that has already been seen or difficulty in processing what could be several forms of information from different sources. For example, [Respondent Hotel] stated that he had not previously seen the diagrams of route corridors presented, although he had in fact seen the consultation document from which they were taken.

### **5.12.2 Roads and wind turbines and buildings**

Several respondents described planning for roads, wind turbines or buildings when talking about the planning for the new electricity transmission infrastructure. They draw on experience of these other developments to help make sense of the development of the transmission connection.

Respondents referred to roads in their interviews because they are relatively large developments of which they had experience, either from an engineering or planning point of view or from the point of view of a resident affected by the road development. These roads, from the respondents' point of view, represent a large or significant infrastructure development with which they had engaged. Nationally Significant Infrastructure covers large scale development related to energy, transport, water, or waste. So road developments which are to form part of the strategic road network (that is motorways and trunk roads) would be probably be considered as Nationally Significant Infrastructure (depending on the size of development) but smaller local road developments would probably not. None of the developments referred to by the respondents would have been considered Nationally Significant Infrastructure, either because they pre-date this regime or because they would have been too small to have been considered Nationally Significant.

[Respondent Lima] refers to protests against the routing of a new bypass locally. She uses this example to question whether the companies or institutions responsible for large developments such as roads are open to influence from public opinion or whether consultation is largely pointless. She makes the point that despite extensive protest no inroads were made into

changing the route decision for a more acceptable one until there was a change of minister in the National Assembly for Wales.

*In general. I mean, the highways people had already decided they were going to use this so-called purple route for the Bontnewydd by-pass, and we weren't getting any change at all out of [Welsh Assembly Member], because we did this big protest and we e-mailed them, and all sorts of things went on. And nothing. [Respondent Lima]*

The Welsh Government is the Highways Authority for all trunk roads within Wales and as such operates through Trunk Road Agencies in partnership with local authorities and is responsible for renewing certain roads, bridges and other structures and for constructing new roads and improving existing ones. Local authorities are the Highways Authority with respect to non-trunk roads. They have responsibility for maintenance and improvement of these roads. They may also acquire land for the construction of public non-trunk roads (National Assembly for Wales 2017).

The Welsh Government does not have competency over Nationally Significant Infrastructure such as electricity transmission lines. But the point is that this is an example of a *locally* significant development where the respondents experience is that representation of local views was largely ignored until a reassessment by a government minister more sympathetic to the arguments of the people affected by the route.

The experience of dealing with a road development leads to certain cynicism about how much influence members of the public can have in the face of other large developments. [Respondent Lima] makes the point that it appears that the decision on what route to take for the highways and by extension the transmission infrastructure is largely decided beforehand – before being open to any kind of public discussion.

*But I just wonder, when these companies set up these schemes, they've more or less decided what they're going to do, haven't they? [Respondent Lima]*

[Respondent Foxtrot] draws parallels between the options presented for a new bypass being built and those presented for the North Wales Connection. In particular he remarks that in both cases there are four options and asks with some sarcasm “aren't you lucky to get four options”. In the case of the road development he comments how local knowledge and opinion can give a better route solution that is not necessarily one of the existing options developed with little experience of or “no understanding of the local geography.” He is also sceptical about the level of choice the four options really present and suggests that to a large extent the outcome or choice is pre-determined.

*There's one that's a no-hoper, we all know that is going to be a no-hoper, you know, we put it there so you've got four. There's one of them's going to cost too much; we know that, so even if you choose that one, that one's not going to happen. We have the preferred route, which in fact we want to do because it is low cost and easy for us to build it. And another one which we might be persuaded for it. But, you know, it's not really, here's a range of options which are all equal in measure either; it feels all pre-determined. [Respondent Foxtrot]*

Even those who understand in principle that Nationally Significant Infrastructure is somehow considered differently substitute the development process with that of the perhaps more familiar, planning regimes. For example, [Respondent Charlie] uses road to illustrate how land ownership may influence route decisions.

*Talking about generally, for highways ... the routes are all pre-determined, and then it becomes very much a , 'Well we've got this in the land bank, therefore that's the route'. [Respondent Charlie]*

Wind turbines in particular are mentioned by several respondents, as there had been recently contested developments on the island and there are several larger scale offshore wind turbine developments, both extant and planned. Planning appears grouped in many respondents' thoughts as planning in general, without separating out the difference in the planning regime for Nationally Significant Infrastructure compared with matters that are determined locally, such as small scale onshore wind-generation. Thus problems associated with other planning and consent regimes colour opinions of that for electricity transmission. Conflation of local and national planning for physically similar structures - turbines and pylons have obvious physical similarities, being towers related to electricity production or transmission – leads to misunderstanding of the role of local planners with respect to HVOTLs. Lack of trust in local planning and documented corruption within the local council (para 5.4, p107) is regarded as affecting planning outcomes for wind turbines, and this lack of faith in local planning carries over to that for the planning for transmission infrastructure.

[Respondent Foxtrot] has some experience of trying to get approval for wind-turbines so perhaps has a different view from other respondents. He expresses dismay at just how difficult and how expensive it can be for a community to connect what is a relatively small development. This sort of development would be connected into the distribution grid rather than the transmission grid so both the planning regime and the actors for the electricity industry are different, but [Respondent Foxtrot's] experience does evoke a sense of unfairness at a

community level. Part of his complaint is that the electricity grid is not being future-proofed as connections are managed and paid for piecemeal with the distribution asset (in this case) then resting with the distribution company, rather than being part of a larger, more strategic community-based scheme.

Previous experience with wind-turbines also colours opinions of the subsidies to be received from hosting a pylon on land, with some respondents accusing those hosting them of greed.

*They get the money, they don't care. And that's the trouble. A lot of people on the island, they don't care about anybody else, they just see it as cash. [Respondent Charlie]*

This is then linked to previous exploitation, such as the local slate quarries which are characterised as people having “*taken what they want out of the land, made their money and moved on*”[Respondent Charlie]. Pylons are then seen in the same way and in this case at least, the perception of unbridled greed of landowners hosting pylons is largely based on experience of wind-turbines and the assumption that the fees involved are similar.

However, [Respondent Echo] a farmer, dismisses the fees received from National Grid as “*peanuts*”, recognising the huge difference in payment for hosting a pylon compared with a wind-turbine, with income from a pylon being measured in tens of pounds whereas income for hosting a wind-turbine can be tens of thousands of pounds..

*It is something like £24 thousand a year for a pylon, whereas for a big turbine they can get 24 thousand. [Respondent Echo]*

As well as roads and wind turbines, respondents also refer to other developments such as buildings, where the planning is covered by the local authority. [Respondent Alpha] refers to the need to object when something affects you, citing the construction of a large farm shed in front of his neighbour's house.

*We've got an issue at the moment where there is a farmer ... who wants to build a big shed in front of my neighbour's house. He doesn't live there but he wants to build a shed for a couple of hundred cows, and a slurry pit, within a 100 metres of somebody's house ... and there's nothing in the planning rules to stop him doing that, but there's a lot of objections to that, but in general farmers don't see a problem with that. And had people not objected and checked up little planning rules and any sort of look what they could find it would have been built by now. [Respondent Alpha]*

[Respondent Golf] also points to difficulty in knowing what developments are happening locally. Referring to a case of development within Bangor, where a main route through the city was to

be closed for around 6 months, he suggested local officials in Bangor were unaware of the development because the decision was made elsewhere by the Gwynedd County planners based in Caernarfon, without the information being passed on. In this case [Respondent Golf] recognises a need for someone to make a decision, and that a development will have an impact on somebody – in the case above this takes the form of extended inconvenience for those driving through Bangor – but there should at least be communication before the decision is made.

*But I believe at least an attempt to communicate before they make the decision would be brilliant. Some information about what is proposed. You know, substantive information, not just dressing. [Respondent Golf]*

It should be noted that [Respondent Golf] is not really referring the North Wales Connection here, but rather stating a principle based on his experience of other developments which have affected him.

When asked about planning [Respondent Charlie] draws on experience of local planning and refers to this

*Well, on the small scale, we were at a planning meeting last week, partly because of turbines and partly because of neighbours having a cow shed built right next to our house. [Respondent Charlie]*

[Respondent Foxtrot] also draws on experience of local planning in his case for community energy projects. These developments are not considered Nationally Significant Infrastructure projects and are considered by the Local Planning Authority rather than centrally by the Secretary of State. His opinion of planning is thus coloured by his experience in this arena. He states the opinion that the planning system is skewed in favour of larger companies and developments, simply because they have the resources and expertise to understand the planning requirements and to submit a successful application. He expresses concern that a number of small community projects are being refused permission but larger developments are going through. He is also sceptical about any community benefit offered by these schemes. He complains that the sorts of things which may be important to community well-being when considering a development – such as “*local economic benefit, community contributions ... the filling up of the local grid capacity [thus stifling community led electricity generation]*” – are simply not part of the planning remit and so are ignored when considering an application. [Respondent Foxtrot] also accuses local planners of adopting a “*narrow interpretation of planning rules that makes the job very easy for the planners*”. As stated earlier the planning

regime for NSIPs is different from that for smaller scale electricity projects referred to by [Respondent Foxtrot], however this experience clearly colours his views of planning in general as it does for other respondents.

[Respondent Golf] also uses the example of local planning to understand what may happen with NSIP planning. This is also strongly linked to a lack of trust in local planning (see 5.4 Trust). Using the example of a new local prison, he suggests that those with influence, those who are able to liaise closely with the planners - those with “*friends in power*” - were able to ensure that the siting of the new development was favourable to them.. The corollary of that is that others with less influence are more likely to have such a development placed less favourably near to where *they* live. Although the planning regime for NSIPs is *not* the same, this sort of anecdotal evidence adds to [Respondent Golf’s] mistrust of planning in general and hence to planning for the transmission lines. He considers that the routing of transmission lines will be subject to similar bias and influence.

*It’s who you know, isn’t it. Who your friends are. How much influence you have.*

*[Respondent Golf]*

It should be noted at this juncture that this [Respondent Golf’s] opinion of planning is simply that. There is no suggestion in this research of underhandedness on the part of National Grid. However this conflation of various types of planning and a deep rooted suspicion of any planning, particularly involving the particular local planning authority, can exacerbate any cynicism felt towards planning for the transmission infrastructure.

It also leads to misinterpretation of motives or reasons behind any routing decision. So for example, [Respondent Golf] expresses suspicion that all of the routes “*nicely bypass*” the town of Llangefni, which is where Anglesey Island Council have their offices. When put to him that surely this was because Llangefni is a centre of population and this is probably why the transmission lines skirt it, [Respondent Golf] expresses a general concern that Llangefni receives preferential treatment in other ways such as for grants and other money.

As well as referring to other developments such as that of roads or wind turbines, respondents also draw on other experience to try to understand the transmission infrastructure development. Although [Respondent Charlie] had previous experience of planning for roads and was involved with the Anglesey Against Wind Turbines (AAWT) group<sup>48</sup>, he admitted that his knowledge of the technologies used for electricity transmission is limited . [Respondent Charlie]

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<sup>48</sup> A local campaign group formed “to voice concerns over the influx of wind turbines across the island.” (AAWT 2015)

therefore draws on his experience with engineers from a different sort of development to try to understand the way decisions might be made.

*I wasn't that familiar with energy and how you can put it under the sea.*

...

*I can imagine they don't want the undersea route as they don't want the complications and the engineering, but I come from a background where engineers are very difficult to adapt to new ideas and their systems are set up to maintain what is in the network as a whole. In other words, all the equipment, they like the idea I guess, they've got inspection regimes, maintenance on the lines and pylons, and that's all in place. The idea of having something at the bottom of the sea that they can't get to easily goes against all engineering principles, so I can see why they, straight away you get the feeling that they like the overhead route. I mean, I can understand the engineering as well, the heat, you know, the problems of, they like to transmit at very high AC voltages, and that sort of thing. So I do understand it, but they haven't explained that very well to the public; they just, they ruled that out of the document that came round the first time, one of these things. [Respondent Charlie]*

[Respondent Charlie] accepts that there may well be good reasons for decisions made by National Grid but also asserts that these have not been well explained by National Grid. [Respondent Charlie] shows some concerns with respect to the route corridors as diagrammed in National Grid's consultation documents. [Respondent Charlie] while accepting the general ideas of the route corridors expressed concern that the options for crossing the Menai Strait were *too* narrow. And he cannot understand why some of what he considers obvious areas for crossing options had been ruled out. He also wonders why they could not use the existing bridge to carry the link. [Respondent Charlie] states that "*he can see the mechanics*" that may be required for the new transmission lines and that, for example getting the transmission lines through Llanfairpwll underground would be difficult "*as there is so much infrastructure there and the trenches would be huge*" but restates that National Grid have not brought these details out in their documentation.

### **5.12.3 Why can't they do that?**

Argument along the lines of "*if they can do this, why can't they do that*" are common from respondents. Several respondents expressed uncertainty or lack of understanding as to why the existing lines could not simply be replaced or upgraded, thus obviating the need for an extra set of pylons across the island.

*I don't understand why they need two lots of main 400KV lines across Anglesey. When Wylfa is going to actually shut down. There will be no more generation from the old Wylfa power station, so those lines are going to be redundant.*

...

*Well I think they should be able to use the old pylons and the old, well they will probably want to renew the lines but [Respondent Hotel]*

When suggested to him that the capacity of the line would still not be great enough:

*Yep. But does that need new, bigger pylons? And are they going, you know, if after they have new, bigger pylons, are they going to take the old ones down because they will be redundant? [Respondent Hotel]*

[Respondent Mike] also wonders why the existing lines cannot simply be upgraded or if they are to become redundant.

*Can't they just upgrade the cables and keep the pylons? Would the pylons themselves serve a function other than as a giant tree? [Respondent Mike]*

The use of an undersea route for the transmission link is raised by several respondents. This would eliminate additional pylons across the island. Respondents point out that undersea cables are not unusual.

*Cables have been coming under the Channel since before the tunnel was built. [Respondent Hotel]*

[Plaid MP] pointed out that local Distribution Network Operator, Scottish Power had recently placed a distribution cable under the Menai Strait and that this was done despite the complexity of the task.

*Scottish Power have just put a cable under the Menai Straits ... they wanted to renew their crossing and, it was pretty sophisticated really, they had to drill horizontally, and the geology there is peculiar, it's some very hard rock and then some mud, some sand and whatever. [Plaid MP]*

Several respondents raise the ability to interconnect countries via undersea links when querying the decision not to place new transmission lines around Anglesey, for example to the East and then directly to Deeside, or to the West and then to Pentir. Along with others, [Respondent Charlie] admits that he struggles to understand all the technologies involved and expresses some concern at his ignorance; he makes the point that if electricity can come under the sea from Ireland then “you’d think you could do the same around Deeside, and avoid all the arguments ...



*with groups of people objecting*". However, [Respondent Charlie] then concedes that perhaps by choosing a route for the HVOTLs which closely aligns with the existing route that much of this conflict will be avoided anyway. [Respondent Charlie] uses offshore wind-turbines as an example of electricity generated that is connected undersea. While having a reasonable grasp of some of the technologies involved he does not possess the detailed knowledge to judge whether this is an appropriate comparison. For example he queries whether electricity is produced as AC or DC by the turbines, and therefore whether this must be converted to DC and how this is then connected to shore<sup>49</sup>. Thus although an engineer he is not able to make an informed technical decision on whether it would be reasonable to connect Wylfa to the grid by an undersea route. However he points to undersea interconnects between countries remarking that *"Siemens have built quite a lot of undersea high-voltage routes from country to country, and it's perfectly feasible, but it does require the cost of these huge transformers"*.

[Respondent Charlie] restates this point later, questioning National Grid's reluctance to connect undersea, and questioning the idea that connecting a nuclear power station directly to an undersea connection is not feasible. He also states that the jargon or technical arguments are used to *"fend people off"*.

*What they're saying now is, there is no other power station connected to an undersea power lines. But I looked on the internet and found there were loads of systems where transmission was underwater. It's not common but it has been done many, many times. But what they're trying to say is that for some reason, if you connect it directly to the power station it has never been done before. But if you were to connect it, sort of a mile up the road and then go under sea, oh yeah, that's been done before. So I think the jargon that's used is deliberately geared towards fending people off, you know.*  
[Respondent Charlie]

[Plaid MP] also pointed to several instances of electricity being transmitted under sea around the UK; in some cases to either bypass a large urban area or a National Park.

*Interestingly of course, when we did look at other projects to carry electricity we found that, for example there is a cable from Scotland to Deeside undersea, which is very much smaller scale, but that was to avoid going through Manchester and through the Lake*

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<sup>49</sup> Actually it depends on the generator connected to the turbine. Smaller turbines such as those used to charge batteries are most likely to generate DC. Larger turbines typically would generate AC - this may be rectified to DC and then back to AC with an inverter for connection to the grid. However, modern large turbines commonly use a doubly fed induction generator to connect directly to the grid (AC). (see for example Cao et al. 2012) A DC collector can be used to 'gather' generated electricity from a turbine array for subsequent transmission to the grid (following re-conversion to AC)

*District, and we sort of went hmm how interesting, yes. And then there is the Greenwire which is coming from Ireland to Anglesey. That seems to be technically feasible. There is the interconnector between France and England, of course. And there's plans for [an] interconnector from Iceland. You know, all that seems to be feasible elsewhere but only here, you know, it's not. [Plaid MP]*

As North Wales would be overproducing electricity relative to its own needs then this power is exported. [Plaid MP] mentions the possibility of electricity produced in North Wales being transmitted to South Wales where it is under-produced.

*Just another thing, you know the electricity production in Wales, we overproduce in the North and under-produce in the South, apparently. And we thought, ok we might have a cable from Amlwch to Deeside under the sea, and that would allow us to export electricity. Great, you know, increase our GDP or whatever. Or the alternative that they were exploring was from Amlwch down to Pembrokeshire. [Plaid MP]*

This would then become a national Welsh Grid, serving Wales from Wales rather than exporting which he compares to historically Wales serving elsewhere.

*And then that begins to look more like a national, Welsh, grid – than the usual stuff, which is Wales serving England or whatever, in natural resources in slate and coal, water, whatever. [Plaid MP]*

[Plaid WAM] expresses that in his conversations with National Grid the response was one of accepting that an alternative route may be a challenge but it is just that, and therefore achievable.

*The transmission needs to happen. We know that. Much of what I am basing my opinion on is, are conversations that I've had with National Grid, who made it very, very clear that they would be able to not take pylons across the land, across the island. They made that very clear from the outset, that there are challenges, technological challenges, that it's more expensive, but they could do it. And it was a rubbing hands together in a, throw this challenge at us and we'll make it happen, kind of way. National Grid told me that. I will always go back to that and say, if it can be done, it should be done, and the cables should be taken sub-sea ... Around the island, ideally. I won't say never to undergrounding across the island, because obviously there are people who would rather have undergrounding across the island than over ground. But if National Grid told me it can be done, it should be done, to take it sub-sea. Even though I recognise it is a major technical challenge. [Plaid WAM]*

[Respondent India] relates the money required to place the new transmission infrastructure under-sea around Anglesey with other European infrastructure, almost as an afterthought as it seemed an obvious argument:

*I'm sure lots of people have said this to you, and I should have said it, only because it's the obvious thing to say really, that if we can find the money to build all these interconnectors to the rest of Europe, to connect all of Europe, to the places where the power is needed, why can't we do subsea to the two places in Wales; I'm sure everybody has said that. [Respondent India]*

[Horizon] expresses the opinion that placing transmission cables under the sea may not be quite as simple as others believe. [Horizon] explains that a nuclear power station has never been connected directly to undersea transmission anywhere in the world and that for Horizon who may have to incur part of the research and development cost for such a novel connection this represents an unacceptable financial risk. [Horizon] also raises the fact that for the proposed Rhiannon offshore wind farm development, the likely connection would have been mainly overland across Anglesey to Pentir, even though the generation itself is offshore and necessarily in part at least has an undersea connection.

#### **5.12.4 Volume of information**

A final point on the respondents' use of comparison with the more familiar to help understand the choices surrounding transmission infrastructure is that of the sheer volume of information available on what for most respondents will be a relatively unfamiliar subject. [Respondent Charlie], for example, points to the complexity of the transmission connections, and also to the sheer effort in keeping up with developments in planning. Although he refers to planning for wind turbines and the local planning office, his frustration is an indication an asymmetry in knowledge and hence power to influence decisions that is felt by many of those who may be affected by large developments.

[AEI Director], who has expert knowledge as director of the Energy Island program and as a physicist with a career in the nuclear sector, acknowledges that there may be a problem with the amount of information available and which must be digested. As [AEI Director] says jokingly:

*You put a lot of work, and I've got to an age now where if I start reading something more than half a page I fall asleep, you know. [AEI Director]*

[AEI Director] suggests that National Grid do not have enough conversations at a more emotional level rather than a technical level *"to understand people's emotional concerns within*

*all this". [AEI Director] describes the need for "good conversations with people, like what we are having now, really, and you know, steel sharpening steel within it."*

Although [AEI Director] recognises that it may be difficult for National Grid to have these sorts of discussions

*I sometimes think it is a bit of an anachronism the way that is an organisation that has come out of the public sector but it is in the private sector and it is dealing with a technical issue that is really going to raise the emotional hackles of people, so you have got an engineer dealing with an emotional issue, and that's a recipe for disaster, isn't it. [chuckles] Anyway, yes. [AEI Director]*

### **5.13 Costs and Benefits**

A recurring theme among respondents is that of the local impact or cost from new transmission lines for the benefit of the wider population of the UK. Those who did not specifically raise this point were readily able to identify with the idea. While benefit to Anglesey may be seen as coming from jobs within the region as a result of the new nuclear power station, when asked who gets the benefit of the transmission infrastructure most respondents categorise the benefit as falling to the UK as a whole, with *no* benefit locally. Respondents do not necessarily describe cost in monetary terms but associate cost with harm or landscape degradation and this may in turn be linked to devaluing of property, or in possible impacts on tourism. Against these costs, respondents attempt to balance the cost of transmission solutions other than HVOTL. Discussion of costs also leads onto concerns of profit making from the electricity industry.

#### **5.13.1 Shared benefit and unshared cost**

Several respondents identify HVOTLs as a cost or harm to the region. Recognising this, when asked who should perhaps pay the extra if the residents of Anglesey want the transmission lines to be underground it does not seem unreasonable to many that those who receive the benefit should be prepared to pay a little extra for it. [Respondent Charlie] expresses the opinion that as a shared benefit, *"the whole of society has to pick it up"*; that *"tourists may come to Anglesey on holiday but [the residents] have to live with the pylons all the time"*.

[Plaid WAM] considers that while *"we all benefit from the infrastructure"*, it is National Grid who *"benefit from having the cheapest possible infrastructure"*, along with the UK Government and possibly Wylfa. However he is emphatic in who does *not* benefit, that is the people of Anglesey, those directly affected by the cables. He adds that even if the cost may be significant for a

solution other than HVOTL, over a possible 60 year lifespan of the infrastructure spread out over the number of consumers of electricity in the UK, the cost is not huge to put on the shoulders of bill payers. He adds that HVOTL is *“just the easy option to go for in terms of short term investment and up-front costs”*, and that perhaps as National Grid is a private company, *“one can’t help but feeling that [it is] the case, that they want to go for the easiest and cheapest option.”*

[AEI Director] on who benefits from the infrastructure states the following:

*The benefit will be for the generators; the benefit will be for the people of Britain as a whole, because they will be getting electricity, and the island in some way will benefit, because it will get employment because that power station is there. [AEI Director]*

[Labour MP] does not support the idea that it is Wales producing electricity for everybody else. In his opinion a national grid is just that, national, and everyone benefits.

However, when specifically considering the transmission infrastructure [Respondent Kilo], for example, is clear that North Wales loses out and other regions benefit

*Well, the population of North Wales. ... They are definitely the losers, aren’t they. The gainers are everybody else that gets the cheaper electricity. [Respondent Kilo]*

[Respondent Lima] also places the benefit with the regions beyond Anglesey and offers the opinion that it does not seem fair that Anglesey should host this transmission infrastructure for the benefit of others.

*I suppose for everybody living in the rest of the country, it’s fine, because they’re just gaining improved electricity but the people of Anglesey are the only ones who are going to be burdened with these extra pylons.*

...

*I don’t think it is very fair, really.*

...

*It depends how the people of Anglesey feel about that, because they’re the ones who are going to be taking the downside of it, aren’t they. Obviously everyone else is going to benefit from the improved electricity supply. I assume, it will be improved [Respondent Lima]*

[Respondent Foxtrot] does not think that the benefits from Wylfa *can* be shared equally. He argues that if we as citizens subsidise the electricity network through taxation and through electricity bills then we should expect something back that is, *“much more than just the*

*electricity*". Quite what this return could be is not clear, but it remains an aspiration to have benefit into communities.

[Respondent Kilo] complains that the financial impact or cost to Anglesey of hosting overhead transmission lines remains unquantified, with several possible impacts, including worry and loss of value on property. For [Respondent Kilo] this means that those building the infrastructure do not bear the cost of the impact of this infrastructure and there is no compensation for those who do.

*The only thing that has not been quantified, which I asked them in the meeting, is have they done any sort of research into the real cost for the people of Anglesey ... Well, it is not just loss of landscape, is it? It is possibly worry, loss of value on your house, etc etc. There is a whole lot of things which come into that, which they have totally ignored.*

...

*Well, yes. There is obviously no compensation for the people of Anglesey here, is there? ... Or mitigation. [Respondent Kilo]*

[Plaid WAM] has a similar complaint: that the true cost of HVOTLs on the island has not been assessed, including impact on individuals and on the wider economy such as in the tourism sector.

*And one thing that I haven't seen being done is a proper assessment of the genuine cost to Anglesey in pounds, of putting transmission lines above ground. That includes, you know, loss of value of property, which is relatively easy to calculate, but less easy is things like loss of business and trade and what have you through tourism. [Plaid WAM]*

[Respondent Juliet] points out that although compensation will be paid to landowners who host pylons on their land, no compensation will be paid to those close to pylons but where the pylon is not on their land. She points out that there is no minimum distance for pylons from property. She argues that housing reports suggest that a home owner in the Anglesey area may lose 25% of the value of their property if their house is right next to a pylon, with £100K being a reasonable price for a modest house in the area. Thus she argues a few individuals are subsidising the rest of the UK to the tune of £25,000 each.

*So then what is the fairness of that person subsidising £25,000 to ensure the bills of the rest of the UK are cheaper? [Respondent Juliet]*

She contrasts this with an estimate received from National Grid that suggests a sub-sea cable would cost around £1 per year per consumer for 20 years.

*The sub-sea cable would cost the UK consumer £20 basically, on the basis of £1 a year. That was their estimate; that's not from us. On the basis of that, compare the fairness of a householder losing the value of £25,000 off his land. So that's the financial value, so that's obvious unfairness. [Respondent Juliet]*

As [Respondent Juliet] says, that is an obvious unfairness to individuals on Anglesey, bearing a significant burden to support others elsewhere, when that burden could be shared much more lightly.

Few respondents mentioned cost directly on their bill but around 25% of the average electricity bill is network costs. [Respondent India] was aware of this and also of the potential for this to change. As she states, *"if you are going to build a lot more network, eventually that will cost a lot more than 25% of your bill."*

As [Horizon] states on the cost of connection, although Horizon may have to pay for a transmission connection and *"don't forget, the more it costs, the more National Grid charges back ... [ultimately] the overall cost of construction is passed back to consumers through their electricity bills."* [Horizon] continues that although a more expensive transmission solution may only amount to a small amount per year per household, if you do this for one project it sets a precedent and may be a catalyst for another project somewhere else and in the end it all adds up. As [Horizon] points out, the people in Anglesey, with a total population of around 68,000 people are asking people in the rest of the UK to pay a higher bill, an extra pound on their bills. This decision could lead to other similar decisions and to increased electricity bills around the country. [Horizon] expresses the need to find a balance of higher electricity bills or a solution which does not please everybody but keeps bills lower. As [Horizon] says, it is for the regulator to determine what is in the best public interest in this case.

[Horizon] also identifies that while impacts from Wylfa Newydd are primarily confined to locations near the site, allowing communities closest to be readily identified and to benefit most from whatever mitigation measures are put in place, this is not the case for transmission infrastructure. The impact of transmission is much more diffuse and more difficult to define and transmission lines are largely routed to bypass centres of population; to go around communities rather than through them.

*How do you define who is actually impacted by that, because it goes through an awful lot of unpopulated areas? [Horizon]*

For a concentrated development such as Wylfa Newydd, it is easier to determine who is impacted most and to distribute any community benefits accordingly.

But as [AEI Director] points out, generation of electricity in one area for export or transmission to another is the very nature of a national electricity grid. [AEI Director] thus suggests that it is a benefit from the power station that is important, and this benefit has to be in supporting longer term sustainability of that community [which hosts the power station]. So while Wylfa Newydd could have some sort of community fund this is not the case with National Grid. And as [AEI Director] adds, *“Grid are scared stiff of setting precedents all over the place”*.

For [Respondent Golf] the exchange of electricity across a national grid is part of being a citizen of the wider nation of the United Kingdom, and of sharing benefit. Although [Respondent Golf] recognises the argument that *“Anglesey could power itself, and stuff everybody else”*, as part of a wider community or nation he sees the transmission connection as allowing excess electricity to be used elsewhere, and in times when less electricity is being generated on Anglesey electricity can flow into the island.

[NG1] concurs that while the monetary cost of infrastructure is evenly distributed and electricity is evenly distributed, the infrastructure itself is not. [NG2] adds, however, that at a UK national scale the network *is* evenly distributed, with infrastructure running across the whole country to support all the things we need electricity for in a modern society. [NG2] continues that it is important to consider this wider view and not just focus on small regions. [NG2] recounts how on other projects the argument *“why do we need this; we’ve got enough power locally for our need”* has been put forward, but while for residential need this may be true, it does not take into account wider need such as for hospitals or offices.

*They may have enough generation to support their residential life but they don’t have enough generation to support some of the other things that are important to their life but aren’t as obvious to them. And that’s why you need that national sort of approach.*  
[NG2]

[Horizon] recognises the view that further pylons will be a blight on the landscape across Anglesey and that this may affect tourism. In summarising the main objections to an overhead transmission line solution, he describes this view.

*I think the vast majority of people are of the view that the second row of pylons would be a blight on the landscape. Following up from that, is that the tourism sector I think it is in excess of 263 million a year to Anglesey’s economy, and that having such a blight on the landscape would absolutely decimate the tourism industry.* [Horizon]

However, [Horizon] adds that there is little evidence to support this view and that what evidence does exist actually supports the view that tourism will *not* be affected.



*Evidence they've got from visitors ... people's perception was, no it wouldn't bother us.*  
[Horizon]

[Horizon] continues that residents in general, although they may be aware of pylons in Llanfairpwll itself, do not know where the existing transmission lines cross the Menai Strait, even though the crossing is adjacent to the Britannia Bridge. This view is supported by [NG2], who as mentioned earlier (p123), expressed the opinion that the design of pylons is accepted to the point that existing pylons go largely unnoticed.

Others share the view that tourism is unlikely to be affected by new transmission lines. [Respondent Lima] speculates that farming and tourism could both be affected, but only to a small extent, and that HVOTLs would not affect tourist desire to visit Anglesey.

*Well, I would imagine it would affect both, but not to a huge extent. I would imagine the farmers may be losing valuable agricultural land to these pylons. But I don't know whether it is going to be a vast amount of it that they are actually losing. As for tourism, I'm sure people come to Anglesey because it is a beautiful area, and these pylons are not doing much to contribute towards that. However, if you are going to come to Anglesey and you know there are pylons there, you probably will come anyway, if you want to come.* [Respondent Lima]

In terms of location, [Horizon] points out that there will in reality be little additional impact from pylons on the main areas visited by tourists. As he explains, the majority of visitors are concentrated well away from any pylon route.

*In general, people tend to use the southern half of the island, you know, your Treaddur Bays and Rhosneigr kind of areas, down to Plas Newydd and that side, and if you go across to the east and up to the north, kind of from Beaumaris, there's no planned pylon routes anywhere near the tourist areas of that side of the island.* [Horizon]

And so [Horizon] questions the extent of any true impact from the additional transmission connection on the island as a whole.

*So how do you quantify or support the argument that this is going to impact the whole island, where actually – and this isn't belittling it in any way – but if you look at it purely coldly, it's following the existing route, avoiding major areas of tourism and major areas of housing.* [Horizon]

[Horizon] acknowledges some in some areas such as Llanfairpwll, where there are already pylons approaching the crossing for the Menai Strait, additional transmission infrastructure could have

an impact, but suggests that in these key areas the impact could be mitigated, for example by taking the transmission underground. And [Horizon] contends that tourists will simply not notice the new pylons

*if you're a tourist here, if you're driving for the ferry to go to Ireland or you're going to Treaddur Bay for your hotel, or to the caravan parks in Rhosneigr, ... you don't see them*

...

*it's this perception of, you know, the question, I wouldn't say it is a misperception, but the question has to be asked, I think, for the claims that it will definitely damage tourism is, what's your evidence to support that? [Horizon]*

[Horizon] dismisses some concerns about the impact on tourism, describing how concerns that transmission lines may impact Beaumaris, at the eastern side of the island, for example, are completely without foundation.

*I was at a meeting where somebody from Beaumaris was saying about how this project was going to impact Beaumaris and blah blah blah blah blah, and at the end I'm looking at , that person doesn't know what they're talking about because your project is coming nowhere near Beaumaris; National Grid is coming nowhere near Beaumaris. [Horizon]*

[Horizon] also expresses the opinion that although visitors *may* notice the transmission lines crossing next to the Britannia Bridge, once they head towards Beaumaris even with the new development they will not notice any difference. He concedes that there may be disruption during the construction phase but beyond that, even if the solution is a second row of pylons, there will be no discernible difference for visitors; even where new pylons are constructed, most will not even notice them.

*But just assume that second row of pylons is what is going to happen, OK, it won't be until probably you've passed LLanfairpwllgwyngyll that you actually notice them, if you notice them, if you know where to look. [Horizon]*

And [Horizon] adds, if the transmission lines are taken underground for the Menai Strait crossing, as is proposed the visual impact will be lessened further.

### **5.13.2 Alternatives to HVOTL**

The impacts of the new transmission link are firmly connected to visual impact of overhead transmission lines across the island. The majority of respondents expressed a preference for a solution other than overhead, such as underground or sub-sea. There is also acknowledgement that alternative solutions may come at a greater cost than HVOTLs.

[Respondent Kilo] for example, states that most residents of Anglesey understand the need for a transmission connection and also that this connection will cost more if it is not HVOTLs.

*I think every resident I Anglesey understands that yes, we are obligated to have a connection because otherwise we won't have Wylfa; if you are for Wylfa or against Wylfa, if it is built, you need to take the electricity away. We all understand that and we all understand from what National Grid has told us that it is going to cost double the amount to put it undersea. [Respondent Kilo]*

Acknowledging that solutions other than HVOTLs may be more expensive, several respondents expressed the opinion that all of the UK should be prepared to pay a supplement on their bills to place the transmission lines across Anglesey underground or under-sea, for example. [Respondent Charlie Spouse] suggests this and declares that if the situation were reversed with HVOTLs being installed elsewhere she would be prepared to pay a supplement on her bill.

*So I think they should pay for it, and us on Anglesey, yes we are going to be getting the power too, but we are having to put up with it, so maybe they should be paying a supplement on their bills. But basically the whole of the UK should pay for it, because they're going to use it. And as I'm saying, most of the UK won't have it in their back yard; we will. So I would be quite happy to have a subsidy on my bills if it was being built in Norfolk or somewhere. That'd be great for me. But it's not; it's being built in my back yard. [Respondent Charlie Spouse]*

The relative cost of different solutions for transmission is mentioned by several respondents. Some also recognise ease of maintenance and also familiarity as factors. [Respondent Charlie] recognises that tried and tested technology, such as pylons, is more familiar to National Grid and therefore easier to deal with.

*National Grid is a profit-making organisation. They want ease of maintenance; they want certainty of maintenance and they want something that their organisation is able to deal with on a daily basis and that they understand. And it's dead easy, isn't it, the cables slung between pylons. [Respondent Charlie]*

He also makes the point that when considered as a percentage of the huge cost of the nuclear development and its transmission as a whole then difference in costs seem smaller (this point was also addressed in para 5.11 above).

For other respondents there is just the idea that cost may be a factor in limiting the transmission route and method. Others concede that alternative route may be considerably more expensive

than HVOTLs and recognise that this cost will have to be borne by someone – ultimately the payer of the electricity bill.

*I seem to recall a discussion about undersea cables but prohibitive costs. [Respondent Mike]*

*What is mentioned by other people is going undersea. And I can see why [National Grid] don't want to do that. ... Because of the cost and maintenance; the ongoing costs and the ongoing maintenance. The National Grid wouldn't want to bear that cost. I mean the cost of doing it is phenomenally more expensive ... Well it would have to be National Grid and the payer of the electricity [bill] in the end [who pay for this]. [Respondent Hotel]*

[Respondent Echo] tries to put some numbers to the costs and argues that over the lifetime of the project this is very little on a consumer's bill. He emphasises the importance of this by declaring that he want this *"loud and clear on the recording"*.

*The cost of sub-sea from Wylfa to Deeside is £1 per year on all consumers' bills; £1 per year for 40 years to go sub-sea. There's no reason to do anything else. [Respondent Echo]*

[Respondent Echo] also adds that it is National Grid who benefits from this type of infrastructure, referring to pylons as the solution in particular, rather than transmission infrastructure in general.

*It's cheap to put them up; fairly cheap for them to maintain. [Respondent Echo]*

As a member of CPRW he also states that this opinion also reflects the organisations within Anglesey's position. [Respondent Echo] compares this small subsidy to those for electricity generation by wind-turbines *"for producing nothing"*.<sup>50</sup> [Respondent Echo] is also of opinion that National Grid will just do what they want and if it turns out that a proposed solution of going under the Menai Strait is more difficult than originally thought they will simply say, *"oh, it can't be done and go over it"*.

[Respondent Lima] also recognises that there may be increased cost to not have pylons but has no feel for what this extra cost might be.

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<sup>50</sup> More recently the cost of offshore wind turbines has fallen dramatically. Contract for Difference subsidy auction results published in Sept 2017 show that the cost of subsidising offshore wind farms dropping by more than 50% in just over two and a half years, from an average of £117.14/MWh in the previous auction in 2015 to £57.50/MWh in 2017. This compares to a strike price of £92.50/MWh agreed for the new Hinkley Point C nuclear power plant. The strike price for Wylfa Newydd has not yet been agreed but is expected to be lower than that for Hinkley C. (Thomas 2017; Department for Business, Energy & Industrial Strategy 2017; House of Commons Welsh Affairs Committee 2016).

*There is the other side of it, isn't it. They don't want the pylons over there, but do they want to pay more to the electricity companies or National Grid or whoever it is, in order to get [HVOTLs] removed and use another system of [transmission]? ... I imagine it would be spread out through all the electricity users in the country, but they would all have to pay more. [Respondent Lima]*

When presented with the mentioned £1 per year figure [Respondent Lima] describes this amount as “negligible” and offers that most people would accept that cost.

*Oh, that is negligible, really. I think if that is all it is going to cost, then most people would say, do it. And get rid of these ugly pylons. [Respondent Lima]*

[AEI Director] states that personally would be happy to pay a little bit extra to have all the transmission underground but recognises that he is relatively well off, so while for [AEI Director] an extra penny a unit may be a reasonable price to pay for others this may be simply too much. As he reflects, energy may be considered relatively cheap in the UK but some still struggle to afford it.

*And, in some ways, there is part of me that is thinking energy is far too cheap in the UK. There is another part of me that is thinking, oh bloody hell, if you are saying it is too cheap what about all those poor beggars that can't afford it. [AEI Director]*

[Labour MP] in reflecting on National Grid's consultation, admits that National Grid had improved by Round 2, which is where the crossings for the Strait are put forward, but he also remarks that National Grid need to “bring proper costs before and during consultation, not afterwards”. Although [Labour MP] acknowledges that taking transmission lines underground will incur considerable extra cost, he also states that he has little idea as to exactly what these costs might be.

*I'm told the ratios between undergrounding and overgrounding are considerable, but I've never had a certain figure, I've had variations. [Labour MP]*

[Labour MP] concurs that additional costs will indeed vary dependant on the terrain, - “obviously going to through pre-Cambrian rock is more costly than going through soft field and earth” - but maintains that this “is a price worth paying” and that this cost would be spread across the whole country. [Labour MP] argues that accepting the nuclear power station is enough, at least that brings jobs, but Anglesey does not also need the additional burden of the HVOTLs that accompany it.

[Respondent Juliet] expresses that National Grid claim their brief is to provide the transmission infrastructure at the lowest cost, which she interprets as meaning as cheaply as possible, however she does acknowledge their website says they should not necessarily be going for the cheapest option. [Respondent Juliet] describe this as *“pillow talk for Ofgem”*. As she says, National Grid will *“claim to Ofgem that they have explored every other option and sadly the cheapest one is the best one”*. She contrasts this with National Grids position to the community: *“to us they say we have to go with the cheapest option because that is what Ofgem says.”* [Respondent Juliet] states that although the planning system may not serve National Grid, they are however exploiting it.

Others assert that if National Grid were forced to preserve the visual landscape by *not* placing the new transmission link on overhead cables they would find a solution and would also find a way of doing it more cheaply. [Respondent Hotel] also accepts that bills may have to be slightly higher in order to protect the landscape. [Respondent Hotel] asserts that the only people who benefit financially from the new infrastructure are the generators. Whether he is conflating National Grid in with this is not clear. However, he acknowledges that others will get the benefit of the electricity which is transmitted but then reiterates that if National Grid were *forced* to move the cables they would find a cheaper way to do this, to reduce cost. *“It is the way progress and innovation works.”* [Respondent Hotel]. [Respondent Hotel] draws parallels with lack of innovation in making more efficient engines for cars until emission legislation forced this. He does eventually concede that it would however be fair to add a little bit to everyone’s electricity bill to cover additional cost of placing the cables underground, for example.

[Plaid WAM] considers the extra cost of not using HVOTLs as *“small fry”*, continuing that whatever the extra cost of a sub-sea solution is relatively small compared with the price of a motorway for instance and electricity transmission is as important.

[Plaid WAM] also calls for an investment in technology to enable transmission undersea for this case and also for future protection of the landscape

*I mean, there are all sorts of thing into the future, that I’m sure we won’t be having these debates, this discussion, in 30, 40, 50 year time – local grids, which will change the way in which we use electricity, more local generation. But, there will still always be a need for major power generation, so baseloads generation, and there will always therefore be a need for major transmission lines. I think what we should be seeing is an investment in technology, to make sure it is easier to transmit sub-sea, for example. [Plaid WAM]*

In contrast with some other respondents, [CADW], speculates that the cost of taking the transmission lines undersea around the coast was probably so expensive that it was ruled out. [CADW] rationalises this based on his understanding of taking transmission underground.

*Essentially if you're doing a short distance, I don't know, a few hundred metres, a few pylons, say 5 to 10 pylons, that's over a mile or so, the difference is you're talking about millions, so the ones, let's just say the 10s if it's overhead, if it's underground it's definitely the 10s and if it's a tunnel it's probably the 100s of millions. In that context you then think going all round the coast with it is probably so many billions that I suspect it was just sort of ... it was just not considered, not because it was arrogance but just because it is so silly. [CADW]*

[Respondent India] speculates that as well as costing more, National Grid may also consider a sub-sea connection a less useful asset. She adds that although it will “*obviously cost more to go sub-sea*” but “*from the point of view of the public interest, the public interest is in protecting the jobs that need to be protected in, for example, the tourism industry, so you have to, when you do a cost benefit analysis there are good reasons for why you might want to spend more on it going sub-sea.*”

[AEI Director] estimates cost of undergrounding the transmission lines and is able to put this in terms of the cost of the power station. By his estimate the increase in cost for underground or undersea, even as a proportion of the combined generation and transmission projects, is still significant and that this cost would have to be borne by electricity users.

*I mean you are talking 1 billion maybe for the cost of the new line and you're probably talking about 10 billion for the plant. If you are undergrounding, I don't know, you are talking about 500 million extra, I guess, within it. So ...*

...

*[And this is] something that as individual electricity users we would all end up paying. [AEI Director]*

As far as a sub-sea connection is concerned, as [Horizon] reiterates the commercial risk associated with research and development of a unique form of direct subsea connection to a nuclear power station: “*developers do not have bottomless pockets*”. Whereas developers of offshore wind expect to bring electricity at least initially undersea, this is not the case for the nuclear power station. “*The first thing to note is that there isn't a nuclear power station anywhere in the world which is connected subsea*” [Horizon]. Where it might be argued that there is a case for this to be done, “*Horizon are not willing to take on the risk of paying for the R*

*& D for that*” [Horizon]. For example, there is no switchgear currently on the market capable of handling the amount of electricity Wylfa Newydd will produce. As well as the cost of developing the connection, the cost of repairing any fault on the transmission line is significantly higher than for an overhead connection. As [Horizon] says, there are few ships capable of carrying out the sort of repairs to undersea cables that may be needed and these ships may not be available for several months, *“and in the meantime [the] nuclear power station is just sitting there, not producing anything”* [Horizon]. Whereas previously excess power could have been absorbed by Anglesey Aluminium, this is no longer the case.

While many respondents express a clear preference for taking the transmission connection underground, undergrounding is not a panacea. [CADW], for example, is measured about placing transmission lines underground. As a member of the Visual Impact Provision stakeholder advisory group and also as a consultee in relation to the new transmission line across Anglesey [CADW] describes how placing cables underground may not always be a good solution archaeologically speaking and that its appropriateness varies according to location. For example, in the case of Snowdonia, a designated national park through which HVOTLs pass, to go around the national park from Wylfa down to the Midlands would greatly increase the transmission distance *“by at least twice, probably three times the distance”*, but undergrounding through the national park although *“potentially incredibly destructive”* would also have little archaeological impact because there is very little below ground archaeology in the area. Undergrounding would allow views from one upstanding monument to another. Speaking specifically about Anglesey, [CADW] notes that there are far fewer monuments close to the line which would be damaged but there is really good archaeological potential. Thus if lines were to be undergrounded across Anglesey there is significant chance of *“discovering all sorts of archaeological sites we didn’t know were there, have a wonderful amount of data coming out of that project, and actually it could be incredibly valuable [archaeologically]”*. Although the archaeology would be very expensive it would also be very valuable and have the added positive impact of the transmission lines not being visible in the landscape. The engineering practicalities of undergrounding must be balanced against a desire to remove HVOTLs and to restore visual connection between monuments and this balance depends on context. While tunnelling could be used to go underneath archaeological remains, this is an even more expensive solution. [CADW] concludes that undergrounding is not necessarily the simple solution it seems, as any transmission must be taken underground and then brought back out again, which can lead to large visual impact at these points.



*It sounds great, put it underground. But you've got to get it underground and you've got to get it back out of the ground at the other end. And that can be so tricky, if you are in a dense area or a very open landscape where you can see for miles, you can end up creating one massive eyesore rather than just a line of pylons. So you then have to think, well which is worse really? Is it just a line of pylons or is it this massive eyesore? [CADW]*

[Respondent Kilo] recognises that although National Grid state that they are willing to place the transmission lines underground in places they will not do so for the whole length because of the cost and also recognises potential problems such as of drainage on farmland if undergrounding is used for the whole route.

*So they kindly now say yes they will look at putting them underground there, under the water, and anywhere else where there is any contentious issues they are willing to put them underground, but of course they are not willing to put them underground all the way because again that is costly. But even if they did put them underground you are going to spoil quite a few farms on Anglesey because of the drainage problems. [Respondent Kilo]*

Horizon, although opposed to an undersea connection, do not have the same concerns for undergrounding the transmission link. [Horizon] cites other connections that may well be taken underground such as those for the Irish wind farm projects, Codling Bank and Greenwire. However, [Horizon] is not convinced that people understand what undergrounding actually means. As he explains: “you’re talking about basically bulldozing a motorway width of land all the way from Wylfa to the coast” and would still have to consider how to go through areas such as the AONB and diverting around settlements and houses.

[Horizon] also mentions the cost and complexity of taking infrastructure underground in Snowdonia, referring to “months and months and months, just blasting rock to underground stuff” during the construction of the Dinorwig pumped storage power station, completed in 1984 (see Electric Mountain 2018). On the other hand, the older Trawsfynydd power station, within the Snowdonia National Park, is connected to the grid by overhead cables. As [Horizon] says, “at some point in history a decision was made [not to build more towers]”, although existing pylons were allowed to remain.

[NG1 & NG2] express the opinion that there is a public perception that placing transmission lines underground “is the finest solution” but this is not necessarily the case and the disadvantages are not just down to cost but to increased ecological impact, and also archaeological impact for example.. As [NG2] explains:

*There are a lot of things to be said in visual terms for undergrounding; there are a lot of things to be maybe said against undergrounding ... It is hard, it is a big construction; it's a 65m continuous swathe; it takes longer to build; it's harder to repair - so, you come and dig another hole every time you want to repair it. ... It's quite hard to restore agricultural land to the same level ... It's there underneath the ground, producing a bit of heat so things won't be quite the same. You can't put hedgerows back; you can't put trees over it; you can't build over it. And wildlife, it can disturb wildlife. Cultural heritage, you've got, Wales is really rich in buried archaeology ... Anglesey is virtually unexplored. You know, they've only just found a Roman fort and they've always said there were no Romans on Anglesey and they've just found, during the Horizon excavations. [NG2]*

As [NG2] says, undergrounding *"is not the benign solution that everyone thinks"*, and even if given carte blanche for a straight line underground, there would be areas where this simply would not be appropriate, for example through a wetland, as the land would dry out and the soil and mosses could not then be restored. Solving one problem of visual impact from overhead lines creates another problem in damage to ecosystems and loss of habitat. So although undergrounding might be from some perspectives an ideal solution, in the round, [NG2] contends, it is not.

When questioned on the view that an underground transmission solution is not being selected simply because it is more expensive than overhead lines, [NG1 & NG2] admit that cost is a part of the reason, but is only part of the balance of the decision

*Cost is part of it. So we haven't shied away from saying cost is part of this balance, but it's not the only part of this balance. [NG1]*

And, to indicate that cost is not a barrier to an appropriate solution, [NG2] points to the relatively technically challenging and expensive solution of going under sea to cross the Menai Strait, rather than the cheap, easy option of *"sticking another overhead line in ... which is technically easy and really cheap, but is not the right thing to do"*.

### **5.13.3 What is a reasonable cost?**

The financial cost of the new infrastructure is placed on electricity consumer's bills rather than through direct taxation. Thus any increased cost is born by consumers as a whole. Few lay respondents mentioned the industry regulator, Ofgem. [CADW] describes their role as *"murky"* but Ofgem remain arbiters of what represents good value in a scheme such as the North Wales Connection. What is not clear is how value for money is determined, although this judgement relies on a large institution, Ofgem.

[LabourMP] remarks that as a member of the Energy Select Committee he has tried putting pressure on Ofgem to “*stop sitting back*” and to put pressure on National Grid. Although exactly what pressure is unclear [Labour MP’s] implication is to make National Grid’s developments more in line with public expectations, such as by undergrounding transmission lines.

[Horizon] having previously remarked on the separation between developer and regulator also point out that decisions to, for example, place transmission infrastructure underground rather than on overhead pylons must be justified to Ofgem by National Grid. National Grid must justify any additional spending for a given connection. So in the case of Anglesey where there is a demand for the connection to be placed underground or undersea this must be justified to the regulator as ultimately the additional cost is passed on to the consumers. If the additional cost cannot be justified then the costing and that particular solution will be rejected.

*If National Grid were to say, [for Anglesey or elsewhere] ..., right we want to add, I don’t know, say a billion pounds to the bill for this, because it all needs to go underground because all the local people say they want it underground. And [Ofgem] say, well what’s your technical evidence for this; how do you justify spending an extra billion pounds, because that’s going to all get passed back to the consumers in the electricity bills? And if they don’t have that solid evidence base to do it, then Ofgem will just say, very sorry, start again, so then that knocks the process back. [Horizon]*

[Plaid MP] when asked whether he thought National Grid *could* put the new infrastructure under the sea if Ofgem were to permit the spending, confirmed that he thought they would indeed do this, although he did acknowledge the technical difficulty of doing so.

*Well they say it is technically quite difficult ... But what they were saying was, those are technical difficulties which we would be quite happy to work with; it would be quite interesting, you know, we’d like to be at the crest of that particular wave. Sorry, wrong metaphor, under that particular wave. So, it might be difficult but we’ll do it, if they tell us and they give us the 600 million or whatever it is to do so. [Plaid MP]*

[Respondent India] accepts that National Grid have an obligation to connect generators to the national grid. and that they do so under various constraints, not least from Ofgem.

*The government has placed on National Grid the responsibility to make a connection when somebody applies to it for a connection. So it can’t say, sorry we can’t do it. It has to say, yes we will do it and now we’ll find how to do it.*

...

*And it then has to meet the, whatever criteria Ofgem place on them, in terms of how it*

*contains the costs for doing that. So Ofgem are regulating – but they don't do it very well, but that's a whole other issue. Ofgem are regulating the amount of money the grid can spend on its customers' behalf, if you like i.e. the electricity customers' behalf.*  
[Respondent India]

Ofgem are the “arbiters of what becomes good value” and National Grid has to justify why it chooses one route over another. In [Respondent India's] opinion this leads National Grid to look at the cheapest option to start off with and then to deal with constraints, such as those described by “Holford Rules and by other kinds of constraint, some of which come from Europe, to do with habitats and what have you ... and designated areas and what have you.”

[AEI Director] also explains that National Grid are working within rules set for them by Ofgem and “Ofgem rules require National Grid to take the cheapest option, providing they have taken due cognisance of relevant ameliorating effects” [AEI Director]. [AEI Director] is of the opinion that Ofgem does not allow National Grid to place a monetary value on its views. However he concedes that undergrounding projects within National Parks as part of the Visual Impact Provision “seems to turn that on its head” and that this might set a precedent for doing it elsewhere.

[CADW] suggest that National Grid should present the relative costs for different options but recognizes that they may not want to as these costs “are rough and ready calculations, they don't really mean a lot”. [CADW] adds that this may be useful information for the public to have.

*But if [National Grid] did present [relative costs], the public would probably realise quite the decisions that they're making and I think the reality of taking something offshore, in terms of energy security but also in terms of cost, is just something that Ofgem wouldn't accept.* [CADW]

[Respondent India] mentions the Levy Control Framework<sup>51</sup> as how the cost of new infrastructure is limited. This Framework applies a cap to the amount that can be added to consumer bills to pay for low carbon generation. As such it is indirectly linked to the transmission as the generator will have to pay for a transmission connection and this cost will then be passed on ultimately to suppliers and consumers. [Respondent India] also mentions Contracts for Difference, which are a mechanism to allow subsidy of low-carbon generation by the government paying the difference between an agreed ‘Strike Price’ and a market reference

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<sup>51</sup> The **Levy Control Framework** (LCF) is a part of the Government's public spending framework. It places limits on the aggregate amount levied from consumers by energy suppliers to implement Government policy.

price. However, she also concedes that she is not clear about the relationship between Ofgem as a regulator and these pricing mechanisms.

#### 5.13.4 Ownership of the National Grid

Several respondents were unaware that National Grid is not actually a national institution as the name may suggest but rather a public limited company owned by and responsible to shareholders<sup>52</sup>. When informed of the ownership of National Grid, a possible conflict of interest is immediately recognised, with unease expressed about the profit-making nature of a privatised company. Even when these respondents were also made aware that National Grid is heavily regulated, doubt remained.

For example, [Respondent Mike] when questioned about ownership of electricity infrastructure speculates that National Grid owns transmission lines and pylons but does not realise that National Grid are a private company.

*I: Do you know who owns National Grid?*

*R: Is it the public? [Respondent Mike]*

When it was put to [Respondent Lima] that National Grid are in fact the experts on transmission infrastructure and perhaps best qualified to determine how this infrastructure should be implemented, [Respondent Lima] acknowledged this but also restated the potential conflict.

*Well, that makes it even worse, doesn't it? Because they are obviously going to try and keep their shareholders happy as well.*

*...*

*They are the experts, but they also have got shareholders to answer to. And maybe the shareholders would rather have more profit. [Respondent Lima]*

[Respondent Lima] was unaware of Ofgem and any possible constraints which may be placed by Ofgem on National Grid, so it largely remains a matter of principle rather than based in evidence, but this respondent is not alone in this opinion.

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<sup>52</sup> There is also some confusion on ownership of electricity companies. [Horizon] gives Scottish and Southern Energy, now known as SSE, as an example of foreign ownership, specifically Spanish. In fact he probably means Scottish Power, which although it has its headquarters in Glasgow has been owned by the Spanish company Iberdrola since 2006. SSE is domiciled in the UK with a head office in Perth, Scotland. However in a more recent development SSE and npower have announced a merger to form a new energy company. npower is subsidiary of the German RWE Group. Shareholders are to vote on this in 2018. [Horizon] refers to Centrica – who own British Gas – as the sole remaining British company but also acknowledges that investors in Centrica may be from anywhere. Naming SSE as Spanish owned may simply be a slip of the tongue; however it could equally indicate a degree of confusion, and hint at the complexity of ownership, even for those nominally within the electricity industry.

[Respondent Hotel] contrasts the energy policy and needs of the UK Government with those of the electricity industry, in particular the generator in this case. When it was put to [Respondent Hotel] that energy [policy is driven by climate change and by energy security:

*That's a government policy? ... That's not the policy of the generators though.*

[Respondent Hotel] highlights a possible disconnection between a government policy of cheap secure energy and an electricity industry need for profit, and asserts that for the electricity industry it is financial profit which is their main concern. [Respondent Hotel] does show some conflation of transmission and generation and also a certain lack of trust in the motives of the companies or organisations involved (see also 5.4 and 5.12).

*Because [the electricity industry's] policy is financial. Has to be. So any transmission lines are financially driven. You know, that is their main concern; of cost. [Respondent Hotel]*

[Horizon] also comments on the privatised nature of the electricity industry. [Horizon] points out that although the government has the responsibility 'to keep the lights on' it is actually through private industry that the means to do this exists.

*The government actually woke up and said, oh actually, you know, our nuclear power stations are going to start closing in a few years' time. ... And the climate change thing, reducing carbon emissions ... but whereas previously government had responsibility to keep the lights on and the resources to do it ... now they've got the responsibility to keep the lights on but they don't have the means to do it. Which means they have to go out to private industry, which has largely been sold to foreign firms. [Horizon]*

[IACC Economic] describes National Grid as a quango, a quasi-autonomous non-governmental organisation. Although National Grid is a private company, owned by shareholders, the part of the business that is the Transmission System Operator is heavily regulated by government. This respondent questions the ability of National Grid to meet its obligations to the private sector if for example a more expensive solution is demanded by the local community.

*Because they're a government quango everything is driven by price and meeting those obligations to the private sector, so you know, how much influence does it actually have, for example, if it costs three times to underground the cables all across Anglesey and that's what the local community want, who are the government and National Grid to say 'no we're not doing that because it's going to cost three times more.' And then you get*

*to the actual nitty-gritty of how much pound signs and how many decimal points is it worth to keep the local community happy [IACC Economic]*

This is clarified by [Director, Welsh Government]:

*National Grid is a private business, but the cost is put onto the bottom line on your bill as an electricity customer, and of course there is another dimension to this, you've got Ofgem the regulator. So you've got a private business, heavily regulated, ..*  
*[Director, Welsh Government]*

Some respondents fear that the profit motive means that a private company, accountable to shareholders and driven by profit - no matter that this is regulated - is not a good model for the national infrastructure. As [Respondent Bravo] comments, Wales is generally more left of centre than the rest of the country, and it was Wales that *"gave the world the National Health Service through Aneurin Bevan, the social insurance system through Lloyd George, based on the experiences in these quarries and the coal mines, that motivated them to think in terms of the general well-being of people."*

[Labour MP] opposes private ownership of utilities and states that he would prefer a not-for-profit National Grid. Being not for profit would *"allow them to say, look we don't make a profit, we'll reinvest in undergrounding and various things"*. He also expresses concerns at what is effectively foreign ownership of national infrastructure distribution and transmission.

*The Grid is national by name but it is American owned and so [its] allegiance is not to the nation of the United Kingdom, its allegiance is to its shareholders. [Labour MP]*

National Grid plc, the parent company of the National Grid Group, is a public limited company, limited by shares, which is registered and domiciled in England. While National Grid plc may boast in an annual report that 95% of its shareholders are individual shareholders this is somewhat disingenuous as the vast majority of its shares are not held by this 95%, but rather by far fewer large investors. Indeed as at March 2016, just over 86% of National Grid plc shares are held by just 314 (0.03% of) investors (National Grid 2016b, p.190). While 95% of its shareholders may well be small shareholders, in another view 95% of its shares are actually held by large investors. Unlike for U.S reporting, the annual accounts and reports for the UK based National Grid plc do not disclose large shareholders. They do however list changes in larger voting rights. In 2017 these included BlackRock, Inc. an American global investment management corporation based in New York City, which holds 6.01% of the voting rights; The Capital Group Companies Inc., an American financial services and investment management company, with 3.88% of voting rights; and Comp petrol, a Saudi Arabian-owned investment company registered in the British

Virgin Islands, with 3.65% of the rights (National Grid 2017, p.186). So while strictly speaking National Grid is not an American institution, there is at the very least significant U.S. influence, and influence from other states, in terms of shareholder voting rights, and this appears largely opaque to those outside the institution. National Grid plc's 2016/17 Annual Report (National Grid 2017) lists 72 subsidiary undertakings registered in England and Wales, a further 81 registered in the U.S., and a dozen in other jurisdictions. There are also several joint ventures with varying levels of stake. While the entire share capital of subsidiaries listed is held within the group, this is nevertheless an indication of the complexity of the group and its level of non-UK involvement and hence influence. In the same report, on net revenues of £10,788 million, £5,520 million is attributed to the US regulated businesses with only £2,146 million to UK electricity transmission, further emphasising the significance of National Grid's U.S. interests. These are very much headline figures and it is beyond the scope of this research to consider this further, however it does go some way to supporting [Labour MP]'s contention.

[Respondent India] questions the privileged position of National Grid as a private company retaining its historical position from the post-war years when a nationalised electricity industry was deemed to be working in the greater public interest; when the power to construct an electricity network was *"entrusted to government on behalf of all the people"* and National Grid *"in the public interest ... [had] a power to go where it liked, pretty much, and do what it liked, pretty much"*. [Respondent India] contends that this is not appropriate for a monopoly private company as you are *"giving them carte blanche and depriving other stakeholders of the legitimate interest that they might have"*. She continues that as a private company, a corporation over which the general public and even individual shareholders have very little control, National Grid is *"[being given the] potential to grow their business where and how they like ... to increase their asset holding, which is highly valuable, in such a way that they are controlling one of the essential ingredients to life in the 21<sup>st</sup> century ... and you as Joe Public have no control over that whatsoever and your own rights are lost in that process. That's how I see it."*

[Respondent India's] concern is that individual citizens have given up some of their rights not to a government but to a private institution, and that this institution, National Grid, has a position where *"the government not only has allowed it to grow its assets in an almost unlimited manner, but is encouraging it to do it [in part] because of the drive towards renewable energy."*

[Respondent India] sees the current drive towards more dispersed forms of generation, such as wind, and the new network structure needed to support this generation as a *"huge commercial opportunity for a privately owned corporation, such as National Grid"*, asserting that although the National Grid may not actually own the land or underlying property right for the land they



make use of they can to a large extent control what happens in these areas, even areas still owned by or protected by government, such as National Parks.

[Respondent India] Also expresses concern regarding the ownership of National Grid, asserting that anyone can buy into it, *“so whatever it is today, a Russian oligarch might own it tomorrow.”* She gives the example of a Russian oligarch buying oil and gas wells in the North Sea against the wishes of UK government.<sup>53</sup> She makes the point that anyone could potentially therefore own the UK’s assets. Commenting on international asset acquisition by China she adds, *“we could find, 3 or 4 years down the line, [the] Peoples’ Republic of China owns [National Grid].”* [Respondent India] is also suspicious of the enormous potential for data collection by the *“Iberdolas<sup>54</sup> or whoever of this world”* through the roll out of smart meters and the uses this could be put to.

When questioned as to whether transmission could be removed at a later date, as long as the integrity of historic monuments had not been compromised, [CADW] responded that National Grid were unlikely to remove infrastructure as it *“is worth such a lot of money just as an asset that ... National Grid have a policy that even when a line is out of use they don’t remove the line, they leave it there.”*

[Respondent India] goes further and expresses concern at the trans-national nature of some large private companies. [Respondent India] voices concerns at the *“extra-national”* nature of these companies, which *“are outside the governance of [individual] nation states or even collective groupings such as the EU ... they are legal entities unto themselves with the prime motivator to maximise the profit that they make.”* For [Respondent India] the idea that such organisations could exert control over the fundamentals to existence, such as water, or electricity, *“shatters through any conventional notions of democracy”*. She gives the leveraging of toxic sub-prime debt and the subsequent financial crisis of 2007-2008 as a good reason why private corporations should not be trusted with fundamental resources, and raises the increased probability of people borrowing to meet their basic needs and the possibility of this borrowing being commoditised and resold in the same way as the sub-prime loans which were central to the economic crisis. Her concern about borrowing to meet basic needs is not unfounded (she

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<sup>53</sup> Here [Respondent India] refers to the sale by German energy company RWE of 12 North Sea oil and gas fields to LetterOne, an investment company chaired by Russian, Mikhail Fridman, The UK Dept. of Energy opposed the deal over fear of the possible impact of future European sanctions over Ukraine on the safety of these fields. (BBC 2015; DECC 2015b)

<sup>54</sup> Iberdrola is a Spanish public multinational electric utility company based in Bilbao. Scottish Power, the UK’s 4<sup>th</sup> largest energy provider, is a subsidiary of Iberdrola. ScottishPower Renewables has more than 30 consented onshore wind projects in the UK and owns the UK’s largest onshore wind farm, Whitelee Wind Farm, near Glasgow. Whitelee currently has 215 turbines, capable of generating up to 539MW. A further extension has been applied for to add 5 more turbine and increase generating capacity by up to 12MW.

mentions work by Oxfam, Age UK and The Joseph Rowntree Foundation) as around 1 in 4 people in Wales live in income poverty, meaning that they do not have sufficient resources to meet their basic needs (for example Tinson and McInnes 2015; Bevan Foundation 2017). [Respondent India] also points out that as banks were deemed *“too big to fail”* then as energy is so crucial to everyday life, this rationale may also apply to the large extra-national energy companies, leading to debt once again being absorbed by the nation whereas profit had been retained by these companies. [Respondent India] also recognises that European policy for energy security is that the solution will be provided by interconnected markets rather than by a centrally determined or planned development and that this may be open to side deals between countries.

On the subject of marketization of energy [Respondent India] also criticises the use of day ahead trading driven by intermittent or unreliable energy sources such as wind power, however she acknowledges the potential of more predictable energy sources such as tidal or even solar. [Respondent India’s] broad support for centralised predictable energy sources such as tidal lagoons largely ignores the probability of new transmission infrastructure being required for these installations. This indicates that much of her distaste for new transmission infrastructure is related to it being connected to more dispersed energy sources, and with the intermittency of these sources.

[Respondent India] on who benefits from the construction of this infrastructure, points firmly towards National Grid as it increases their asset base – *“Well who benefits is, it will be become an asset of National Grid”*. [Respondent India] does not consider the pylons as an asset to the nation *“as it might be obsolete”*. On the infrastructure as a whole rather than the physical components and easements or rights that make it up and the electricity that it provides, [Respondent India] *“is not really going to benefit Anglesey”* as in the absence of large industrial demand on Anglesey such as Anglesey Aluminium the electricity is destined to be used elsewhere. The only rationale for Wylfa on Anglesey, as [Respondent India] sees it, is to provide jobs, and in that sense the infrastructure is helping provide jobs.

[Respondent India] is also concerned that as a private company National Grid as a whole could benefit from national assets if it chose to diversify. Although the regulated part of the business is tightly controlled, National Grid has other arms of its business.

[NG1 and NG2] contest the idea that National Grid would favour asset rich solutions; solutions which increase its asset base.<sup>55</sup> [NG1] contrasts a connection in mid-Wales where *“the argument was you don’t need to be here, you want to spend more money for this solution because it would*

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<sup>55</sup> (For example Strbac et al. 2014; Strbac et al. 2016)

*become your asset*”, with the North Wales Connection where the argument is that National Grid are not spending enough. [NG2] explains that it is not the volume of the asset but rather how much is spent on it, and in theory National Grid would get the return - so for example, if the whole transmission connection were placed underground National Grid would receive more money because they spent more money – but the requirement from Ofgem to be economic and efficient ensures that National Grid do not go for the “*most expensive, best for us*” solution, the cost of which would in turn be passed on to consumers through their electricity bills.

[Respondent Foxtrot] is opposed in principle to a privatised national electricity industry. [Respondent Foxtrot] contends that that under privatisation the benefit from these large infrastructure companies does not come to the nation, but to the shareholders in these companies.

*Look, I’m as left as they come when it comes to this, that they should never, never have been given to privatisation. [Respondent Foxtrot]*

...

*Show me a case where private ownership of these things has worked. I don’t see them. The railways has gone terrible; the grid has gone terrible. ... It’s not working, the national grid being privatised. The benefit is not being shared the way it should be, it’s too costly to [connect] the local for not enough return. The return is only going to some people, and I don’t think they are necessarily the right people. [Respondent Foxtrot]*

[CADW] is more measured on the idea of profit made from the transmission infrastructure and to be taken outside Wales. He questions the notion of profiteering or money-making as a major incentive for National Grid as the infrastructure is regulated by Ofgem.

*It is not purely a profiteering exercise. And there are just limited options, they’re obligated to do it, it has to go from one place to another, and that restricts you very much in what you can and can’t determine. [CADW]*

[CADW] also makes a distinction between the nuclear power station, which is owned by a private company, Horizon Nuclear Power, and the transmission infrastructure. [CADW] asserts that many find it difficult to see the difference between National Grid as an operator and Horizon nuclear power but that they are actually “very different; very, very different”, with Horizon answering solely to shareholders and their financial bottom line, whereas National Grid are looking at it *purely in the interest of the public*. According to [CADW], whereas Horizon “*are out to make money; it is their job*”, National Grid are not making money. “*It’s not that they are not*

*out to make money, they are not actually making money. They are scrutinized by Ofgem and that is who's making the call."* Although National Grid is a private company the *decision* on what represents value for money is made by Ofgem.

[Labour MP] states that he would either prefer a not-for-profit grid or much greater transparency on subsidies and profits so that some of the money could be earmarked for strategic reinvestment in infrastructure. Having been privatised [Labour MP], is of the opinion that it would be extremely difficult to bring National Grid back into public ownership, if for no other reason than cost.

[Labour MP] and [Plaid MP] both point to the case of Dŵr Cymru (Welsh Water) and Glas Cymru<sup>56</sup> as a suitable model for ownership of utilities. Glas Cymru is a single purpose company limited by guarantee formed to own, finance and manage Welsh Water (Dŵr Cymru). Glas Cymru is unique in the UK utility industry in that it is: a private company with no shareholders, financed in the capital markets, with no government support; and all financial surpluses are used for the benefit of its (Welsh Water's) customers (Dŵr Cymru 2017). Glas Cymru was formed in the aftermath of the collapse of Welsh Water's Hyder multi-utility and infrastructure company. As [Plaid MP] remarks, *"[Hyder] diversified into management consultancy and running hotels and all kinds of stuff. And they went bust"*. In contrast to the diverse range of interests of Hyder, Glas Cymru *"sells water and provides sewage services ... [they do not] get into the business of management consultancy or managing pop stars ... it's extremely boring but it's absolutely steady"*. [Plaid MP] compares Glas Cymru with other businesses: unlike other businesses, which *"all they want to do essentially is to make a good business out of it so they'll take whatever profit they can"*, *"Glas Cymru puts whatever profit it can in."* This model has allowed them to reduce their financial gearing from over 90% to around 65%, as well as reinvesting some £3 billion in improvements to their service, reducing bills to customers and returning income to customers in the form of customer dividends. [Plaid MP] views this as a model which can be applied to other large scale public business.

*So you have there a model which is neither government nor private and you can adapt that for any large scale public business, really. I think. [Plaid MP]*

[Labour MP] also expresses his favour for this model

*"Dŵr Cymru or Glas Cymru [is] an excellent example where it provides a utility, an essential utility, and does so in a not for profit way. It reinvests it; it enhances its infrastructure, so it is a good model."* [Labour MP]

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<sup>56</sup> Translates as Blue Wales

However as an opposition MP, [Labour MP] realises that although he might prefer this model he will not be able to introduce it. He comments that as with any monopoly there is not somewhere else you can go to other than National Grid to get a power station connected. *“You can’t walk down the road and get an alternative estimate”*. [Labour MP] also considers that National Grid should be building infrastructure strategically, in anticipation of new projects which may come on-stream in the future. He justifies this in the case of North Wales because this area has a concentration of sites for wind or tidal generation.

*Where is the best wind resource? North West [Wales]. Where the best tidal? The Irish Sea and the tides around Wales. So let’s have a model that says, this is what we going to do, rather than doing it ad hoc. [Labour MP]*

He concedes that this *should* be possible even in a market based system, through subsidies. He observes that subsidies are used extensively anyway. But perhaps it should be clearer and also proportions of profits could be earmarked for strategic reinvestment in infrastructure

*Most of these companies get subsidies one way or another, and they make huge profits, and they pay the shareholders, and they have to pay the government back through green schemes and levies and everything like that. Well, that’s fine, but let’s have that transparent. Let’s know exactly what National Grid earns and what profit it makes and what part of that is made in Britain and what part it puts back into the community. [Labour MP]*

However, National Grid simply do not build infrastructure speculatively, for a predicted need. As [NG1] says:

*It’s quite a straight forward answer from our perspective, which is, we only develop schemes for things which we have a contract for. We don’t do things speculatively. [NG1]*

[NG2] Recognises that generation is changing and adds that there is a role for *someone* to examine *“where consumption is and where generation is and making sure that that makes sense”*, but expresses that this is a personal opinion and that it is not something that National Grid has a remit to have an opinion on.

[NG1] comments that there have been a large number of *“generators that have come and gone”*. As NG2 says, although it is not a coincidence that Wylfa Newydd is adjacent next to Wylfa, and nuclear licenses tend to be given on existing nuclear sites, other generators may be less predictable. As generators are commercial businesses, *“you can’t second guess them; they could*

*come up anywhere” [NG2]. Thus National Grid have to limit dealing with new connections to what is contracted.*

*We deal with it by what there is a contract for, I guess. Beyond that, we can’t. So if we hear of project on the media that might or might not be setting up here, there or wherever, we need to wait for them to come and talk to us officially. [NG2]*

[NG2] states that although it would be possible to negotiate with potential generators, it is difficult to place any reliance on a commercial business that has not made any financial commitment and it is right that there is some sort of commitment before National Grid enters negotiations around new connections.

*Otherwise you will find commercial businesses from all over the world just proposing things. [NG2]*

[NG2] observes that before privatisation of the electricity industry, the CEGB owned and managed all of this, generation and transmission. But the CEGB, [NG2] adds, was “*massively expensive.*” Now that the industry is split up, National Grid requires some commitment from generators.

*You need some commitment. You wouldn’t go and build infrastructure for things on a speculative basis. [NG2]*

But as a monopoly and as TSO, National Grid is in a position where it has to provide the service to every comer who meets the criteria.

## **5.14 Compromise and Fairness**

This section reports matters of compromise and fairness described by respondents. Responses regarding fairness could be in general terms of whether the planning and implementation of transmission infrastructure is fair, and what perhaps we should be prepared to give up in order to maintain a security of electricity. For some respondents the discussion was couched in terms of the broader models of justice, of utilitarianism, or of Rawls. This nature of question and the response depended on the flow of the interview, the respondents’ engagement with the topic and the available time.

As previously stated, themes identified in this research are not mutually exclusive and overlap to an extent, so some of aspects of compromise have already been discussed. For example, in 5.13

on Costs and Benefits respondents identify that there is local harm for the benefit of a wider area.

#### **5.14.1 What should we give up?**

Generally there was limited engagement with idea of a social contract. This may be due to the timing of the question nearer the end of the interviews. However several respondents did raise the issue of giving something up for the good of the wider community. So the social contract is shorthand to being prepared to give up something in order to benefit the wider society or *‘what should we give up in order to keep the lights on?’*

Only one or two respondents went as far as to identify an obligation on National Grid or the UK Government to ‘keep the lights on’. For others it seemed taken as read that this was the case. [Respondent Alpha] makes the distinction that National Grid have a contractual obligation although the government might have a moral obligation in this matter.

*National Grid have an obligation to keep the lights on. ... I think it is a legal obligation.*

*The government might have a moral one [Respondent Alpha]*

[NG2] contends that as a society we take electricity for granted and that it is not really valued as highly as it should be.

*We take for granted, cheap, clean and efficient electricity. We really do. You know, it’s not valued by people. ...[In the post-war years] people really valued electricity and were happy for anything to happen so that they could have a job and all the things they have in their home. I don’t think we appreciate that now. [NG2]*

[NG1] adds that even though we take electricity for granted in fact the margins on capacity are actually quite slim, that is, the available electricity generation capacity is close to the maximum electricity demand.

[Horizon] comments on both Horizon Nuclear Power as a generator and National Grid’s obligation to *“make sure we have a constant and secure supply of energy ... Particularly during the winter months possibly”*, and that if there is a fault this should be *“repaired very, very quickly.”* [Horizon] adds that National Grid a further obligation, to be accessible; *“that they listen to people, but that they can also explain quite simply in plain Welsh or plain English, you know, why they can’t do stuff”*. [Horizon] explains that sometimes in any industry, people are *“so focussed on what they do ... [that] they don’t take into consideration when they are engaging with the general public they [the public] may not be used to terminology”*.

When the idea that as citizens perhaps we give up certain things in order to be part of a society – in direct reference to a social contract – was put to [Respondent Mike] she responded:

*Are we aware of this? [laughs] [Respondent Mike]*

In this case [Respondent Mike] was joking, but it also illustrates that a social contract is implicit and it is not until pressed to think about it that it is even considered.

[Respondent Mike] recognises that demand for electricity is increasing and also that it would be difficult to give up this demand.

*Or our demand on power is because our technology is still increasing. We are getting more efficient but we want more of it.*

...

*What will we give up? What are we giving up for what? I don't think people will be willing to give up electricity.*

[Respondent Mike] questions whether we should give up landscape – this in response to the visual impact of HVOTLs on Anglesey - and suggests that as the infrastructure has to be carried somehow then perhaps we should give up money.

*Or give up money. That's the alternative, isn't it? - paying extra to preserve the landscape. [Respondent Mike]*

[Respondent Foxtrot] states that a social contract sounds great in theory and perhaps it was “great a hundred years ago”. But he opines “some people get taken advantage of, and others have all the advantages, ... and that is becoming more and more obvious.”

*We are seeing the black hole of London sucking away resources from everywhere else in Britain. [Respondent Foxtrot]*

[Respondent Hotel] firmly identifies any agreement – implicit or otherwise – as being with the government. “It has to be with the government”. [Respondent Hotel] is referring to the central UK government because of the scale of any development involving transmission infrastructure. In [Respondent Hotel's] view it is “absolutely” the government's responsibility to sort out the electricity development and further, to find an acceptable solution - in this case meaning a solution that does not place new HVOTLs across Anglesey.

*I'm not saying 'Don't put any wires at all'; I'm saying 'Put them out of the way.' And you can do that more cheaply if you set your mind to it. [Respondent Hotel]*



[IACC Economic] when answering the question of what we should be prepared to give up, states that *“the answer [is] different depending on where you live”* and then rephrases the question in terms of Anglesey. As the electricity produced on and transmitted across Anglesey is for consumption elsewhere, he asks *“what is acceptable in terms of Anglesey to be contributing that?”*

[Plaid MP] states that giving up a large area of land adjacent to Wylfa Newydd is a start. He is referring to the extra land required to house large switchgear for a possible undersea connection for the transmission link. What [Plaid MP] does not want to give up is the integrity of the landscape, to bargain away land for a little bit of money. [Plaid MP] makes the distinction between price and value, clearly placing a high value on the cultural and physical legacy of Anglesey above a short term income. [Plaid MP] places his view in contrast to that of engineers or economists, for example.

*Well, a piece of land next to Wylfa the size of several football fields is a start I suppose, you know.*

...

*It sounds a bit pious really, but it's the integrity of landscape for future generations. I mean, I'm not going to be here in 60 years time – I may not be here tomorrow, if the bus gets me coming round the corner – but there is something about the integrity and the history and all of, you know, there's a huge bundle of stuff there, which as a cultural nationalist, if you want to call me that, I mean it's a dirty term but I see that perhaps in more stark terms than somebody who is more interested in the nuts and bolts of engineering as it were, or perhaps even the economist who's wondering how many pounds will go into who's pockets, but there is something about keeping things in a sort of – I'm sorry it does sound like the bloody National Trust – but you know there is something there, which motivates me, which is beyond, am I prepared to bargain this little piece of land for that lump of money, or whatever, you know. It's the difference between price and value, I suppose. As they used to say about Mrs Thatcher, she knows the price of carrots, but has no idea about their value. It's that sort of argument, you know. [Plaid MP]*

For [Respondent Juliet] the idea of a social contract comes back to a *“sense of unity and us”*. [Respondent Juliet] argues as follows: at 10% of the UK's energy needs, the electricity being transmitted across Anglesey Electricity is surplus to the requirements of Wales [Respondent Juliet]; Wales is a disadvantaged area – recognised by repeated receipt of European structural funds; West Wales is also an area of low population density. Therefore, [Respondent Juliet]

argues, that because a minimum amount of people are affected by this infrastructure, the planning system serves National Grid because they can then “*achieve electricity at the cheapest cost possible for the greatest majority of people*”. [Respondent Juliet] continues, that for those affected by the infrastructure there is a “*gross injustice*”, because what little the area does have (economically), referring to the tourism industry in particular, is being jeopardised by the new transmission lines. Thus [Respondent Juliet] contends that the new transmission infrastructure, while benefitting the UK in providing electricity at as cheap a cost as possible, is also removing the potential livelihood of those through whose communities it passes.

*We don't have much here, we don't have much to sustain ourselves, the tourism industry is the most important industry on Anglesey and these pylons will undermine even more our ability to sustain ourselves with tourism. [Respondent Juliet]*

When asked what Anglesey should be prepared to give up in order to keep the lights on [Respondent Juliet] reiterates that Anglesey will be carrying around 10% of the UK's electricity needs and yet as a poor area receives no gain from hosting this infrastructure and if anything it will damage the economic prospects of residents. In addition, there is a different solution that would not compromise the host community, but which is being neglected because of cost. Moreover this decision based on cost is being made by a private, profit-making company. She states that the impact on community is not being considered and concludes that Anglesey should *not* have to sacrifice so much to supply electricity; should not have to sacrifice its heritage. By her account the local sacrifice is too great.

*So that comes back to your sense of unity and us. So if an area for us, for our perception, we are an area that we'll be carrying 10% of the UK energy - that is give or take any development that is or is not happening – and yet we are the poorest area, one of the poorest areas of the UK. So you put that in your context and you say, no, we are not getting any gain from this electricity. And if the future of our children depended on our having a pylon there, they might be considered, but the fact that there is a very easy solution in terms of putting a cable sub-sea and the only reason why it is not being done is because of neglected cost, and that decision on cost is based on a private company's decision, basically, answerable to shareholders, and that company has not costed the impact of the pylons on our community, and our properties and our, every other aspect of our life, so no we should not be sacrificing our heritage, basically, on many levels to keep the electricity on. [Respondent Juliet]*

[Ashely] considers what we should be prepared to give up specifically from the perspective of the historic environment. Unlike ecological impacts which may be mitigated by creating new replacement habitat elsewhere for example, this cannot be done with the historic environment. The historical landscape is not replaceable and it is a finite resource, and impacts on the historic landscape should not be taken lightly.

*[Although you] can put up [an interpretation] panel, you can have an access route, you can have a visitor centre, you can do bells and whistles but you don't actually mitigate the impact ...*

*once you've put something and it's there forever and it's disrupted that view between the barrow and the standing stone, that view is lost, it's gone. You could recreate it digitally or you could provide some interpretation about how these monuments used to exist in the landscape in the Bronze Age and that might help people understand but it's not actual mitigation as such, it's just a kind of offsetting, an enhancement. [CADW]*

[Respondent Lima] struggles with the tension between the need for new infrastructure and the impact on the landscape. She recognises a need for new infrastructure but is concerned that there is limited land available and this will be spoiled by development and that there must be a limit to what can be developed.

*I think we have got a finite amount of land in this country, haven't we. And more and more and more and more, it is getting built on. So the actual areas that are not built up and which are, you know, like round here for example, and natural areas, areas of outstanding natural beauty, all those kinds of things. You've got to keep those, haven't you. You can't just keep on spoiling everything. But they're in a predicament because they've got to build this transmission thing, haven't they. And they've got to put it somewhere. It just seems to me that they pick the nicest areas in the country to build these things, don't they. [Respondent Lima]*

In common with [Respondent Mike] earlier, some also suggest that it is money that we should be prepared to give up. For example, [Respondent Lima] simply replies "Money", and then when questioned further on this expands slightly, that we *have* to pay but perhaps in return the environment could also be protected.

*Well, that's the first thing we are going to have to give up isn't it. That's what they want from us in order to keep the lights on they want us to pay them. So you have got to do that. There is no option. Secondly I think we can ask them if we cannot have our environment messed up so much. [Respondent Lima]*

[AEI Director] states that he would be happy for there to be a little bit extra on electricity bills to get all the cables underground, but accepts that he is relatively well off and not everyone can afford higher electricity bills. On the other hands [AEI Director] also states that if it meant cheaper electricity he “*would be quite happy to see pylons across the UK*”. When pressed on this and the proposed two transmission lines across Anglesey, and what would he say to for example six lines then he admitted that this would be “*four sets too many*”, but there is a balance to be had and balances are “*part of life*”. [AEI Director] vacillates a little but eventually concludes that perhaps the right thing to do across the UK is to add a little bit to the electricity bills in order to reduce the impact of pylons.

[Plaid WAM] does not accept that accepting one thing necessarily means accepting another or giving something up. [Plaid WAMs] focusses specifically on Anglesey rather than dealing in abstract or general terms. [Plaid WAM] thus seeks to separate out different aspects of developments. For example accepting a new nuclear power station but not accepting geological disposal of nuclear waste. [Plaid WAM] makes the point that Anglesey is contributing to the greater society by hosting a nuclear power station, but this does not also mean that Anglesey should be expected to host nuclear waste; that Anglesey can accept the new power station but does not also have to accept HVOTLs when there are alternatives available. As far as [Plaid WAM] is concerned Anglesey is already contributing enough and accepting enough negative consequences.

*If we all pay our part in helping this modern world tick over and making contributions in different ways, the weight of responsibility shouldn't all be placed on one area. And I think Anglesey is more than playing its part by saying ok, we will host a next generation of nuclear power generation, and yes there are benefits, in terms of jobs, but there are lots of negatives as well.*

...

*But then to ask us to have geological disposal is wrong. Then to have the pylons where there are alternatives, and we know there are alternatives, is wrong; it is over industrialisation, when we are already committed to helping modern society by having the power station. So I think it is totally acceptable to say yes to Wylfa and no to the power lines. Because, as I say, go back to this conversation with National Grid, they're saying, we'll do it, if we have to do this, if we have to put the cables under the sea we'll do it.*

[Respondent Kilo] also consider that Anglesey should not have to give up or sacrifice landscape for the greater good, as there are perceived alternatives to HVOTLs which have been discounted.

*Well, it is not really necessary [to give up landscape]. That is what people don't like. Because there is an alternative which they [National Grid] weren't willing to consider.*  
[Respondent Kilo]

For [Respondent Kilo] the fact that National Grid is a profit making company means that a solution may not actually be in the national interest, that a solution may not actually be for the greater good.

*If National Grid was owned by the government then I don't think people would be quite so vociferous. But I think that if you know that it is a public company, who are going to make a profit, who are owned by shareholders, then it is a different kettle of fish. It's not the national interest then, is it?* [Respondent Kilo]

[IACC Economic] when asked what we should be prepared to give up laughs *"I'm not a politician"*, but then continues that Anglesey is not asking for a great deal considering the large contribution it makes in terms of energy.

*I think what Anglesey is asking for is peanuts compared with what it contributes to the UK. What Anglesey wants is a healthy, vibrant, economy, with opportunities for youngsters to have a high quality of life, and not be at a disadvantage because they live on Anglesey. That is what the majority of the residents of the island want. And to achieve that, to keep our young people here, to give them a high quality of life, to keep the Welsh language going, and to keep our communities going, I think the majority of the island's residents are willing to take and make some sacrifices.* [IACC Economic]

[AEI Director] on what should we give up and what is the network's obligation to citizens of the UK, recalls the duty placed on the CEGB, before the UK electricity industry was privatised.

*There is no one really obliged now. ... The CEGB's motto, as was, was 'Power In Trust', and they had an obligation to ensure that the lights were kept on in the UK. Now it isn't obvious to me at all whether or not any organisation has got that obligation any longer. The Grid has got an obligation to connect anybody who wants to get connected to it.*  
[AEI Director]

Although National Grid have an obligation to maintain a connection they have no obligation – indeed it is beyond their remit or terms of reference – *"to build any stuff at all for putting on the system."*[AEI Director]

[NG1] states that there is a clear obligation for National Grid to keep the lights on. However, [NG1] continues, what society should give up for that is *"a massive question"*, and something

that has to come from government. This is not something which National Grid can be in control of, but must rely on the boundaries and guidelines set by government. For [NG2], this should also include using what electricity is produced more efficiently: *“And it’s those things that aren’t politically sexy, like insulation and triple glazing.”* [NG2]

*[Electricity] is precious and it costs us a lot more than just money to produce it and we should value it more.* [NG2]

[Horizon] when asked what should we be prepared to give up to keep the lights on suggests that that is a question that will get a different answer from every person asked. [Horizon] recounts talking to a villager who was disgusted that he should be working at Trawsfynydd nuclear power station, and when it was put to her that without the electricity *“we would all be sitting in the dark with candles”*, responded, *“there is absolutely nothing wrong with that”*. As [Horizon] notes, there are some extremes of views like this, but in general *“people are very loathed to give anything up”*. As [Horizon] adds, *“I don’t think anybody has said that, you know, the pylons issue is a line in the sand.”*

[Horizon] when questioned on giving up landscape, answers *“in certain areas”*, but also argues that although from the air you may see a line of pylons stretching across the island from Wylfa, which *“looks awful”*, in actual fact on the ground you simply do not see this view.

*That’s not to say that they don’t impact people, but the general perception is, you don’t see them. ... If you’re a tourist here, if you’re driving for the ferry to go to Ireland or you’re going to Treaddur Bay for your hotel, or to the caravan parks in Rhosneigr, ... you don’t see them.* [Horizon]

#### **5.14.2 Fairness**

The previous section described responses related to compromise, of obligation to provide an electricity network and of giving something up in order to have this network. The following section reports responses related to fairness.

As [Respondent Hotel] summarises:

*Yes, fairness is a difficult thing to do.* [Respondent Hotel]

[Respondent Kilo] immediately identifies the way in which the new transmission connection is being developed as *unfair*. He points to the limited number of options presented by National Grid, which do not include the choice to route the transmission link undersea, and the flawed nature of the questionnaire because of this.

*I don't think that National Grid have discounted their first questionnaire – the results of it, I think they are still quoting them and I think that is highly unfair.*

...

*They don't want [the undersea route] discussed, because they know it is going to cost them more. I mean, it is patently obvious, it patently obvious because they have told us it is*

*so.*

*[Respondent Kilo]*

For others the question of fairness is less clear.

*It depends on what you mean by fairness, and fair to who and to what. [CADW]*

*I'm struggling. What's going on in my head is I'm thinking OK 'fair', what do you mean by 'fair', fair to who? [Respondent Foxtrot]*

Perhaps somewhat jaded by his own experience of local planning, [Respondent Foxtrot] states that theoretically the planning process seems fine, because it seems like a democratic process, but that people have learned to work around it, and that planning is losing its democratic nature, is bureaucratic and led by planning officers and not by those they should be serving.

In this [Respondent Foxtrot] is referring mainly to small energy developments of which he has experience and which are decided by local planning authority, and then by inference to larger scale infrastructure projects.

*Decisions are made long before the consultation happens.*

...

*It might be fair to the planning people who say it's fair, we ticked all the boxes we needed to tick, and that's the process, I've done my job. [Respondent Foxtrot]*

[Respondent Foxtrot] suggest that the planning process is probably procedurally fair but is doubtful whether the outcome will be fair to a majority those living locally. [Respondent Foxtrot] also contends that the (local) planning process serves larger companies better than small community developments simply because they have the resources and expertise to deal with the planning authority, where it is difficult for a local community to have the necessary expertise.

*It's easy to refuse local community, much easier than to refuse a large organisation*  
*[Respondent Foxtrot]*

[Respondent Foxtrot] also expresses suspicion at the level of influence a large organisation such as National Grid may have in lobbying the Westminster government.

On fairness, [Plaid MP] sighs and then also asks *“fair to whom?”* While stepping away from narrow nationalism he states that he has to serve *this* community and questions whether it is fair *“for us to have a new set of pylons across [the region]”*. [Plaid MP] answers himself: *“I don’t think it is, really.”* He then adds that if the region is to host this infrastructure then there should be some recompense for doing so and argues that the economic value from Wylfa is comparatively small over the long term. Although he acknowledges that in the shorter term there will be a *“huge input into the local economy as they build the thing”*. But he concludes, *“It will be Hitachi [owners of Horizon] who will get away with the real value.”*

Having knowledge of the work which National Grid do in order to arrive at a transmission solution which adheres to all the conditions imposed upon them [NG2] considers the outcome will be fair. In this the Planning Act also forces developers, such as National Grid to *“do the work early”* and developers will *“not take the chance that when it gets to inquiry nobody will notice anything.”*

*We are asked to lots of work, very thorough work, in advance and to make it all publically available. [NG2]*

[NG2] contrasts this with the previous regimes, concluding that the current regime is more open and fairer.

*That certainly wasn’t the case under previous planning regimes. So, I think there is a lot more transparency and I think the planning process itself, you know, with the long hearing period, with people being allowed to turn up and talk about any issue they want, I think that’s much fairer than previously as well [NG2]*

[NG1] adds that the process is *“fair for where we are in society”* but also adds the caveat that if is not fair then it is up to *“society to define what fair is”*. National Grid operate within the policy framework set by government; it is not up to National Grid to determine the nature of fairness.

### **5.14.3 For the greater good?**

As well as identifying a lack of fairness, respondents also recognised that the new infrastructure could be considered as for the greater good, or for the good of the greater population. [Director, Welsh Government] pre-empts ideas of utilitarianism and recognises that there is a price attached to always having electricity available and that that price may fall on some regions more than on others and that this can be viewed as a sacrifice for the greater good or wider community



*For you to be able to switch your light on at any time of the day, as a citizen of the UK, is a price that you have to pay the fact that Anglesey's conducive to having that there? Is the justice some sort of, not from the personal point of view, you have to put a price on what you have to sacrifice for the greater good of the wider community.*

*[Director, Welsh Government]*

Others also pick up on the idea that infrastructure may benefit others; that wider society benefits at a cost to local landscape. [Respondent Alpha] observes how central decision making means that energy developments locally are approved elsewhere by a central government but also that this sort of centralised decision making is necessary for the greater good.

*I think seeing what has happened elsewhere in the UK and elsewhere in Wales, locals have not wanted something, but the powers that be, be it Cardiff or London, have overridden them and said 'You are having wind turbines in your locality'. I think individuals or locals get very little say in the end.*

*...*

*It almost has to be like that. It has to be. ... For the greater good. [Respondent Alpha]*

[Labour MP] also identifies with the idea of greatest good for the greatest number of people but adds that National Grid have a huge responsibilities and need to heed these and to listen to the people:

*They have to take the public with them ... And build confidence and trust [of the public].*

*[Labour MP]*

[Respondent Foxtrot] is not convinced that even the greatest good for the greatest number of people is happening and that this idea is also used a “*way of providing a large amount of good to a very small number of people.*” He is critical of the notion of trickle down. In principle he agrees with incremental benefits and the idea of constant improvement over what already exists, and identifying with this idea suggests that we need to try something new – in this case more community ownership of energy infrastructure perhaps. Although he recognises North Gwynedd as one of the poorest areas in Europe “*for 15 years running*” and that as such the area has received extensive funding from Europe, he questions how we might use this funding better to raise those that are lowest, but he also questions how we could even measure benefits in order to distribute them and also how equality could be measured in this context. But [Respondent Foxtrot] believes we should be “*constantly trying to push things forward a little bit, trying to find the most equal way about it, but knowing that even that's not quite equal enough.*”

One solution he suggests might be to bring up some of the poorest estates through schemes similar to that of Repowering London in Brixton<sup>57</sup>. Although he comments on objections raised to this as being difficult: *“Why do you want to make it so hard? Wouldn’t it be easier to do it in some nice middle class village so that we can prove that it’s possible?”* Unless this was rolled out further of course, this would not benefit those who really need help.

[Plaid MP] understands a need for electricity for the nation beyond North Wales and that this can be considered a greater good, but again refers to a suspicion of inequity linked to historical exploitation of Welsh resources for gain elsewhere, and again cites Tryweryn (see 5.7) as an example of this.

*I’m not narrow. You know, if you asked me, do we want electricity to keep the incubators on in a hospital in Manchester or do you want to switch it off, you know, obviously, yes.*

[Plaid MP]

[Labour MP] recognises NW Wales as a poorer area, but states that it already receives structural funding whereas other regions do not. He does not believe that National Grid should give the region money, for example, but should simply be more sensitive to the needs of the region *“and spend a little more undergrounding, for instance”*. [Labour MP] accepts that the region is a generator of electricity, accepts the need for transmission and distribution but asserts that it should be *“tastefully”* implemented. As far as he is concerned the benefits socially and economically from the new power are *“considerable”*.

[Plaid WAM] when asked about the idea of greater good for greatest number immediately questions the scale

*Well, what’s the scale we’re looking, are we looking UK wide, are we looking Anglesey?*

[Plaid WAM]

[Plaid WAM] expresses the opinion that Wales does not have a say anyway and he has had little success raising the matter to other party WAMs in the Assembly.

*And clearly Wales doesn’t come into it, at all, because it’s not devolved, and we can say actually it’s nothing to do with Wales, and I raised this in the Assembly, several times asked the Labour government to support the people of Anglesey in their opposition to the cables, and they washed their hands of it always.* [Plaid WAM]

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<sup>57</sup> Repowering London is a not-for-profit organisation that specialises in facilitating the co-production of community-owned renewable energy projects (Repowering London 2015)

[Plaid WAM] summarizes, that Anglesey is playing its part in terms of providing for the greater good, by hosting the power station, but this should not also mean having to host pylons.

*So the greater good, yes, Anglesey I think is playing its part, with hosting Wylfa. That should not mean that another row of pylons is a part of the same package. [Plaid WAM]*

[Respondent Mike] makes a similar distinction when considering fairness of the infrastructure from a utilitarian view (shorthand to greatest good for greatest number of people). She expresses concern that Wales is bearing the burden and that although at a national UK level any trade off may well seem fair, it ceases to be so at a Welsh level and even less so at the level of Anglesey.

[IACC Economic] draws on the idea of the national policy, which has been through Parliament, and that parliament is represented by elected members from every community, and that Anglesey has a role in delivering that policy. However he adds that this also has to be done in a way that minimises negative local impacts and also *“creates opportunity to improve overall quality of life for the residential community”*. This is a matter of balancing local harm for national benefits.

[AEI Director] also states that transmission on Anglesey probably *does* meet the criterion of greatest good for greatest number of people at the UK level, as it makes electricity a little cheaper on the whole. However at a local level he does not think this is the case; in part because the explanations are inadequate. As he also observes, at a Welsh level there is insufficient power for Cardiff to influence any decision. The transmission system is an integrated system across England and Wales, but if it were to be started from scratch, he suggests, it makes more sense to have the transmission system Welsh but this would lead to *“a circle in Wales and a circle in England and never the twain shall meet until someone builds an interconnector”*, but as he concedes interconnected grids and electricity markets are part of European policy.

[NG1] makes the point the nuclear power station, Wylfa Newydd, *“has been encouraged and welcomed to Anglesey, because of the economic benefits that hang off it”*, along with Energy Island, and the transmission connection inherently comes with this new power station. [NG1] does not accept the premise that this combined generator plus infrastructure is negative for the local area, while being positive for the wider area.

[NG1] also raises the question of where boundaries are drawn within society and the scope and scale when considering development of infrastructure and who may benefit or otherwise

*What is society? Is it Anglesey? Or is it narrower than that? Or is it Wales, England and Wales? Is it, is society those from a certain age group or those from a certain demographic? [NG1]*

[NG2] links this to the subject of Europe and further integration of electricity networks with Europe<sup>58</sup>, and whether or not Europe should be considered therefore part of the wider network.

#### **5.14.4 Beyond utilitarianism**

Utilitarianism, with its idea of the greatest good for the greatest number of people, is relatively easily understood, and identified by most respondents. However for some it is inadequate and does not represent justice.

*I mean, the greatest good for the greatest number of people, well that's a fine sort of thing to have in your head, but it doesn't work out like that. Does it? [Respondent Hotel]*

*Well, I'm not sure that the greatest good for the greatest number is what I would call justice ... because I think justice is more to do with being fair to people. [Respondent Lima]*

To move beyond simple utilitarianism, some respondents raise some form of redistribution, and recognise that good or benefit can come in different forms. For example [Director, Welsh Government] describes how developers may mitigate a development by providing community benefits.

*There are statutory obligations through the planning system, section 106<sup>59</sup> agreements and planning obligations which come from , it doesn't matter whether from DCO consent or local town and country planning consent, which could have obligations for community benefits, but outwith that ... is the council's aspirations for voluntary community benefits from developers to reflect the sheer fact that these communities are going to host these, not just, particularly through the build period, but also during the operation. These things get extended and eventually decommissioned, so we've felt there's an obligation to local communities for the fact that they are hosting this and they should reap some benefits.*

Whether this practicable for National Grid with respect to a diffuse development such as that of a transmission line is open to discussion. [Director, Welsh Government] also cautions that these

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<sup>58</sup> This interview took place one month before the UK voted to leave the European Union.

<sup>59</sup> Site specific mitigation of the impact of development e.g. developer contribution typically used for affordable housing

sorts of community benefits from developers cannot be within the planning system because this could lead to accusations of bribery.

*But that has got to be negotiated totally outwith the planning system; otherwise you get accused of developers writing a cheque to get their planning consent. [Director, Welsh Government]*

For [CADW], redistribution in the form of community benefit paid by National Grid would be slightly perverse, as the transmission connection is ultimately paid for by the public, through electricity bills.

*You are not going to extract the same benefits for the local community because any benefits you get, say you manage to get some pot of money from National Grid to pay for, I don't know, some education facility on Anglesey to offset this new line, well that would be being paid for by the public so it would be a slightly perverse situation, that the public are giving a public benefit.*

...

*you would actually be extracting that from the rest of society, you know, the whole of the UK [CADW]*

However, [CADW] does concede that “that’s kind of the point” of redistribution.

[CADW] also raises idea of future use and willingness to pay for this. [CADW] refers to the Visual Impact Provision scheme and a survey in whether urban dwellers would accept this kind of scheme. [Ashely] also relates this to facilities such as libraries, which people are willing to pay for them whether they use them or not. By this token [CADW] suggests that perhaps there is indeed a case for extra spending to protect Anglesey’s landscape. [Ashely] also adds that how economists might view this is unknown to him.

*people who had never been to a national park, probably will never go to a national park, are they happy to pay for a benefit, supposedly, to that national park even though they are never going to see that benefit or feel that benefit. And apparently the results were fairly positive ...*

*And so by that token you could probably justify exactly what you were saying, that it’s right that there should be more benefits for Anglesey because even if you are never going to come here you should appreciate that it’s a nice place., it’s pretty [CADW]*

Respondents were also asked to consider the planning and construction of transmission infrastructure in terms of a simplified statement of Rawls’ theory of justice.

For [Respondent Juliet] and [Respondent India], for example, a relatively disadvantaged region is having further disadvantage placed upon it.

*Well no it clearly isn't [fair] in those terms. [Respondent India]*

[Respondent Juliet] argues that the situation in Anglesey is “*not even close*” to fulfilling Rawls’ ideal, because Anglesey is already a disadvantaged region and the imposition of pylons on the landscape “*takes away from our capacity to generate income for many decades to come*”, whereas the cost of the sub-sea cable is a 20 years cost, Anglesey is “*still living with the 1950s pylon and that is affecting our ability to package Anglesey*”.

[Respondent Golf] states that the decision to have the new transmission link is foregone (p222) and that this is the greatest benefit for the greatest number of people, but at the expense of the local. When considering Rawls’ principle that those least well off should benefit most, [Respondent Golf] accepts that the national (UK) need for new electricity transmission may be the reason for a development which affects those in his local area, but contends that it is in fact those with most influence who will benefit most, or will be least impacted by any new infrastructure. By this argument then Rawls’ principles are not adhered to.

On Rawls’ notion that benefits and harms should be distributed equally unless it is to the benefit of those least fortunate or least well off, [Plaid MP] sighs and questions “*How [does one] make that sort of think progressive?*” [Plaid MP] agrees that you should “*not take from those who don't have [or those with little] in order to give an equal amount to those with a huge amount*”. [Plaid MP] recognises that Western Wales has received a third consecutive round structural funding from the E.U. and this is an indication of the relative poverty of the region; “*the economy here is at the level of some former communist Eastern Europe, you know, below 75% of the average GDP*”. [Plaid MP] also noted that the Westminster government was considering repatriating regional policy-funding to London, thus potentially taking both development funds and control away from the regions. However, this may be largely moot at the time of writing as the interview with [Plaid MP] took place before the Brexit vote. [Plaid MP] then summarises:

*On the whole I think, you know, looking at large scale electricity production in this area and where it goes to and who benefits, I think we get the worst of it, really. [Plaid MP]*

When considering justice in these terms [IACC Economic] makes the distinctions between the different kinds of riches or wealth a community may have.

*The issue you have with Anglesey is that environmentally it is rich; it is a very high quality environment, natural environment. It is a good place to live if you have a steady income.*

*You know, it is safe, there are good schools, you can go up a mountain or into the sea or kayaking at the weekend, you have forest, beaches, you have a high quality natural environment and access to all those things if you live here.*

...

*However, ... it is a structural funding area, because salaries are amongst the worst in Europe, because employment opportunities are few and far between, and there is a huge mismatch between the socio-economic performance of the area and the natural environmental assets that we have. And to overcome that we need to invest into creating new jobs and growth. Which is why the energy sector is one of them.*

...

*To rebalance the fact that you can get a high quality of life here, not just from the natural environment and access to natural resources, but also in terms of a salary. [IACC Economic]*

When asked whether the pylons are a small price to pay for that:

*I think the provision of grid lines, you know, electricity infrastructure is a necessity to create the jobs. [IACC Economic]*

[AEI Director] focusses on particular sorts of disadvantage, such as from fuel poverty, and suggests that he would like to see more assistance from National Grid and the DNOs in terms of fuel poverty from a fuel use perspective specifically, that is demand reduction by insulating homes, for example.

[Respondent Foxtrot] identifies with the redistributive element of Rawls' theory as at least it suggests that we are closing the gap between the poorest and the better off.

[Respondent Mike] tries to rationalise exactly who is disadvantaged and suggest that the answer depends on your position or location when viewing the question.

*I suppose in this context, the people who are the least advantaged are the people who are being disadvantaged by the proposal. I'm trying to work out who are the least advantaged people.*

...

*Or are the least advantaged people the people who are stuck in the dark somewhere because there isn't enough power? It probably depends if you're English or Welsh when you look at it*

Faced with the prospect of the veil of ignorance, which removes knowledge of your own circumstances, [Respondent Mike] is prepared to gamble based on the odds of being affected. This effectively reduces Rawls' justice to a consideration of the probability of being adversely affected.

*So I thought of think, ok if I could be sort of dumped in the UK anywhere I might land in Scotland, I'm OK so let's go ahead*

...

*[Using odds] I'm a mathematician [laugh]. ... [What are the chances of me living] on Anglesey and being affected, they're probably low. But if I start narrowing the boundaries and doing it for a different perspective then the odds become higher.*

[Respondent Mike] compares this with the dilemma in funding less cost effective medical treatments for those who have no other choices. This leads her to make a comparison of health vs money with environment vs money: *"The harm is environmental where the benefit is economic"* [Respondent Mike].

[Respondent Hotel] remains unconvinced that it is possible to spread all the benefits equally, specifically because it is not possible to share the harm equally.

*It's not possible, not with the way that they are doing it at the moment. And there isn't a fair way if doing it. Because it is not possible to share the harm, equally. [Respondent Hotel]*

[Respondent Hotel] also considers that financial compensation is simply going around the problem, rather than solving it; that financial redistribution does not solve the problem of environmental harm.

[Plaid WAM] contends that Anglesey is vulnerable to the kind of development presented by new transmission lines in a way that a more industrial area may not be, because it will change the nature of the environment. On these terms Anglesey is the most vulnerable and has the most to lose. [Plaid WAM] also contends that this harm can be valued.

*If you look at, if you were putting pylons through an industrial estate, the damage they would cause, if this makes sense, the damage they would cause is less than if you put pylons through a rural area. And in those terms you could say that Anglesey is the most vulnerable, not if you understand, we are the vulnerable party here, because we have most to lose from having our countryside industrialised.*

...



*And harm is something that you can put a price on, that they should put a price on, calculate the economic, the direct economic harm.*

...

*I think it should be very easy to measure direct depreciation of property value, for example, you know. That's a fairly easy one. And economic impact on direct tourism entities, you know, within view of the pylons, or whatever.*

*But then there are other things that you cannot measure, and it's the, will it really have any impact on tourism. You will have evidence that you can conjure up saying, no and you will have evidence I'm sure you could conjure up saying, yes it will have very deep impacts. So where do you pitch the economic harm. But also it's the quality of life.*  
[Plaid WAM]

Some respondents considered the idea that whatever is done, we should aspire to it being an improvement on what went before and certainly no worse. This can be applied to both the solution for the transmission connection and how this solution is arrived at, including any consultation. [Respondent Hotel] and [Respondent Mike] link this to whether or not the existing pylons would be removed once the new link is completed. If the existing infrastructure were replaced rather than added to then although the visual impact or harm would not change, the network would still be renewed and presumably improved.

*That's why I asked the question of, are they planning to take the old ones out*  
[Respondent Hotel]

*Because then you're on a different route but on a whole you're no worse, you've still got a set of pylons over the island. They might be in a different place, but actually the average effect is the same.* [Respondent Mike]

[Respondent Hotel] identifies with the idea that any solution should be an improvement

*Well, this is what I'm saying, we should do better, than what we did previously. That's the whole point. Of what I'm saying.* [Respondent Hotel]

[Respondent Lima] focusses on the electricity itself and initially struggles to see how there can be gradual improvement because you either have electricity or do not.

*I can see it could apply in other situations but I don't know how they could quite do it with this. You know, you've either got electricity or you haven't.* [Respondent Lima]

When then asked to consider a situation where everyone has equal access to electricity, [Respondent Lima] then questions whether it is indeed acceptable for Anglesey to be disadvantaged and whether Anglesey even is disadvantaged by hosting the transmission infrastructure. [Respondent Lima] in this shows a difficulty in placing a value on a perception of disadvantage and that this will vary between individuals.

*So, is it all right then for people in Anglesey to be disadvantaged?*

...

*[Disadvantage] well, that is a personal thing, isn't it. If you feel you are being disadvantaged by having a sodding great pylon [laughs] stuck in your back garden, you are being disadvantaged. It is the whole perception isn't it. If you don't mind the thing being there, it is not a disadvantage, is it. [Respondent Lima]*

[IACC Economic] also addresses the idea of continuous, incremental improvement, arguing that for the country as a whole there will be betterment, and for Anglesey as a whole there will be an improvement but there will be a proportion of communities which feel disadvantaged.

*There will be a proportion of communities and individuals who will feel hard done by because when they look out over a field or a garden or stand in their bedroom looking out, they see green fields currently, in five years they could see grid lines. [IACC Economic]*

[IACC Economic] also argues that this represents a small proportion of people in relation to the national picture of electricity and employment, and that if there is a disbenefit in terms of visual impact, this should be compensated or mitigated. If the costs are too high for mitigation, by for instance under-grounding, then some other way should be sought, such as by providing a community benefit in another way.

[Respondent Lima] on balance decides that the planning system we have now is satisfactory as "at least we've had a say" and been able to express an opinion - listened to or otherwise - whereas previously this was not the case.

*It never seemed to be an issue before did it? Nobody ever said anything; they just did it, didn't they*

...

*We weren't [asked]. That's what I mean, they just went ahead and did whatever they thought was necessary and they didn't really bother to consult anybody outside their own particular sphere of operations, did they?*

*It might be better in so far as it is giving people the opportunity to put their point of view across. But how much notice is taken of that is another question. [Respondent Lima]*

[CADW], when asked about alternatives or improvement to the current way of determining transmission infrastructure, is not sure there are alternatives as there is an inevitability to the process once the decision to build a new power station has been made.

*That's what concerns me, that there are no alternatives, and so you can't really look at other options or alternative outcomes because if you are going to have a nuclear power station, you are going to need to connect it; it's a kind of inevitability. [CADW]*

[Plaid WAM] would like to see improvements in the consultation process and the way in which community opinion is considered.

*I would certainly like to learn lessons, from the experience we've gone through on nuclear on Anglesey. I'm not sure what the answer is and how you make sure a community is listened to and that their concerns are not only listened to but are acted on, as far as is genuinely reasonably practical. But it's clear that we need a better way of doing it than this. [Plaid WAM]*

When pressed as to what this improvement might be, perhaps unsurprisingly for a Plaid WAM, [Plaid WAM] suggests that a more local decision making process would be an improvement, although he does not offer specific suggestions on the process itself.

*Well, the one thing that does spring to mind is, obviously, as a nationalist, is the decisions should be made as close as possible to the people. And I think probably this wouldn't have happened if this was being decided in Wales. Or at least we would have pushed National Grid further. [Plaid WAM]*

[Respondent Mike] offers a pragmatic view on new developments, in general terms and regarding costs of possible solutions for energy infrastructure:

*There's three things and you can't be all three; you can be two of the three but you can't be all three: quick, good quality and cheap. And that's what everybody wants, it to be quick, good quality and cheap. But you can't deliver all three. You've got to compromise on one of them. You can have quick and good quality but it's going to be expensive. [laughs] [Respondent Mike]*

## **5.15 Summary**

Protest against the transmission connection from Wylfa Newydd to Pentir across Anglesey is principally linked to the use of High Voltage Overhead Lines (HVOTLs) in place of other solutions such as underground or subsea cables. Objection to HVOTLs is mainly because of their visual impact on the local landscape, rather than of health issues related to electro-magnetic fields. Although there is protest against the proposed transmission connections, there is general acceptance of the need to provide new generation and of the new nuclear power station, Wylfa Newydd.

### **5.15.1 Trust**

Trust, or lack of it, underlies the discussions in this research. Lay respondents exhibit a lack of trust and a suspicion of the electricity industry, National Grid and of planners. From the electricity industry there is also caution that their views will not be misrepresented.

### **5.15.2 NIMBYism**

Some categorise objections to HVOTLs as ones of NIMBYism, as new overhead lines may have a negative effect on land and property values. Protesters reject the NIMBYism label, in particular as the region has already accepted a new nuclear power station.

### **5.15.3 Sense of Place**

Anglesey evokes a strong sense of place as a beautiful, rural environment, with strong historical links. Although some will be directly affected by new HVOTLs, a main objection is that HVOTLs will lead to an industrialisation of the landscape; this is contrary to the sense of place held by many. Sense of place also encompasses a sense of community. There is tension between different views of what Anglesey is and what it could or should be, specifically with the promotion and development of Anglesey as Energy Island. National Grid are seen as a force from outside.

### **5.15.4 Remember Tryweryn**

The view of developers as from outside the region leads to concerns that decisions are being made elsewhere for the benefit of elsewhere. For some this has strong historical echoes of exploitation of resources in Wales, specifically by England. This leads to comparison with the historic flooding of the Tryweryn valley in order to provide water for the City of Liverpool, despite almost universal opposition from Welsh MPs in parliament.

### **5.15.5 The White Elephant in the Room**

New transmission infrastructure is required in order to connect the new nuclear power station, Wylfa Newydd, into the national grid. Although in general Wylfa Newydd is accepted, as a

nuclear power station it does attract some objections. Some object in principle to nuclear power, others to the use of particular nuclear technologies that they consider outmoded. Others again would prefer a shift away from nuclear power and other large centralised generation to more local, decentralised generation. Most are pragmatic in that they accept the new nuclear power station even though they may express a preference for another form of generation.

#### **5.15.6 It's All About the Jobs**

Some of the acceptance of Wylfa Newydd is linked to employment, although criticism is expressed at the nature of this employment. There is also concern that further industrialisation of the landscape will have a negative effect on tourism and employment in this sector. This concern remains an unquantified fear.

#### **5.15.7 Consultation, Representation and Democracy**

The consultation process is viewed as flawed and unfair by protesters. A major concern is that route options presented by National Grid were limited; that National Grid expressed a clear preference for HVOTLs; and that underground or undersea options preferred by many were not included. This is viewed by some as a cynical or even an arrogant imposition of a solution.

There is criticism of the consultation process as being one of information rather than consultation; that although people may present their opinions in response to the consultation, little heed is paid to these responses by the developer.

Representation is seen as an appropriate way to have opinion recognised. This may be through local bodies, such as a community council and the local authority, but more particularly through elected political representatives such as Welsh Assembly Members and Members of Parliament. All levels of this representation have expressed opposition to HVOTLs. Despite such concerted representation National Grid's preferred solution remains HVOTLs; this leads to complaints of a democracy deficit and the consultation being described as 'window dressing' whose purpose is simply to act as a sop to the public.

Understanding of the planning process for this type of infrastructure is generally poor, with little knowledge of how to influence any decision and of who or what institutions are involved in this decision making. Even those with professional interest in the matter, such as Members of Parliament, regard the planning process as complicated and inaccessible. National Grid have to consider public opinion but this is only one of many considerations, which also include professional stakeholders' opinions, technical considerations and financial considerations. However, National Grid have to defend their decision making before development consent is given. Stakeholders express minimal levels of influence on this decision.

#### **5.15.8 Together But Separate / Separate But Together**

Wylfa Newydd and the transmission connection are considered both together and separately depending on context. In terms of planning, one cannot happen without the other but they are considered separately. Those protesting against HVOTLs chose to separate this issue from that of the nuclear power station.

#### **5.15.9 Comparison, Conflation and Confusion**

In trying to make sense of the planning and consultation process for the new transmission connection, respondents draw on other experience, including of other planning, such as for buildings or roads. They also draw on other examples of broadly similar infrastructure to question the proposed solutions. However this can also lead to confusion.

#### **5.15.10 Costs and Benefits**

Respondents view the impacts of the power station and its transmission lines differently. For the power station although much of the benefit of the electricity generated will fall elsewhere, there will also be some benefit local through employment, for example. However the transmission lines are viewed as a local harm with no local benefit; the benefit is shared across the wider nation but the cost is not. Some of this cost is in terms of financial loss on property values; other cost is less easy to quantify, but includes potential loss of income in sectors such as tourism. Alternatives to HVOTLs, such as undergrounding, are seen to carry a reasonable financial cost if spread across all consumers.

However, there is little understanding of how a reasonable cost is determined. Concern is expressed at the nature of ownership of the national grid, and of potential conflict of interest with a private company owning national infrastructure. Alternative models such as not-for-profit are proposed. A profit motive is seen as contributing to a lack of overall strategy in network development.

#### **5.15.11 Compromise and Fairness**

Opinion is divided as to what should be given up in order to maintain a secure supply of electricity. Respondents do not accept the need to give up the existing landscape in order to provide electricity and would be prepared to pay more for their electricity in order to preserve this landscape.

Questions of fairness in transmission infrastructure are dependent on the scale or scope of the question. Although recognising the idea of the greater good, respondents question whether it is fair to expect a small region to host this infrastructure for the wider benefit, and state that an excessive burden is falling on the North Wales region. This means that a relatively

disadvantaged area is having further disadvantage imposed upon it. It appears that justice in this context is limited to a utilitarian view and falls short other views such as that of Rawls.

## Chapter 6. Discussion

### 6.1 Introduction

In seeking to understand stakeholders' perceptions of new electricity transmission infrastructure the results presented in the previous chapter and the themes developed provide an insight into the nature of the dissent towards this sort of development. This chapter places the results from the previous chapter within the aims and objectives of this research and reviews these in light of the literature covered in Chapter 2.

To re-iterate from Chapter 1, this research sought to determine:

Is there more to the dissent surrounding electricity transmission infrastructure than simple NIMBYism?

Who has power in determining transmission infrastructure? Are stakeholders truly represented? Who *should* control infrastructure development?

Is the process by which new infrastructure is determined fair? If so, why? If not, why not?

Should those affected by the new infrastructure be prepared to give up some things in exchange for the benefits it brings?

### 6.2 Is there more to the dissent surrounding electricity transmission infrastructure than simple NIMBYism?

The results from this research call NIMBYism into question. NIMBYism can be a convenient catch all with which to label those opposed to a development (Burningham et al. 2006), but while it is true that the level of interest shown in a development is high for those who may be directly affected, that is those more proximate to the development (Dear 1992), it is unfair to dismiss protest as NIMBYism. The possibility of personal impact may raise interest in the project, but this does not mean that this is the only reason for objection. For the case of Anglesey, the Back Yard in question could be considered to be most of the island. Protesters are not protesting professionally and any involvement with protesting takes both time and effort. The consultation and planning process is seen as hugely complicated and difficult to engage with. Impact is not just on individuals or their properties but on the character and sense of place that is held of the island. Although individual properties may well be impacted with a consequential loss in value - and clearly those within the designated route corridor across the island or near to the crossing point for the Menai Strait will feel a greater impact - a broader view takes into account the character and feel of the whole region. Concern for impacts on property prices or local employment is consistent with previous views of NIMBYism (Dear 1992; Fischel 2001) as a



rational response to development. The broader view is consistent with more recent suggestions such as from Devine-Wright (2012) that NIMBYism should be reconsidered as a positive place-protective response. For Anglesey, as an island with a clear boundary, within a part of the UK with a strong regional identity, geographically and culturally, National Grid is seen as a force from outside this place, imposing their will on the region with little sensitivity towards the place itself. For many in the North Wales region in particular, this has echoes of historical exploitation (see 5.7 Remember Tryweryn) (Elliott 2012; National Library of Wales 2015). NIMBYism can be further questioned by the general acceptance of a new nuclear power station (e.g. Pidgeon et al. 2008), indicating that opposition is not to energy development in principle.

Fears of impact on property or land prices are largely speculative, as are fears of impact on tourism and income from tourism. However, another interpretation is that by trying to place a cost on impacts in this way, those opposed to HVOTLs are simply trying to frame their argument in the sort of terms used by National Grid when favouring HVOTLs over more costly solutions for the transmission connection. Although cost is not the only concern for the new route, it is clearly a considerable influence.

Protest against HVOTLs on Anglesey is not against electricity transmission in general but is more specifically against a particular solution for this transmission and the impact this solution has on the local landscape. HVOTLS are seen as having a significant impact on the nature of this landscape, industrialising a predominantly rural region. Rather than the selfish parochialism associated with NIMBYism as a pejorative (Burningham et al. 2006), protest is strongly linked to a held sense of place and is better viewed as a more positive place-protective action (such as described in Devine-Wright 2009b). Focus of protest around the Menai Strait crossing can also be viewed as place-protective. The crossing point is a region of development where the diffuse physical impact (see p38) of the development becomes more concentrated. The impact is concentrated physically through additional structures and narrowing of potential route corridors and this physical concentration also has greater impact because this part of the development is more proximate and visible to communities. The crossing point is an arena where concerns which are diffused across the wider landscape along with HVOTL corridors become concentrated by communities and significant landscape features. In this case place-protection is more localised and focussed on a particular part of the island rather than the overall sense of the broader landscape across the island. However, concern remains around substantial physical impact of development. Potential disruption of the landscape is at odds with the strong sense of place and place attachments held by those in the local community and this place disruption can serve to galvanise protest (see Devine-Wright 2009b).

### **6.3 Who has power in determining transmission infrastructure? Are stakeholders truly represented? Who *should* control infrastructure development?**

Previous research such as by Parkhill et al (2013) and Devine-Wright and Devine-Wright (2009) has found a poor public understanding of the electricity network, the organisations within the electricity industry and the ownership of these organisations, and a lack of public trust in many of the agencies of the electricity industry, with this lack of trust extending to government. This research on Anglesey confirms these previous findings.

In a complex development such as that for the transmission infrastructure on Anglesey there is going to be an asymmetry in knowledge and information between the developers, the government and the residents of the region. Residents only have so much energy to expend in learning and protesting. Understanding of the process of development is poor and understanding of the scope of consultation also poor, with public expectation not in line with the actual process of consultation. Where members of the public expect to be asked for an opinion and this opinion to be taken into consideration this does not appear to be the case. This leads to frustration and the characterisation of the consultation as a sop or window dressing. The purpose of the consultation is open to question. From National Grid's point of view, the public consultation takes place at a point where a range of appropriate solutions are already decided, but this range does not reflect all – nor could it – of the possible solutions. Criticism that consultation occurs too far downstream in a major development for the public to influence the more strategic outcomes is consistent with previous findings with other large developments, both before and after the current planning regime related to Nationally Significant Infrastructure (e.g. Baker et al. 2007; Cotton and Devine-Wright 2012).

Although it would also be reasonable to state that those more actively involved in consultation or protest, either lay or professional, had a greater level of understanding of the electricity network, for lay respondents in particular this understanding was gained in response to the development and after considerable effort. Others who had perhaps been unable to devote the time or effort to understanding the workings of the electricity network and its possible development, showed a lesser level of knowledge and understanding. Many respondents showed little understanding of the planning process and how consultation fits in to this process. Respondents may understand that there are rules which govern siting of HVOTLs but see this as technical arguments for a particular solution.

National Grid as Transmission System Operator are an expert in electricity transmission and yet lack of trust in the electricity industry means that information they provide may be greeted with

suspicion . Mistrust of institutions may also be fed by historical experience (see 5.4 for results on trust from this research). Lack of trust in and suspicion of developers confirms previous findings (e.g. K. Parkhill et al. 2013). From a public perspective, the starting point for development of a new transmission connection and any consultation which forms a part of this development is one of incomplete knowledge, and of mistrust and suspicion. Asymmetry in knowledge implies an asymmetry in power (Lightfoot and Wisniewski 2014) and in the case of transmission infrastructure development this asymmetry falls in favour of National Grid. As well as being the experts in the field, National Grid determine the nature of the consultation, the arena, the information presented and the level of involvement of stakeholders. Although there is a statutory requirement for adequate consultation with the local community, what this comprises is open to interpretation by the developer with guidance from the local authority. The adequacy of this consultation is subject to judgement from the Planning Inspectorate. While it would be nice to feel that consultation was truly that, and that all opinions would be heeded and taken into account, all stakeholders interviewed expressed a lack of power in influencing the solution for the new infrastructure. The consultation is seen as limited to weighing up technical arguments proposed by the developer.

To recap, Lukes' views of power (Lukes 2005; Lukes 2012), Lukes identifies three views or faces of power. The first view is overt power, where power consists in winning decision-making conflicts; the second is covert power consists in control over what gets decided, by shaping an agenda, or deflecting grievances; the third is the power to shape desires or beliefs, thereby avoiding conflict all together.

In these terms, control of information, whether as a deliberate policy or through knowledge asymmetry from the expert to the lay, is a manifestation of Lukes' second view of power, where power consists of controlling the agenda of debate. It could also be argued that information control offers a form of Lukes' third view of power - the power to influence people wishes and thoughts - although this is not readily identifiable from this research. The debate is controlled both by the scope of consultation offered by National Grid and because there is also an inevitability to the outcome as the new power station is being built in response to national policy and must be connected to the national grid. Ultimately the decision on whether a particular transmission connection should receive a Development Consent Order and subsequently be implemented lies with the Secretary of State with advice from the Planning Inspectorate. Removal of the final decision from the local level and with limited right of appeal could be viewed as Lukes' first view of power: that of coercion, of prevailing, in that ultimately the

development will go ahead at the behest of the UK national government, in accordance with national policy.

National Grid as the developer, have to demonstrate adequate consultation. Indeed the consultation can be seen as extensive. However the view on this depends on what the perceived purpose of consultation is. Because consultation is opened up to the local community only after the strategic options have been selected, effectively giving a shortlist or menu to choose from, most of the strategic decision making has already been made and members of the public have had no say in this. National Grid are also able to make a judgement on the value of individual contributions to the consultation. In effect this could mean that even if every single person on Anglesey was vehemently opposed to HVOTLs and demanded the entire connection were placed underground and then sought representation of this through their Member of Parliament or Welsh Assembly Member, National Grid are in a position where they can still rely on their own professional view and the opinions of professional stakeholders to counter the wishes of the local population. Limiting public engagement until after strategic decisions have been made is also a clear example of Lukes' second view of power (Lukes 2005; Lukes 2012).

So who has power? Power takes different forms and Lukes' first and second views of power are readily identifiable within the development process. The final decision rests with the Secretary of State. The Secretary of State has to make a judgment as to whether or not the proposed development meets the policy requirements of the National Policy Statements. This decision will be guided by recommendation from The Planning Inspectorate, with a part of this recommendation takes into account whether there has been adequate community consultation. If the solution proposed by National Grid achieves government policy, falls within an economic framework set by Ofgem, demonstrates adequate consultation, and subsequently satisfies the Planning Inspectorate's Examining Authority then there is little reason to believe that the Secretary of State will not grant approval. Although nominally the power rests with the Secretary of State it is the successive recommendations from other agencies which carry weight. This is a collective power of institutions acting independently of each other but to the same broad end. This power to shape decisions is largely hidden from public view. Members of the public attending consultation events are largely oblivious to the influence of Ofgem, for example, in deciding what is an economically appropriate solution for the transmission link, or what the rules are applied when making this judgement. There is no public forum within the development process to challenge this framework.

Different transmission solutions have different financial implications. Although National Grid state that they will not go for the cheapest solution, cost is a major factor. The strategic options

report contains lifetime cost estimates for each of the strategic options considered including those taken to public consultation. It would be strange for cost *not* to be considered. The fact that cost is necessarily a factor means there is an economic or financial framing for the debate around transmission infrastructure. This framing and the rules within it are not chosen by members of the community, who may choose to value landscape differently. Once again this can be seen as a manifestation of Lukes' (2005; 2012) second view of power, of controlling the agenda and framing the debate.

From a community perspective, National Grid determine the terms of the consultation and debate. One of the major complaints from residents concerning the consultation is that it is a presentation of a limited number of options. Although the local community are consulted on the latter decision making stages, they are not consulted at the strategic stages. The main strategic choices of solutions for the new transmission connection are already taken by the time the public consultation begins. This leads to consultation on a limited range of preferred options. How these options were reached is a matter of conjecture for the public, who feel that they have little power or influence over the matter as what they consider viable alternative options are simply not offered. This is a clear example of Luke's second face of power: controlling the agenda (Lukes 2005; Lukes 2012).

It could be argued that there should be more room for communities to influence the type of network hosted within their environs. It is not to suggest that all major strategic decisions should be determined by those communities affected by them, but surely there is a case for some move toward this. At the moment technical considerations taken in a neo-classical economic framework dominate the decision making process and this framework is outside the scope of any consultation. Ultimately the decision as to whether a development goes ahead is determined by the Secretary of State. This power is tempered by the development and consultation process and is exercised within guidelines set by national policy. National Grid also hold a significant amount of power in the decision making process as it is largely their technical and cost appraisals which are used to determine the economic viability of any solution, although National Grid may argue that Ofgem have significant oversight of this process. The precise nature of the power relationship between these three institutions remains unclear, but what is clear is that power resides largely outside the communities affected by a development. By its very nature, National Grid's development process excludes communities' voices until the major strategic options have been determined. There is little room for communities to influence these broader decisions once taken. Large scale centralised generation, including from new nuclear, is

part of national policy and forms one of the starting points for electricity generation developments.

In Lukes' terms (Lukes 2005; Lukes 2012) electricity transmission infrastructure development provides clear examples of the first and second faces of power, of prevailing in decision making and of controlling the agenda, and in these examples the power resides outside the community which hosts the electricity transmission infrastructure and lies with the developer and central government. This calls into question any notion of localism and local voice with respect to larger, nationally significant infrastructure.

As much of the criticism of the fairness of the process by which transmission infrastructure is determined is levelled at the control of the agenda by the electricity industry, and specifically for any consultation which takes place as part of the development, this suggests for the consultation to at least appear fairer that members of the community should be involved at earlier, strategic stages of the development and in the strategic. To an extent this does happen as the local council for example are a core stakeholder. Recent research by Devine-Wright and Cotton (2017), for example, begins to address this by evaluating deliberative engagement by citizens over energy infrastructure siting. Although Devine-Wright and Cotton do not frame their research in terms of justice, they do find that this sort of engagement can address issues surrounding lack of trust and also negative emotions from impact on place.

The third view of power, that to influence people's wishes or thoughts, is harder to identify, but it could be argued that the acceptance of economic arguments for large scale development and side-lining of alternative views, and the notion of Energy Island a solution to local economic malaise, linking prosperity to a new nuclear power station and other energy developments, may be an example of this. and acceptance of this view serves to marginalise alternative routes to prosperity (such as proposed by PAWB 2012).

As to the question of who should have power, the planning system operates over different scales or scopes (see 2.6). HVOTLs and other Nationally Significant Infrastructure Projects are different from many other developments as the decision making is removed from the local to the national; and in the case of Wales to the UK Government rather than the Welsh Government. Planning for associated developments is determined by the local authority, however as appeals are dealt with nationally, power ultimately remains with central government. It could be argued that as these large developments are considered in the national interest that local objections should not be allowed to prevent the development. But this in turn privileges the agenda of

metropolitan or industrial interests over the rural and paves the way for destruction of what makes rural landscapes distinct.

#### **6.4 Is the process by which new infrastructure is determined fair? If so, why? If not, why not?**

In considering whether the process by which transmission infrastructure is developed is fair we first return to the three tenets of energy justice: procedural justice, recognition justice and distributional justice (McCauley et al. 2013).

Procedurally, it can be seen that there is a process by which citizens may register their opinion on Nationally Significant Infrastructure projects. The right to consultation is built into the development process. However, in the case of the North Wales Connection this process may be criticised for being limited in its scope to matters already decided by National Grid with input from professional stakeholders. The debate is framed where broad strategic decisions have already been made and the options for discussion are limited. This leaves little room for alternatives to be taken into consideration other than variants of the already proposed solution. National Grid's process allows significant room for consultation but this consultation at the early strategic stages of the development is with core technical stakeholders. The public and members of the community *are* consulted but only at a later stage when the broad form of the development has been decided, whether this is in terms of route or technology. National Grid's process does allow for refinement and revisiting of options but this does not appear to represent a real opportunity for members of the community to influence the decision. In fact, according to National Grid's own process, although there is public consultation before this, the statutory consultation required by the Planning Act does not occur until the Proposed Application is largely complete (see 2.6 Planning and 2.7 HVOTLs and Nationally Significant Infrastructure Projects). This view of public consultation occurring too far downstream for members of the public to have significant influence is a common refrain and is consistent with previous research (e.g. Baker et al. 2007; Cotton and Devine-Wright 2012).

In terms of representation, the consultation process for Nationally Significant Infrastructure allows any individual to have a say on the project. As well as individual contributions within National Grid's consultation process, the views of the public are represented to the UK Parliament by local MPs and within the Welsh Assembly by Welsh Assembly Members. On the face of it then the views of the public are taken into account, and there is no question of threat or coercion. However the weight given to these contributions can be questioned. National Grid's consultation process does not appear to place extra value on the collective voice as represented by politicians. In fact The Planning Inspectorate makes the point that no individual,

politically affiliated or otherwise, should have potential to influence the examination of an application more than another (The Planning Inspectorate 2017, para.FAQ 16). Within the UK parliament the MPs from Anglesey and North Gwynedd are just two among a House of Commons of 650 Members of Parliament, and the Welsh Assembly Government does not have any powers over this infrastructure as this matter is not devolved. So while no group or individual is privileged over another in terms of representation, it remains a matter of judgement by National Grid, The Planning Inspectorate and ultimately the Secretary of State how these contributions or representations are valued and what weight to give to these opinions. Potentially this also allows greater privilege to matters important to the developer, such as technological, engineering or economic considerations, than to matters important to the community hosting the infrastructure, such as sense of place. While previous research such as that by Baker et al (2007) or Cotton and Devine-Wright (2012) supports the finding that consultation is limited in scope and occurs downstream in developments, little appears to have been made of the lack of influence of groups and the collective voice of political representation.

In considering distributional justice, that is the equity in distribution of harms and goods central to energy justice, the question arises of “fair to whom”? The idea of the greatest good for the greatest number of people that forms the basis of utilitarianism means that in principle, when considering the UK as a whole, it may be just and fair for Anglesey to host both a new nuclear power station and the transmission infrastructure which connects it. This presumes that the benefit to the rest of the nation outweighs the impact to Anglesey. However, this is at the heart of the limitation of this sort of reasoning. By this token one could industrialise the whole of rural Wales in order to provide electricity or other services to London; the regions become subservient to the large cities, and development will continue to be driven by requirements from elsewhere.

North West Wales is already an economically disadvantaged region and to this is added a further cost to those living there, in terms of degradation of the landscape, contrary to the sense of place. Solutions for the transmission infrastructure are not chosen simply on cost (see 2.7 pp 47-51) (National Grid 2012b), but it is clearly a major factor, and yet there has been little attempt to quantify the cost of these alternatives in terms of their impact on the local landscape and communities. It may be that these costs are not considered significant, that potential future incomes are not affected and that the new transmission lines will simply blend into the landscape and be forgotten about, but this remains conjecture. Whether the infrastructure is fair from a utilitarian point of view is a matter of scale and perspective. So while from the UK perspective it may seem fair, from the more local perspective of Anglesey it is not.



Placing reliable estimates on the cost or value of impacts on a landscape is difficult. However given the tendency to preservation of a landscape by placing high option and existence values then this should be taken into account when costing options for transmission infrastructure; the environment has a higher value than can be estimated from property prices (Griffiths and Wall 2001, pp.228–229). According to Rawls’ Theory of Justice, in its simplified form at least, from the perspective of residents of North West Wales the new transmission infrastructure is unfair as although it benefits others, it imposes harm on an area which is already poor. This is inconsistent with Rawls’ second principle, that social and economic inequalities should be arranged to the greatest benefit of the least advantaged (see p61) (Rawls 1999, p.266). However as the harm is difficult to quantify the extent of this unfairness is not clear.

Sen’s (2010) argument for linking justice to the ability to live a good life may be appropriate in this case. Protest against HVOTLs is not just against localised impacts on individuals, but against the imposition of change on the landscape which alters the essential character of this landscape. This is important because the sense of where people choose to live is a part of their ability to live a good life. Also, if these changes to the landscape link to possible impacts on the tourism industry – however vague and unquantified – then this extends to the ability to earn an income with which to live a good life. The capability of living a good life is reduced; therefore the infrastructure is not fair. This must of course be balanced against others’ capabilities which are enhanced by a secure energy supply. However, in balancing the needs of some against others and the capabilities of some against others, it should not be forgotten that the protest on Anglesey is not to transmission in principle but to the use of HVOTLs in the face of seemingly viable alternatives, such as undergrounding. Although these alternatives may cost more, why not simply pay more in order to preserve the landscape, the sense of place, the place where people want to live? Giving up landscape is giving up a part of the local identity, the sense of place, and giving up the very thing that makes people want to live in the area. This goes against an instinctive sense of fairness and hampers the capability to live one’s chosen life. This view of energy systems in terms of capability is an emerging trend (see for example Sovacool and Dworkin 2015; Day et al. 2016).

## **6.5 Should those affected by the new infrastructure be prepared to give up some things in exchange for the benefits it brings?**

In asking whether those affected by the new infrastructure should be prepared to give up some things in exchange for the benefits it brings it should be remembered that benefit and harm do not fall evenly; one region is being asked to host infrastructure predominantly for the benefit of other regions.

There is a general acceptance that if as a nation we are to have electricity to meet our demands then certain regions may have to host infrastructure such as power stations. Whether acceptance is wholehearted or reluctant, the existing nuclear power station is generally accepted and the idea of a new nuclear power station to replace the existing one is also accepted. This is in line with previous research (Pidgeon et al. 2008; Venables et al. 2009; Venables et al. 2012).

With respect to the transmission lines, the simple response to this question from many respondents is that a reasonable recompense for hosting this infrastructure is to have mitigation. For transmission lines this could take the form of undergrounding. Thus the harm is reduced and the infrastructure is still in place for the benefit of the wider nation. Taking the new transmission link underground would come at extra cost but this extra cost is seen as worth bearing. Although the need for new electricity generation and transmission infrastructure is accepted, there is a strong preference to minimise impacts on the existing landscape. This places a high value on landscape as people express willingness to pay extra to preserve rather than use or spoil the landscape (see p21) (Griffiths and Wall 2001, pp.228–229). The idea of a social contract (para 2.8.5) – that we cede some rights in order to benefit from being a part of society – has little traction amongst respondents. However, there is acceptance of the electricity network as being for the greater good, but in the case of Anglesey additional impacts from new transmission infrastructure are seen as avoidable and unnecessary.

In the broader picture of the national grid, as new generators are built they will also need to be connected to the grid. Electricity from other large centralised generation such as that offered by new nuclear or offshore wind or tidal power will also have to be transmitted from where it is generated to where it is used. It seems inevitable that these new transmission links will meet with protest similar to that found in the case of Anglesey and North Gwynedd.

Given the high value placed on landscape and on sense of place then perhaps a change in emphasis is needed from an approach which connects new sources of generation on demand, in the most cost effective way and allowing for mitigation within this cost, to an approach which seeks to identify an ideal or best strategic solution for the network as whole and attempts to attain whatever this ideal is. However this may be unrealistic and suggesting this as an aspiration may lead to criticism of “*transcendental institutionalism*” as levelled by Sen at Rawls (Sen 2010). A lesser aspiration then would be that any transmission connection requires the local community to give up less; that the connection should be mitigated wherever possible and the cost for this borne by the nation as a whole. Thus any notional social contract - which implies giving up something for the greater good, for society, for the security this brings (see

2.8.5) - is predicated on a utilitarian argument of the greatest good for the greatest number of people but with local impact tempered by mitigation of the development.

## **Chapter 7. Conclusions**

This thesis has examined the planning process surrounding proposed high voltage electricity transmission infrastructure proposed for Anglesey, North Wales. The new transmission infrastructure is largely predicated on the construction of the nuclear power station, Wylfa Newydd. The research sits in the broader context of whole energy system change and a shift to low-carbon generation, including new nuclear, in response to the twin policy drivers of climate change and energy security. While the new power station is generally accepted the transmission infrastructure is contested.

The research is positioned within a justice framework and extends notions of energy justice to include the whole energy system, and specifically electricity transmission. As both climate change and energy security are framed as matters of justice then it is appropriate to also frame energy system development responses to these challenges, including transmission infrastructure, in terms of justice.

High Voltage Overhead Transmission Lines (HVOTLs) are seen as disrupting a sense of place, industrialising what is a predominantly rural landscape. Protest against HVOTLs is viewed as a place protective-action rather than a simple rejection of development. The fairness of the process by which transmission infrastructure is determined is called into question. Strategic decisions are made upstream of any community engagement. National Grid are viewed as a force from outside imposing their preferred solution. Power for decision making rests firmly outside the community which hosts the infrastructure and stakeholders report that they have little influence on the outcome of the development. While development may be seen as fair or just on a utilitarian basis and on a wider geographical scale, it falls short of more recent formulations of justice. Earlier deliberative engagement with community members may alleviate dissent and contribute to fairer and more just development.

This research uses a single case to explore issues of justice and fairness surrounding the implementation of transmission infrastructure in the UK. Specifically it uses the case of the new transmission connection for the Wylfa Newydd nuclear power station Anglesey, North Wales. Similar infrastructure is also planned for other parts of the UK. One example is that of new transmission infrastructure planned in West Cumbria to service NuGen's proposed Moorside nuclear power station near Sellafield. Having identified themes within this research there is merit in researching developments in other regions to see if these themes can be generalised. Some, for example those related to specific history within the region, will not have a direct equivalent in other regions, although the principles may be held in common.

If criticism of the process of consultation and of a lack of democracy is common across regions then this would indicate systemic fault, whether in the process itself or the understanding and explanation of the process.

This research primarily deals with the pre-application consultation for the Development Consent Order as this is where dissent and protest are focussed. The research does not cover the rest of the process and indeed much of this process is out of sight of the lay person. For example, decisions on route technology, in particular with regard to cost, are clearly influenced by Ofgem, and yet the role of Ofgem remains largely unexplored. It is not clear how Ofgem take account of the value of community or place, or how this may differ from the community's own perception of value. Rural space is a finite resource and one valued by both those who live in and visit this landscape. It seems short sighted to compromise the special nature of these landscapes for an expedient overhead transmission connection. Sampling used within this research has largely focussed on the community and the representatives of that community and has not extended to institutions such as Ofgem, the Department for Business, Energy and Industrial Strategy or the Planning Inspectorate. These institutions may offer further insights; although it can be questioned how easily one could obtain candid on the record opinions from these organisations.

This research has considered the planning for new transmission infrastructure for the electricity network as it is. If we are to seek a more equitable electricity network, both in development and operation, then we should consider what this network could be. The use of semi-structured interviews allows room for richness of response but the limited time available for each interview and the need to have some structure means that more deliberative or speculative ideas may be lost. This could be said of attempts to discuss alternative approaches towards consultation or energy system development in general. Exclusion of the public until later stages of the decision making process within development is inherent in National Grid's process and this contributes to a perception of unfairness and lack of justice.

If we are to seek a more just process, a way to approach Rawls' ideal (1999), or to make incremental improvements to communities' capability as Sen (2010) would have us do, then further research focussed on these ideas of justice as applied to energy networks, particularly in a more deliberative forum would be useful. More deliberative engagement at an earlier stage can at least alleviate lack of trust and negative emotions (Devine-Wright and Cotton 2017).

A sense of injustice could be reduced by involving the community in earlier strategic decision making. As it stands, National Grid's development policy specifically excludes this in favour of technical stakeholder opinions. This also favours technological alternatives for a given set of

solutions over discussion of strategic alternatives. This is clearly felt by community members as a lack of power in decision making as the major decisions are taken before any consultation. It could be argued that, as the hosts of the infrastructure, the community voice should carry more weight than it does.

If we are to improve the current model of consultation and development for large infrastructure projects, further research with a method allowing greater room for deliberation and discussion such as through focus groups would be useful with the possibility of both suggesting what is fair or just, and how this could be achieved.

Finally, alternative solutions to a given demand for a new transmission connection arise from technological and financial consideration for that connection to the grid largely considered in isolation from other future or potential connections. At the core is the very notion of on demand development. This is at odds with a long term strategic view of what the electricity network is or could be.

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## APPENDICES

### Appendix A. Pre-Interview Statement

Respondents were asked to read the following statement and give verbal consent to the interviews on this basis. When arranging interviews by e-mail a copy was sent to the respondent in advance of the interview. For interviews where sole contact was by telephone the statement was read aloud to the respondent before beginning the interview.

Thank you for granting the request for an interview. Please read the following prior to the beginning of the interview.

#### **The research**

The research is being conducted as part of a PhD undertaken at Bangor Business School within Bangor University.

The research explores stakeholder perceptions of the planning and implementation of high voltage transmission infrastructure in the context of whole electricity system change. In particular the research will examine perceptions of fairness within the provision of new energy infrastructure.

#### **The interview**

Participation in the research is voluntary. You have the right to decline to answer any questions and may withdraw at any time.

If agreed, the interview will be recorded. This is to ensure that all responses are correctly reported, that nothing is taken out of context, and to provide evidence of the interview. You may stop the recording at any time.

#### **Use of data**

Any data gathered will only be used for the purposes of the PhD thesis and academic publication.

The responses will be anonymised as is reasonably possible within the constraints of the research.



## Appendix B. Example Semi-Structured Interview Guide

The semi-structured interview guides used within the research interviews followed the form of the example below, with some questions tailored for a particular respondent. As well as questions for the respondent the guide also contains notes for the researcher. Interviews were conversational with the guide used as a prompt and reminder. The example given is that for the interview with [Horizon].

### Interview Guide

#### **What I am interested in:**

I am using electricity transmission infrastructure as a focus to explore ideas of fairness and justice in how we will provide energy in the future.

I have a set of questions to help focus the interview. The questions focus on transmission of electricity within Anglesey but please feel free to raise other related points that come to mind.

I am interested in *your* view, *your* opinion.

#### **1) Your stake?**

Wylfa Newydd is a major part of the needs case for new electricity transmission infrastructure on Anglesey. How do you see your stake in the development of new transmission on the island?

#### **2) Need for new infrastructure?**

My initial research suggests that there is broad acceptance of Wylfa Newydd and the need for new transmission infrastructure, but the new transmission infrastructure and pylons in particular, remains controversial. Why do you think this is?

How do you see the relationship between the economic future for Anglesey (e.g. Wylfa, Energy Island, or the Science Park at Gaerwen for example) and new transmission infrastructure? What about possible conflicts with other economic interests such as tourism and farming?

#### **3) Infrastructure Planning**

##### *a) Process*

What do you understand of the process by which the type and location of transmission infrastructure is determined?

How much influence does Horizon have?

Who is involved?

Who controls this process?

Who really has a say in what happens?

Who *should* control it?

How is this process fair or unfair?

##### *b) Purpose*

Who does the planning process serve?

c) Outcome

Do you think the *outcome* of this process is / will be fair? Why?

Who benefits from this infrastructure?

Who does not?

**4) Broader themes**

One comment I have received from several different sources is that the agenda for debate about transmission infrastructure was controlled; it was pre-determined and consultation was limited to over ground routes only i.e. pylons, and did not include other possible options such as under-sea. What do you think?

Justice

How do you think the electricity transmission infrastructure (pylons) fulfils the idea of greatest good for the greatest number of people?

*[further prompt: at a local level, at a national Welsh level, at a UK level]*

How do you think the electricity transmission infrastructure meets the ideal of distribution of benefits *equally*? And of harm?

How do you think this outcome and process are fairer than either previous or alternative ways of determining infrastructure?

*[This relates to the idea that whatever we do now should be fairer, better or less unjust than what has gone before, and certainly should be no worse.]*

Social Contract

What should we be prepared to give up in order to keep the lights on?

What is the electricity network's obligation to us?

**5) Next Steps**

Overall, what are your impressions of the transmission infrastructure planning? How do you think this could be improved?

**6) Finally**

With respect to electricity transmission infrastructure, could you rate from 0 to 5 (where 0 is none at all, 5 is high) your own levels of:





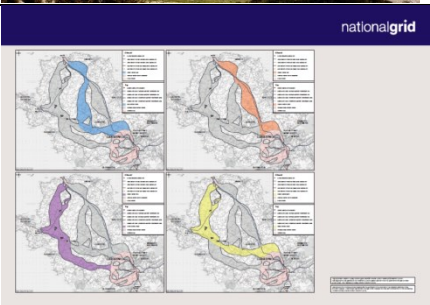
Interest


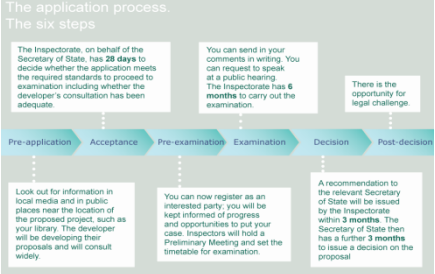
Understanding

Influence

## Appendix C. Set of Images Used Within Interviews

The table below gives the set of images used within the interviews. The images may be cross referenced to the interviews in Table 5-2 using the image code given.

Code	Image	Description
TB		The Menai Straits from Visit Anglesey (Tourist Board) website landing page Source: <a href="http://www.visitanglesey.co.uk/ImageGen.ashx?image=/media/227919/bridges-1280-x-618.jpg&amp;width=1280&amp;height=618&amp;altimage=/assets/images/missing-things-to-do.jpg">www.visitanglesey.co.uk/ImageGen.ashx?image=/media/227919/bridges-1280-x-618.jpg&amp;width=1280&amp;height=618&amp;altimage=/assets/images/missing-things-to-do.jpg</a>
BP1		Britannia Bridge from north  Source: <a href="http://static.panoramio.com/photos/large/17274378.jpg">http://static.panoramio.com/photos/large/17274378.jpg</a>
BP2		Britannia Bridge from north showing existing HVOTL 1)  Source: <a href="http://www.ukstudentlife.com/Travel/Tours/Wales/North/BritanniaBridge.jpg">http://www.ukstudentlife.com/Travel/Tours/Wales/North/BritanniaBridge.jpg</a>
PY		Double row of pylons  Source: The Guardian (Newspaper) Gareth Fuller/PA <a href="http://i.guim.co.uk/static/w-700/h--/q-95/sys-images/Guardian/Pix/pictures/2011/10/14/1318604831971/Pylon-competition-001.jpg">http://i.guim.co.uk/static/w-700/h--/q-95/sys-images/Guardian/Pix/pictures/2011/10/14/1318604831971/Pylon-competition-001.jpg</a>
RC		Proposed electricity transmission route corridors between Wylfa and Pentir  Source: National Grid <a href="http://www.nationalgrid.com/NR/rdonlyres/C60798AE-76C8-4847-B96C-70F0A4A047F8/56800/Proposedroute corridors between Wylfa and Pentir.pdf">http://www.nationalgrid.com/NR/rdonlyres/C60798AE-76C8-4847-B96C-70F0A4A047F8/56800/Proposedroute corridors between Wylfa and Pentir.pdf</a>

HY		<p>Heysham nuclear power station with transmission lines and wind turbines</p> <p>Source: Author</p>
PR	<p>The application process. The six steps</p> 	<p>The application process for a development consent for Nationally Significant Infrastructure</p> <p>Source: The Planning Inspectorate  <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/03/Application-process-diagram2.png">https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/03/Application-process-diagram2.png</a> </p>
JM	<p>a) The greatest good for the greatest number of people</p> <p>b) Benefits (and harm) should be shared equally If they are not, it must be to the advantage of the least well off</p> <p>c) What we do should be better (or no worse) than what we did previously</p>	<p>Simplified justice models</p> <p>Source: Author</p>

**Table C-1 Set of Images Used Within Interviews**