DOCTOR OF PHILOSOPHY

Marine spatial planning and the transition to a low carbon economy
A critical evaluation of the UK approach

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Marine Spatial Planning and the Transition
to a Low Carbon Economy: A critical
evaluation of the UK approach

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Thesis submitted for the Degree of Doctor of Philosophy

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Abstract

Without a substantial and sustained reduction in greenhouse gas emissions, climatic change will increase the likelihood of severe, and irreversible impacts for people and ecosystems. Such change requires the acceleration of multilevel (social, political and technological) and cross-sectoral transformation towards a low-emissions world. This transition to a low carbon economy is particularly pertinent in the marine environment, comprising a range of measures (e.g. area-based conservation, and spatial planning) and activities including offshore wind deployment, habitat restoration, and technological innovation (e.g. electric ships). Facilitating the low carbon transition thus requires the resolution of highly interrelated economic, environmental, social, and cultural conflicts of interests.

Spatial management of these activities, via mechanisms such as marine spatial planning (MSP) will be central to realising the transition by integrating decision-making. Advanced as an accessible and ecosystem approach to marine management, MSP has quickly become adopted as a rational governance process for addressing spatial and temporal distributions of marine activities and issues. In practice, however, MSP initiatives appear to repackage the status quo in empty participatory rhetoric providing the appearance of democratic legitimacy to neoliberal exploitation. The collaborative and contested nature of the low carbon transition compels this study to consider how leading MSP initiatives function to create cross-community understanding and coordinated action.

In response, this thesis claims to make three key contributions to knowledge. The first relates to a better understanding of institutional resistance in MSP. An analysis of political texts (speeches and documents), marine plan documents, and semi-structured interviews illustrates how realisation of the low carbon transition within the UK’s MSP programme was fundamentally restricted by the broader institutional context and political regime. This thesis thus challenges the notion that MSP can be re-politicised so as to facilitate a step-wise change in the governance of the marine area. The second relates to a comparative analyse of MSP in England and Scotland in which the constitutional complexity of the UK’s pioneering climate and MSP legislative
frameworks is foregrounded. The justification and realisation of MSP the low carbon transition is reflective of the asymmetrical distribution of legal powers to Devolved Administrations. MSP thus propagates the centralisation of decision-making and returns.

Finally, the thesis makes a theoretical contribution by developing a theoretical framework – distinguishing between boundary and pseudo-boundary objects - for examining the dynamic process of multi-community cooperation where there is the expectation of obstructive collaboration. The concept of ‘boundary objects’ has provided a rich framework for analysing collaborative processes involving heterogeneous communities. A bias within the literature was found that sought to black-box every cross-community thing, regardless of how it functions between communities, as a boundary object. This study argues that conceptually extending boundary objects to cover situations that are both enabling and inhibitory weakens the core value of the concept. Subsequently, by focussing on the functions rather than the features of boundary objects and linking this to the way knowledge may be controlled at community boundaries, the theoretical framework introduces an alternative typology: pseudo-boundary objects that operate in situations of obstructive collaboration. The development and subsequent application of this framework helps clarify how power inequalities can corrupt the sharing of knowledge within the implementation of MSP in England and Scotland.
Acknowledgements

The debt of gratitude I owe is large and to those who have helped me throughout my research, I will be forever thankful. My first thanks must go to my supervisor’s Dr Wesley Flannery and Prof. Geraint Ellis for their support, guidance, patience, and craic. You have successfully transformed this environmental biologist into a social scientist!

Second, I am grateful for the financial support provided by the Northern Ireland Department for the Economy, Marine Institute of Ireland (Researcher Travel Award); and the Emily Sarah Montgomery Travel Scholarship, without which this research would not have been possible.

Equally, to the many interviewees across the length of Scotland and England, thank you for your time and willingness to honestly and critically reflect on the MSP processes.

To my friends and colleagues across the School of Natural and Built Environment at Queen’s your support, counsel, and distraction (over coffee or wine) have been invaluable. Also, thank you to my colleagues from across the world who have made all the better the past few years.

Most importantly to my family, thank you. For those who are not family by blood, your encouragement and love have been a source of great support.

To my Mum, Dad, Sister, and Nephew – as a team we have been through it all and we have always come out stronger. Mum, your hugs have healed me and your unending support whether from the side of a hockey pitch or through my academic career has paved the way for me to accomplish this. Dad, as my mentor and cycling buddy you have taught me to be confident and persevere. Thank you all to the moon and back!

Finally, to Darren, my partner, my best friend, and my rock. At my worst, you listened and consoled me, and in the moments of break through and success, you celebrated with me. You nodded along as I spoke of theory and endeavoured to read my work. To you I owe so much, this is for you.
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<th>Description</th>
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<tbody>
<tr>
<td>AONB</td>
<td>Area of Outstanding Natural Beauty</td>
</tr>
<tr>
<td>BEIS</td>
<td>Department for Business, Energy &amp; Industrial Strategy</td>
</tr>
<tr>
<td>CC Act</td>
<td>Climate Change Act 2008</td>
</tr>
<tr>
<td>CCC</td>
<td>Committee on Climate Change</td>
</tr>
<tr>
<td>CCS Act</td>
<td>Climate Change (Scotland) Act 2009</td>
</tr>
<tr>
<td>CO</td>
<td>Cabinet Office</td>
</tr>
<tr>
<td>DAERA</td>
<td>Department of Agriculture, Environment, and Rural Affairs</td>
</tr>
<tr>
<td>DBIS</td>
<td>Department for Business, Innovation &amp; Skills</td>
</tr>
<tr>
<td>DDCMA</td>
<td>Department for Digital, Culture, Media &amp; Sport</td>
</tr>
<tr>
<td>DECC</td>
<td>Department of Energy and Climate Change</td>
</tr>
<tr>
<td>DEET</td>
<td>Directorate for Energy, Enterprise and Tourism</td>
</tr>
<tr>
<td>Defra</td>
<td>Department for Environment, Food, and Rural Affairs</td>
</tr>
<tr>
<td>DfT</td>
<td>Department for Transport</td>
</tr>
<tr>
<td>DHC</td>
<td>Directorate of Housing and Communities</td>
</tr>
<tr>
<td>DID</td>
<td>Department of international Development</td>
</tr>
<tr>
<td>DRAE</td>
<td>Directorate of Rural Affairs and the Environment</td>
</tr>
<tr>
<td>DTICC</td>
<td>Directorate of Transport, Infrastructure and Climate Change</td>
</tr>
<tr>
<td>EEZ</td>
<td>Exclusive Economic Zone</td>
</tr>
<tr>
<td>EMP</td>
<td>East Marine Plans</td>
</tr>
<tr>
<td>eNGO</td>
<td>Environmental non-governmental organisations</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EV</td>
<td>Electric Vehicles</td>
</tr>
<tr>
<td>FCO</td>
<td>Foreign &amp; Commonwealth Office</td>
</tr>
<tr>
<td>FSG</td>
<td>Directorate for Finance and Sustainable Growth</td>
</tr>
<tr>
<td>GHG</td>
<td>Green House Gases</td>
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<tr>
<td>HLMOs</td>
<td>High Level Marine Objectives</td>
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<tr>
<td>MCA Act</td>
<td>Marine and Coastal Access Act 2009</td>
</tr>
<tr>
<td>MCZ</td>
<td>Marine Conservation Zone</td>
</tr>
<tr>
<td>MHCLG</td>
<td>Ministry of Housing, Communities &amp; Local Government</td>
</tr>
<tr>
<td>MMO</td>
<td>Marine Management Organisation</td>
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<tr>
<td>MPA</td>
<td>Marine Protected Area</td>
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<tr>
<td>MS Act</td>
<td>Marine (Scotland) Act 2010</td>
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<tr>
<td>MS-LOT</td>
<td>Marine Scotland Licensing Operations Teams</td>
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<tr>
<td>MSP</td>
<td>Marine spatial planning</td>
</tr>
<tr>
<td>MS-LOT</td>
<td>Marine Scotland Licensing Operations Team</td>
</tr>
<tr>
<td>NAP</td>
<td>National Adaptation Programme</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organisation</td>
</tr>
<tr>
<td>Nm</td>
<td>Nautical miles</td>
</tr>
<tr>
<td>NSA</td>
<td>National Scenic Areas</td>
</tr>
<tr>
<td>PfG</td>
<td>Programme for Government</td>
</tr>
<tr>
<td>PFOW</td>
<td>Pentland Firth and Orkney Waters</td>
</tr>
<tr>
<td>PMO</td>
<td>Prime Minister’s Office</td>
</tr>
<tr>
<td>RTPI</td>
<td>Royal Town and Planning Institute</td>
</tr>
<tr>
<td>SAC</td>
<td>Special Areas of Conservation</td>
</tr>
<tr>
<td>SDECC</td>
<td>Scottish Directorate for Energy and Climate Change</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>SLA</td>
<td>Special Landscape Area</td>
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<tr>
<td>SMRs</td>
<td>Scottish Marine Regions</td>
</tr>
<tr>
<td>SNP</td>
<td>Scottish National Party</td>
</tr>
<tr>
<td>SNMP</td>
<td>Scottish National Marine Plan</td>
</tr>
<tr>
<td>SPA</td>
<td>Special Protected Areas</td>
</tr>
<tr>
<td>SSSI</td>
<td>Sites of Special Scientific Interest</td>
</tr>
<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UKIP</td>
<td>United Kingdom Independence Party</td>
</tr>
<tr>
<td>UKMPS</td>
<td>UK Marine Policy Statement</td>
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Chapter 1 Introduction

“Adapt or perish, now as ever, is nature’s inexorable imperative.”

H.G. Wells (1866-1946)

An effective response to climate change demands the rapid decarbonisation of societies throughout the world. It is the intention of this thesis to critically examine how effectively marine spatial planning (MSP) initiatives facilitate this low-carbon transition.

1.0 Introduction

The warming of the Earth’s climate is unequivocal, and the human influence on the climate system is clear with recent anthropogenic emissions of greenhouse gases the highest in history (IPCC, 2014), and four (climate change, biosphere integrity, biogeochemical flows, and land-system change) of the nine planetary boundaries already exceeded (Rockström et al. 2009; Steffen et al. 2015). Climate change is a wicked problem and is not easily resolved because it is a shorthand for a much larger set of interconnected issues (Kirby & O’Mahony, 2018). The impacts of climate change have been observed across all continents and oceans (e.g. Australia’s unprecedented bush fires (Boer et al. 2020); extreme flooding across the North of England (Otto et al. 2018); supercharged hurricanes (e.g. Hurricane Harvey: Trenberth et al. 2018); and global ocean acidification: Doney et al. (2009)). Without a substantial and sustained reduction in greenhouse gas emissions, further warming and long-lasting changes across all climatic systems will increase the likelihood of severe, and irreversible impacts for people and ecosystems (IPCC, 2018). Therefore, limiting climate change and the effects thereof, requires complementary strategies of mitigation and adaptation over the coming decades, necessitating transformative - political and societal- change integrated with sustainable development on a global scale. Such change requires the upscaling and acceleration of multilevel (political and social) and cross-sectoral transformation towards a low-emissions world (e.g. climate policy, land and ecosystem management, urban and infrastructure, and industrial systems) (IPCC, 2018).
The transition to a low carbon economy is particularly pertinent in the marine environment. Directly, or indirectly, everyone relies on the ocean and cryosphere area for services including uptake and redistribution of anthropogenic CO\textsuperscript{2} and heat, hydrological cycle, food and freshwater, renewable energy, cultural values, and trade and transport (IPCC, 2019). Climate change is, however, modifying both marine ecosystems (e.g. northwards shift of species: Perry et al. (2005)) and the way people use the marine area (e.g. mitigation through the expansion of renewable energy: IPCC, 2019). Combined with the extensive industrialisation of the world oceans (Halpern et al. 2008; Stojanovic & Farmer, 2013), and complex institutional landscapes (Boytes & Elliott, 2014), facilitating climate mitigation and adaptation (i.e. the low carbon transition) in the marine area requires the resolution of highly interrelated economic, environmental, social and cultural conflicts of interests.

Whilst marine spatial planning (MSP) is not considered a climate panacea, and cannot halt the effects of climate change, it is part of a larger marine governance toolbox that must be part of the transformation to a more sustainable regulatory regime. MSP has quickly been adopted by governments across the globe as a solution to an array of issues including climate change mitigation and adaptation (Santos et al. 2020). As a relatively new system of governance, MSP is lauded as capable of providing an integrated approach to managing and allocating resources and space. However, despite the transformative capacity of MSP, evaluations of its implementation illustrate large gaps between how it is conceptualised and how it is practiced (Ritchie & Ellis, 2010; Flannery et al. 2016; Jones et al. 2016; Smith & Jentoft, 2017; Flannery et al. 2018; Kelly et al. 2018; Smith, 2018; Tafon, 2018; Clarke & Flannery, 2019; Flannery & McAteer, 2020; Toonen & van Tatenhove, 2020). The potential of MSP to reform the unsustainable management of the marine area remains unclear, and it is in the context of climate change mitigation and adaption (i.e. facilitating the low carbon transition) that this thesis endeavours to investigate.

This chapter commences this study by justifying the focus and structure of this study. To begin with, a literature review of the low carbon transition is presented that contextualises MSP as an emergent mechanism through which the transition can be achieved. A review of MSP literature is then presented that cautions the naïve assumption that the move from government to governance provides an impartial and rational spatial management process. Following this, the choice of UK, specifically
English and Scottish MSP initiatives as comparative case studies, is outlined. Finally, this chapter concludes with a description of the aims, objectives and structure of this thesis.

1.1 The transition to a low carbon economy

The rate and scale of anthropogenic greenhouse gas (GHG) emissions\(^1\) and environmental change is unprecedented. A major conclusion from recent IPCC assessments (IPCC, 2018) and long-term climate scenarios (IPCC, 2000; Metz et al. 2002; Swart et al. 2003) is that in order to limit the rise in average global temperatures to 1.5-2°C above pre-Industrial level (Paris Agreement: IPCC, 2015) immediate action must be taken to move global economies and societies towards low-emissions scenarios. Such calls from the scientific community, for the rapid decarbonisation of carbon-intensive sectors (e.g. energy, transportation) and the transition to a low-carbon economy (e.g. reduced consumption, renewable energy) have been echoed across public\(^2\) and political\(^3\) spheres. Subsequently, the aim of transitioning to a low-carbon economy has been established as a defining issue of the 21\(^{st}\) century, and in light of the COVID-19 pandemic, as a key tool for economic and social recovery (Taylor & Laville, 2020).

The process of transitioning to a low carbon economy and society is, however, a wicked problem because it is an incomplete concept, and is not easily achieved. That is to say, there is no singular transition, and all transition pathways require radical and systemic transformation. The low-carbon transition represents an expansive set of

---

\(^1\) GHG include carbon dioxide (CO\(_2\)), methane (CH\(_4\)), nitrous oxide (N\(_2\)O), and the so-called F-gases (hydrofluorocarbons and perfluorocarbons), sulphur hexafluoride (SF\(_6\)), and nitrogen trifluoride (NF\(_3\)). Each gas is weighted by its global warming potential and aggregated to give total greenhouse gas emissions in CO\(_2\) equivalents. Anthropogenic, or human sources of GHG include burning fossil fuels: coal, oil, gas, and peat for energy (heat and/or electricity) and transportation needs, agriculture, manufacturing and industry (e.g. cement production), land-use change, deforestation, and waste: landfill and food.

\(^2\) Public outcry (on a cross-generational scale) over the need to act on climate change is perhaps most visible through the emergence of the global environmental movement ‘Extinction Rebellion’, the global climate strike (https://globalclimastrike.net/), the Fridays for future youth movement (motivated by Greta Thunberg).

\(^3\) For example, at the UNFCCC COP 21 in Paris (IPCC, 2015), President Barack Obama remarked that climate change ‘defines the contours of this century more dramatically than any other’, other leaders including UN Secretary General Ban Ki-moon reiterated the need for a ‘turning point’ in international cooperation to ensure that ‘we are headed to a low-emission, climate resilient future’.
interconnected political (e.g. historic and current GHG emissions of the global north and global south: Beer (2014)); economic (e.g. financial/carbon marketisation: Louche et al. (2019)), social (e.g. resource privatization: Romero et al. (2012)); mobility justice: Henderson (2020)), and environmental issues (e.g. increased resource extraction for electric vehicles: Henderson (2020)). Furthermore, whilst it has been widely lauded as an encompassing tool for climate mitigation and adaptation, the reality of developing a low-carbon economy- on either a national or global scale- is far from simplistic (Kirby & O’Mahony, 2018). Transitions require collective and persistent action from various industry (e.g. technological and business innovation), political (e.g. legislation, policy frameworks); and societal actors (e.g. reduced consumption).

As indicated in the title of this thesis ‘Marine Spatial Planning and the Transition to a Low Carbon Economy: A critical evaluation of the UK approach’, there is no singular definition or limitation granted to what constitutes the low carbon transition within this study. Many aspects of modern life have been scrutinised from a low-carbon perspective (e.g. business innovation: transport, legislation and policy: Frankhauser, (2013)), but none have received more attention than energy\textsuperscript{4} (e.g. Bridge et al. 2013), considered here, and across this study, to mean the generation of electricity. Whilst it is pertinent to study the energy transition due to the potential carbon-reductions\textsuperscript{5} (IEA, 2020), this study regards the transition to a low-carbon economy as a holistic policy aim encompassing ecological, economic, and social matters. Thus, whilst the normative debate surrounding the research of the low-carbon economy is focused on geographies of energy transitions (i.e. technological and economic modelling: e.g. Bridge et al. 2013; Foxon, 2013), throughout this thesis the ‘transition to a low-carbon economy’ (and other formations of this concept) equate to the entirety of low-carbon marine pathways including, but not limited to: protection

\textsuperscript{4} Google scholar search for “transition to a low carbon economy” (and versions therefore) with additional search criteria of “energy” returned 54,500 papers. Other topic searches returned lesser results (e.g. “fishing”/”aquaculture”= ~5,000; “transport”/”vehicles” =30,000).

\textsuperscript{5} The academic, socio-economic, and political interest in low-carbon energy generation, particularly renewables (i.e. wind and solar)\textsuperscript{5}, can be explained by a number of factors including (1) electricity generation constitutes the single largest source of GHG emissions across the international community’, (2) low operating costs (IEA 2020); (3) economic and generation resilience (IEA 2020); (4) significant socio-economic opportunities (e.g. jobs Blyth, 2014); and (4) increasing social acceptance (e.g. wind: Ellis & Ferraro 2016).
and restoration of blue carbon stores, carbon capture and sequestration, renewable energy (e.g. wind, tidal, floating solar), fuel innovation for shipping and fishing fleets. By adopting this open interpretation of how the low carbon economy can be realised this study does not seek to reduce environmental or social benefits to purely monetised assets. Rather, the intention is to understand how economic growth through the low carbon transition, as a prevailing political dogma, accommodates interconnected social and environmental matters.

Low carbon transition pathways largely comprise a spatial element. Whether through the use of space for bioenergy crops, and resource extraction, or spatial conflict such as fisheries displacement triggered by renewable energy arrays (de Groot et al. 2014), comprehensive climate action necessitates consideration of how best to use limited space. Terrestrial and ocean-based spatial management mechanisms, such as MSP, will therefore be central to realising the transition by integrating decision-making on the various components of a low carbon economy (e.g. energy, transportation, habitat restoration: Dundas et al. (2020)), alongside other broader matters social and environmental justice. How effective MSP will be in facilitating the transition to meet climate regulation goals, generate co-benefits, and build ecosystem, social and economic resilience is, therefore, a central question of this study.

1.1.1 Mechanisms to facilitate the low-carbon transition

The starting point for decarbonisation is a strong legislative basis that brings together existing strands of regulation, express long-term objectives, creates a platform for subsequent action, and creates a downward pressure on the extant regime (Townsend et al. 2011; Frankhauser, 2013). At an international scale, the political response to the threat of climate change has predominantly been coordinated by the UN Framework Convention on Climate Change (UNFCCC) aiming to foster mutual trust (e.g. polycentric approach: Cole (2015)) and overarching legal commitments (e.g. Kyoto Protocol 1997, Paris Agreement 2015). Consequently, motivated by issues including economics (e.g. South Korea’s Green Growth Law), security (energy or national: e.g. USA’s desire to reduce reliance on foreign oil), or political pressure (e.g. Mexico hosting COP 16) (Townsend et al. 2011), nearly all major greenhouse gas emitters have established climate legislation on their statute books (Nachmany et al. 2015;

For climate law to be credible it must be supported by robust mechanisms- constituting implementation strategies, policies, and governance arrangements- that go beyond sector-specific issues (Frankhauser, 2013). While legislation establishes long-term objectives and fiscal confidence, the speed and manner in which the low-carbon transition is realised will be largely determined by markets and private initiatives, backed up by high-level government decarbonisation roadmaps (Frankhauser, 2013).

For example, while the UK has enshrined in law net zero carbon emissions by 2050 (Climate Change Act 2008 (2050 Target Amendment) Order 2019), the fundamental elements of this transition (e.g. cutting emissions, maintaining secure energy supplies) are outlined within the UK’s Low Carbon Transition Plan (HM Government, 2009) and the Clean Growth Strategy (HM Government, 2017). As such, to ensure that legislative and policy reforms do not work in isolation (i.e. sector-specific transitions reinforce each other), and so facilitate a systemic low carbon transition of economies and societies, necessitates a shift from fragmented to shared efforts and responsibilities. Neither political will nor policy competency can be presumed, rather, there is a need to establish and support systems of integrated governance that create shared competencies for policymaking, managing activities and their consequences, and enable competing interests to be articulated.

One such integrated governance arrangement is MSP, which is lauded by its supporters as a rational and accessible governance process for addressing spatial and temporal distributions of marine activities and issues (Ehler & Douvere, 2009; Ehler, 2018). There is a clear imperative to develop an integrated approach to managing marine uses and ecosystems, particularly in light of the unprecedented change occurring in the world’s seas (Worm et al. 2006). As such, and in response to a wide-ranging legislative landscape, several MSP initiatives have been developed to facilitate climate mitigation and adaptation (e.g. through the expansion of offshore wind energy (OWE), protection of habitats for carbon storing).

Critical scholars, however, caution of a disconnect between the idea of MSP as providing a holistic reform to marine governance, and how it is implemented (Ritchie
& Ellis 2010; Toonen & van Tatenhove 2013; Jones et al. 2016; Smith & Jentoft 2017; Smith, 2018; Tafon, 2018; Clarke & Flannery 2019; Saunders et al. 2019a, b; Gissi et al. 2019; Flannery & McAteer 2020; Toonen & van Tatenhove 2020). An understanding of the complexity of governance systems including the patchwork legal and policy framework, the relationships between stakeholders, and the (im)balances of power, thus necessitates an examination of how, and to what purpose, such participatory process’s function (van Tatenhove, 2017). Given the joint need for enhanced governance and climate action, this study explores in detail the development and implementation of MSP initiatives, and their effectiveness in facilitating the low-carbon transition. By effectiveness, this means the ability for stakeholders to articulate their competing interests and understandings so as to create common understanding. This begins with a consideration of the emergence of MSP.

1.2 The emergence of marine spatial planning

The industrialisation of our oceans is well underway (Halpern et al. 2008; Salcido, 2007; Stojanovic & Farmer, 2013). In his inaugural speech to the International Fishery Exhibition in 1883, the biologist and anthropologist, Thomas H. Huxley remarked:

*I believe that it may be affirmed with confidence that, in relation to our present modes of fishing, a number of the most important sea fisheries, such as the cod fishery, the herring fishery, and the mackerel fishery, are inexhaustible. I base this conviction on two grounds, first, that the multitude of these fishes is so inconceivably great that the number we catch is relatively insignificant; and, secondly, that the magnitude of the destructive agencies at work upon them is so prodigious, that the destruction effected by the fisherman cannot sensibly increase the death-rate.*

Whilst fitting for the time, Huxley’s observations seem implausible in light of the current state of the world’s oceans (Worm et al. 2006; Halpern et al. 2008, 2015; McCauley et al. 2015). With a growing human population, increasing resource demands (e.g. fisheries), and innovation and technological advancement (e.g. floating wind farms, deep sea-mining), marine ecosystems are facing unprecedented exploitation and change others (Worm et al., 2006). Coupled with a complex management framework, the oceans are now sites of interrelated conflicts amongst users and between users and ecosystems (Douvere, 2008), compelling the adoption of
wholescale view on marine governance (Douvere, 2008; Crowder et al. 2006; Foley et al. 2010).

The inadequacies of longstanding mechanisms of marine governance are well understood (Leslie & McLeod, 2007). Marine governance is a multi-community process wherein various agencies, governmental bodies, sectoral interests, and civil society organisations develop shared competencies for policymaking and managing activities and their consequences (van Tatenhove, 2013). Until recently, the management of marine activities, and protection of the marine environment has been piecemeal, realised predominantly on a sectoral basis (e.g. shipping, agriculture: Boyes & Elliott, 2015). Marine problems have, therefore, been dealt with in isolation from each other through stand-alone policies (Mee et al. 2008; Long, 2011). As such, there has been a growing imperative to develop institutions and policies to facilitate multi-use management of the oceans that adopts a holistic approach to marine governance. Various alternative, integrated and place-based governance systems have been advanced (e.g. ecosystem-based management (EBM) and integrated coastal zone management (ICZM)), of these, MSP has quickly become to most widely adopted solution (Collie et al. 2013; Jay et al. 2013; Santos et al. 2020), attaining a preeminent position in marine governance discourses and practices (Toonen & van Tatenhove, 2013).

It has been suggested that MSP is a paradigmatically different approach to marine governance that can address issues arising from the historic sectoral, and fragmented management (Douvere, 2008; Ehler & Douvere, 2009). In its broadest sense, MSP is understood as a public process that aims to organize the use of marine space and the interactions between its uses (Ehler & Douvere, 2007), comprised of several steps including: (1) identifying need and establishing authority; (2) obtaining financial support; (3) organizing the process through pre-planning; (4) organizing stakeholder participation; (5) defining and analysing existing conditions; (6) defining and analysing future conditions; (7) preparing and approving the spatial management plan; (8) implementing and enforcing the spatial management plan; (9) monitoring and evaluating performance; and (10) adapting the marine spatial management process. MSP has been advanced as an ecosystem-based (Foley et al. 2010), integrated (i.e. across sectors, agencies, levels of government, and jurisdictions), adaptive, strategic (long-term focus), and participatory (active involvement of stakeholders, Gopnik et al.
2012) means of balancing spatial and temporal demands, with the ecosystem protection, and achievement of social and economic objectives. Dundas et al. (2020), for example, highlight the potential of MSP as part of a coordinated and integrated spatial planning approach across terrestrial and ocean systems to facilitate climate solutions including blue and green recovery - the ‘Teal Deal’. With its perceived neutrality and accessibility, the implementation of MSP has become a rational response to an array of issues and objectives including: Blue Growth (Jones et al. 2016; Voyer et al. 2018), addressing democratic deficits (Flannery et al. 2019), addressing stakeholder conflict (Smith, 2018), reducing cumulative negative impacts (Gilliland & Laffoley, 2008), regenerating coastal communities (Morrissey, 2017), climate change (Santos et al. 2020), and environmental conservation (White et al. 2012).

As the demands on marine space, particularly from spatially-fixed industries increases (e.g. offshore wind infrastructure), the view that MSP is ‘an idea whose time has come’ has grown (Ehler, 2018: p.6). This claim is supported by the rapid, and widespread adoption of mandatory (e.g. Australia: Great Barrier Reef Marine Park Act 1975; or the UK: Marine and Coastal Access Act 2009) or voluntary MSP initiatives (e.g. Shetlands: commenced in 2006 under the auspices of the Scottish Sustainable and Marine Environment Initiative, Kelly et al. 2014). Assessment of such initiatives in practice, however, illustrates a growing gap between how MSP is conceptualised and how it is implemented.

MSP initiatives appear to be failing to deliver an anticipated transformation of marine governance (Kelly et al. 2018). Recent assessments illustrate how, in practice, MSP initiatives appear to repackage the status quo in empty participatory rhetoric (Flannery et al. 2016; Ritchie & Ellis, 2010; Smith & Jentoft, 2017), the development of weak objectives (Flannery & Ó Cinnéide, 2012; Sander, 2018) and the logic of technocratic governance (Smith & Jentoft, 2017), providing little more than an illusion of impartiality (Flannery & McAteer, 2020), the appearance of democratic legitimacy to neoliberal exploitation (Flannery et al. 2018; Clarke & Flannery, 2019), and limited or no capacity for reflexivity (van Tatenhove, 2017; Toonen & van Tatenhove, 2020). For example, as I argue in, Clarke and Flannery (2019), the potential of MSP in England has been diminished due to the implementation of post-political processes that focus on entrenching neoliberal logic through: tokenistic participation; wholesale adoption of path-dependent solutions; obstructionist deployment of
inactive technological solutions; and promising progressive change. To recapture the radical potential of MSP, and enable the re-imagination of alternative marine futures, the critical literature calls for the re-politicisation (i.e. recentralizing conflict in marine governance; the deliberate redesign and transformation of marine governance regimes; and the development of strategies to empower stakeholders) and re-conceptualisation of MSP (Ritchie & Ellis 2010; Jay, 2012, 2018, 2019; Flannery et al. 2016; Fairbanks et al. 2018; Tafon, 2018; Clarke & Flannery, 2019; Flannery & McAteer, 2020).

The global uptake of MSP demands that attention is paid to understanding its transformative capacity in light of climate change. Proponents of MSP claim that it is ‘an idea whose time has come’, and argue that in the absence of alternatives MSP is the best system that reflects the complexity of the world (e.g. Katsanevakis et al. 2011; Ehler, 2020). However, one cannot ignore the growing body of evidence that details the gaps between notions of MSP and how it has been implemented thus far. Despite being a profoundly political act – necessitating the articulation of competing interests to define marine problems and solutions - recent assessments indicate that MSP initiatives appear to be devoid of politics (Flannery et al. 2019). MSP is being implemented in a way that removes the capacity for debate and discussion (Clarke & Flannery, 2019). Furthermore, with technological advancement pushing marine activities further offshore (e.g. floating wind arrays) and further down the ocean column (e.g. deep-sea mining), and the alarming rate of climate change (IPCC, 2018) and marine ecosystem over-exploitation, there is a clear and pressing need to evaluate marine governance reforms to ensure they are fit-for-purpose. With marine plans in place or being developed in ~70 countries (DG Mare, 2020; Santos et al. 2019; UNESCO, 2020), and initiatives such as MSP Global⁶ seeking to expedite the uptake of MSP processes, it is pertinent to evaluate if it will facilitate the transition to a low carbon economy in an ecosystem-based, integrated, adaptive, strategic, and participatory way as was advocated.

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⁶ The ‘MSP Global’ initiative is the result of the UNESCO’s Intergovernmental Oceanographic Commission (IOC-UNESCO) and the European Commission’s Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide, that seeks to help regions, countries or municipalities still need support to adopt it or to fully implement it where the process has already started. Available at: http://www.mspglobal2030.org/
There are a number of intriguing questions that must, therefore, be considered, including: how can MSP be used as a tool for climate mitigation? How can MSP facilitate multi-community collaboration? What types of issues are faced in seeking to realise the low carbon transition through MSP (e.g. institutional fragmentation, spatial conflict)? What lessons can be derived from early implementation of MSP as a tool for climate change mitigation?

Due to its leading role in linking marine planning to climate mitigation the established system of MSP and the complex legislative and constitutional landscape the United Kingdom (UK) provides an interesting context within which to explore these questions.

1.3 Facilitating the UK’s transition through MSP

The UK has provided a global lead in legislating for climate change action and MSP. The Stern Review on the Economics of Climate change represented a critical moment for the UK Governments understanding of the implications of climate change (Stern et al. 2006). The Review concluded that the economic consequences of climate change are large and that sharp and immediate reductions in greenhouse gas emissions were essential (Stern et al. 2006). Following this, the UK set itself on a path to a low carbon economy and society through adopting emission reductions targets under the Climate Change Act 2008. Equally, following the A Sea Change: Marine Bill White Paper (Defra, 2007a), the pioneering Marine and Coastal Access Act 2009 was established in the UK’s statute book, creating a comprehensive regulatory planning system for the UK marine environment. This pioneering legislative framework, and its later implementation by the subsequent political regime, makes the UK a particularly interesting case within which to realise the aim and objectives of this thesis. Due to the system of devolution within the UK, however, there is a need to first consider the intertwined legislative and political/constitutional landscape.
1.3.1 A devolved legal framework in the UK: the case of England and Scotland

Relating to MSP and the low carbon transition, there is an asymmetrical distribution of legal responsibilities across the UK that has produced a downward movement and complex landscape of powers (Boyess & Elliot, 2014; Muinzer & Ellis, 2017). Devolution is not uniform across England, Scotland, Wales and Northern Ireland, with each devolved legislature granted varying levels of responsibility. The complexities of such constitutional issues are beyond the scope of this thesis\(^7\), however, within the context of this study, the transferral of powers – as determined by the devolution settlements- plays a significant role in determining how MSP and the transition to a low carbon economy are operationalised. For example, whilst some matters such as defence, deep-sea mining; energy policy and sources: oil, gas, coal, and nuclear\(^8\); and marine and aerial transport/ navigation are reserved, meaning that the duty to legislate for them remains within Westminster (the UK Government and Parliament), others matters, including the environment (i.e. ability to promote renewables), housing, land use and marine planning, and local government have been devolved to the Stormont Assembly (Northern Ireland), the Scottish Government, and the Senedd Cymru (Welsh Parliament).

While devolved administrations are working to coordinate management of the UK’s waters, England and Scotland have led in the implementation of MSP. At the commencement of this research national and regional marine plans had been implemented for both England and Scotland, with those for Wales and Northern Ireland not yet adopted\(^9\). However, the selection of England and Scotland as comparative cases is not a matter of convenience. While Devolved Administrations

\(^7\) For a comprehensive summary of the state of UK devolution see “Devolution at 20” by the Institute for Government. Available at: https://www.instituteforgovernment.org.uk/sites/default/files/publications/Devolution%20at%2020.pdf [Accessed: July 2020]
\(^8\) Northern Ireland is an exemption to this as matters of energy policy are devolved. For Scotland, Wales, and England they are reserved to Westminster (Muinzer & Ellis, 2017).
have competence over many aspects that will determine the rate and extent of
decarbonisation (Muinzer & Ellis, 2017), the centralisation of various powers in
Westminster is suggestive of tensions, or issues, that will be faced within this new
governance system. Thus, due to the multifaceted legislative and constitutional
relationship between the Scottish and Westminster Governments; and the equivalent
economic, environmental, and social maritime contexts, English and Scottish MSP
initiatives provide interesting contexts within which this thesis explores how the low
carbon transition is realised.

There are separate legal systems in England and Scotland. Each devolved nation has
its own priorities and problems, as such, the Scottish and Westminster Governments
have made provisions for the low carbon transition in the marine area through different
Acts. The legislative frameworks that dictate the transition to a low carbon economy
and MSP are vast (Foxon, 2011; Frankhauser, 2013; Boyes & Elliott, 2014; Muinzer
& Ellis, 2017), for the purpose of this thesis, however, there are four relevant statutes:
the Climate Change Act 2008; Climate Change (Scotland) Act 2009; Marine and
Coastal Access Act 2009; Marine (Scotland) Act 2010. Whilst differences between
these Acts are more structural and procedural rather than substantiative, and are subject
to comparative analysis within Chapter 3, they reflect the asymmetrical distribution of
responsibilities within the UK. An evaluation of English and Scottish initiatives,
therefore, allows for a comparison of how multi-community collaboration around the
objective of transitioning to a low carbon economy occurs within MSP.

1.3.2 Considering the function of Government

It is clear that how the objective of transitioning is achieved, and MSP is implemented
is subject to the function of government: the Political (i.e. leadership, allocation of
resources and competing narratives or ideologies) and the political (i.e. who has access
to and influence over government, who can define meanings). The conditions within
which – the functioning of government – must, therefore, be evaluated.

The low carbon transition is inherently driven by Government objectives and ambition,
or lack thereof (Foxon, 2011; Frankhauser, 2013; Muinzer & Ellis, 2017).
Achievement of the transition is thus a product of the will to facilitate the necessarily
radical social, economic, and environmental management changes. This is well
demonstrated by the successive departure and re-entry of the United States of America to the Paris climate agreement (Bodansky, 2021).

MSP is equally subject to the influence of politics. For example, Ritchie (2014), reveals that the emergence of MSP in the UK was shaped by political discourse and agendas of the New Labour (mid-1990’s-2010) and Conservative-Liberal Democrat Coalition (2010-2015) Governments. This is evidenced by the dominant focus of MSP in the UK as a tool to maximise the marine economy. In revealing this, Ritchie (2014) highlights the significance of political agendas (both by those in Government, and those who can influence Government) and values on the aim and operationalisation of MSP. Ritchie (2014) is not alone in noting the consequence of this influence, with MSP across the UK (Scarff et al. 2015), England (Clarke & Flannery, 2019), Scotland (Smith, 2015), the EU (Hassler et al. 2019; Tafon et al. 2019), and internationally (Trouillet, 2020) understood to be subject to the function of Government.

It is, therefore, pertinent to evaluate how MSP is being used as a tool for climate mitigation. How are concepts and objectives such as the low carbon transition defined (and by who)? How are multi-community understandings and interests (knowledge) exchanged? These matters are to be explored through this study with the understanding that the conditions within which MSP is being developed bears the hallmarks of post-political environmental consensus (Ritchie, 2014; Flannery et al. 2018; Clarke & Flannery, 2019; Tafon et al. 2019). Can MSP be a rational and collaborative process as proponents of it would argue?

1.4 Research aim and objectives

The aim of this study is:

To evaluate how the low carbon transition is articulated by multiple communities through UK MSP.

To achieve this aim, a number of specific research objectives are pursued through the two comparative case studies of England and Scotland:

1. To develop a conceptual framework capable of capturing how marine stakeholders articulate competing interests and develop common understanding within MSP.
2. To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this.
3. To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans.
4. To compare English and Scottish evidence, to reveal how different political discourses have shaped the low carbon transition within UK MSP approaches.
5. To synthesise the research insights to highlight implications for improving MSP processes and its future research.

1.5 Structure of the thesis

To fulfil the research aim and objectives, this thesis comprises 9 chapters. The contribution of each chapter are as follows (see also Table 1.1). In Chapter 2 a novel theoretical framework based on Star and Griesemer’s (1989) concept of boundary objects is developed. Boundary objects provide a theoretical lens through which to explore multi-community collaboration in the absence of consensus. Such objects are distinguishable by the features of interpretative flexibility, non-static nature (tailored in local use whilst holding a generalised meaning) and arisen from a work or information need. By drawing on Carlile’s (2002, 2004) work this thesis also embeds the need to examine how such objects function to enable the sharing and ultimate transformation of knowledge. I argue that owing to its interpretative flexibility (multiple pathways e.g. renewable energy, blue carbon restoration), non-static nature (general meaning: reduction is carbon emissions, localised meaning: multiple pathways and sentiments), and having arisen from the need to mitigate and adapt to climate change, the transition to a low carbon economy can function as a boundary object within the MSP policy arena. Indeed, given the far-reaching nature of the low carbon transition, from changing spatial use to the effect on ecosystems and social capital (e.g. seascape), the transition necessitates collaboration between diverse stakeholders with at times contradictory understandings.

Metze (2014) provides a useful example of the value of applying Star and Griesemer’s concept for exploring policy-making processes. Within the Dutch energy policy arena, Metze (2014) examines how the concept of fracking functioned as a boundary object
creating a sphere of engagement for a range of actors. Over time, this boundary object enabled the negotiation of a soft meaning of fracking technology, whilst allowing for framing contests within which specific understandings were vocalised and influenced policy change. Whilst Metze (2014) reveals the theoretical strength of the concept of boundary objects, she also points to the problematic nature of such knowledge sharing and negotiating. The interpretative conflict surrounding the fracking object demonstrated how the definition of the object or problem (knowledge), and power and politics are fundamentally intertwined. Metze (2014) thus suggests that boundary objects can facilitate agonistic interactions when subject to inequalities.

The consequence of inequalities is, therefore, described within the framework developed in Chapter 2. The growing body of evidence demonstrating how MSP initiatives are failing to transform marine governance necessitates the revaluation of how objects – with the features of a boundary object - may function to inhibit collaboration within the MSP arena. This need is augmented through the examination of literature that has applied Star and Griesemer’s (1989) framework, wherein the dual function of objects (facilitative and inhibitory) is identified. Subsequently, the framework for distinguishing between boundary and pseudo-boundary objects developed within Chapter 2, provides theoretical space within which to explore the practical and political mismatches between communities. Drawing off the work of Lukes (1974, 2005) and Gaventa (2003, 2006), power – its dimensions, scales, levels, visibility, and settings - is placed in the context of pseudo-boundary objects. Subsequently, this framework thus enables a critical examination of how inequalities manifest within English and Scottish MSP initiatives regarding the functioning of the low carbon transition as an object-boundary or pseudo-boundary - and in turn informs the research design and methodology chosen.

Chapter 3 presents the research design and methodology. The choice of comparative case studies is rationalised, within which political speech and document analysis, and semi-structured interviews with key stakeholders and decision-makers is employed. An analysis of the complex legal framework of the English and Scottish cases is also provided within Chapter 3, supporting the need to examine political (con)texts. Together, the methodology and legal context described within Chapter 3 enable the employment of the novel framework (Chapter 2) to explore how the low carbon
transition functioned – as a boundary or pseudo-boundary object – within English and Scottish MSP initiatives.

Through Chapters 4-7, the institutional resistance embedded within MSP is evidenced by an examination of the English and Scottish case studies through the lens of the novel framework (Chapter 2). In Chapter 4 and 5 the English case study, the East of England Marine Plan, is evaluated. Chapter 4 assess the UK Government’s justification of both the low carbon transition and how it is to be achieved through MSP. In Chapter 5, key stakeholder interviews and English marine plan documents are analysed to understand how the objective of transitioning functioned as an object - boundary or pseudo-boundary - within the planning process by applying the theoretical framework (Chapter 2). Chapter 6 and 7 provide an equivalent examination of the Scottish Government’s justification and ambitions, and stakeholder perspectives for the Scottish case studies, which include the national marine plan, and the regional Pentland Firth and Orkney Waters Pilot plan.

Finally, a discussion and conclusion of the novel findings within this thesis is provided. In Chapter 8, a comparative analysis of the English and Scottish case studies is presented in parallel to a reflection on the theoretical framework. The thesis concludes with Chapter 9 whereby the original theoretical and practical contributions of this study are discussed, along with opportunities for further research.

This study has been able to make a number of important original contributions to knowledge which includes:

- Developed a novel theoretical framework – distinguishing between boundary and pseudo-boundary objects – that retains the explanatory value of the boundary object concept, whilst creating conceptual space to account for the negative consequences of inequalities and knowledge within multi-community collaborative processes: Chapter 2.

- Comparative analysis of the UK’s legal framework relating to the realisation of the low carbon economy through MSP - the Climate and Marine Acts - evidencing the asymmetrical distribution of legal powers between Westminster (England), Scottish Government, and onto council areas: Chapter 3.
• Evidence the institutional resistance that underpins MSP, which subsequently draws into question the extent to which MSP can be re-politicised in order to realise it’s radical potential: Chapter 4-7.

• Evidence the consequences of constitutional fragmentation within MSP in the UK: comparative analysis of MSP in England and Scotland illustrates how the tangled history of the two countries and complex constitutional and political landscapes fundamentally shape the spatial organisation of the low carbon economy through MSP: Chapter 8.
Table 1.1 Summary of research objectives within the structure of thesis

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Research Objective</th>
<th>Contribution to research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>(1) To develop a conceptual framework capable of capturing how marine stakeholders articulate competing interests and develop common understanding within MSP.</td>
<td>Establish the overarching approach to the study, and the aim of the study and supplementary research objectives</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>(2) To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this.</td>
<td>Establish the theoretical framework of this study and to direct the research to critically examine the capacity of stakeholders to share, assess, and learn within the participatory process.</td>
</tr>
<tr>
<td>Research design and methodology</td>
<td>(3) To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans.</td>
<td>Justify use and benefits of adopting a comparative case study design, and describe the methodological tools used to capture the data required to fulfill the research aim and objectives.</td>
</tr>
<tr>
<td>The English political context: discursive analysis of speeches and documents</td>
<td>(2) To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this.</td>
<td>Present the analysis of political texts (speeches and documents) to establish the broader political context within which the low carbon transition and MSP are realised in England.</td>
</tr>
<tr>
<td>Stakeholder perspectives on MSP in the East of England</td>
<td>(3) To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans.</td>
<td>Establish qualitative data analysis from the semi-structured interview with English stakeholders.</td>
</tr>
<tr>
<td>The Scottish political context: discursive analysis of speeches and documents</td>
<td>(2) To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this.</td>
<td>present the analysis of political texts (speeches and documents) to establish the broader political context within which the low carbon transition and MSP are realised in Scotland.</td>
</tr>
<tr>
<td>Stakeholder perspectives on national and regional MSP in Scotland</td>
<td>(3) To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans.</td>
<td>Establish qualitative data analysis from the semi-structured interview with Scottish stakeholders.</td>
</tr>
<tr>
<td>Discussion</td>
<td>(4) To compare English and Scottish evidence, to reveal how different political discourses have shaped the low carbon transition within UK MSP approaches.</td>
<td>To interpret the evidence gathered on the English and Scottish case studies and to consider the consequence of the functioning of government.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>(5) To synthesise the research insights to highlight implications for improving MSP processes and its future research.</td>
<td>To consider that the overarching research objectives have been answered and highlight implications for MSP and future research.</td>
</tr>
</tbody>
</table>
Chapter 2 Theoretical framework

This chapter addresses the first objective of the thesis by developing a theoretical framework capable of capturing how marine stakeholders articulate their interests and understanding within MSP. To explore how the low carbon transition was understood and articulated within UK MSP initiatives, this study draws on insights from boundary object theory. Within contemporary environmental governance processes, the question no longer remains if there is an environmental problem (e.g. climate change), rather it is a question of how those involved frame its consequences and champion particular responses, such as the low carbon transition (Hajer, 1995; Dryzek, 2013). Utilising processes of discursive construction, persuasion and even coercion, those engaged in MSP seek to ensure that their interpretation of marine problems – such as climate change - dominate because the way in which a problem is discursively constructed favours certain ways of acting while preventing others (Ritchie & Ellis, 2010; Metze, 2014). As a result, a core focus of this thesis is the discursive process through which actors organise and attempt to articulate interests to frame marine problems to limit rival perspectives taking hold and determining policy solutions. This study, therefore, questions how knowledge is managed between actors within the MSP policy arena that have diverging and at times conflictual perspectives of the low carbon economy.

To fulfil the aim of this study, this chapter draws on the concept of boundary objects, and develops a novel theoretical framework for distinguishing between the production of constructive and obstructive collaboration, by drawing on three streams of literature including theories of knowledge exchange between communities; the role of boundary objects in knowledge exchange and transformation; and the consequence of power and inequality on the functioning of objects between communities. This novel framework is subsequently used to examine whether the low carbon transition functioned as a boundary or pseudo-boundary object within the English and Scottish MSP initiatives.

2.0 Introduction

The concept of ‘boundary objects’ has provided a fertile analytical framework through which to examine the dynamic process of cooperation between heterogeneous communities (Huvila et al. 2017). Boundary objects were first conceptualized by Star
and Griesemer (Star, 1988; Star & Griesemer, 1989) after observing ‘things’ that provided a platform for communication and cooperation between communities with distinct knowledge and practices. By being “both plastic enough to adapt to local needs and the constraints of the several parties […] yet robust enough to maintain a common identity across sites” (Star & Griesemer, 1989, p.393), boundary objects function metaphorically as an anchor within and a bridge between communities. A boundary object provides an anchor for understanding within communities as individual communities attach their own specific meaning to the object. For example, in a study of participatory water planning, Cohen (2012) explains how the physical territory of watersheds functioned as an anchor for stakeholder groups who were able to attach distinct socio-ecological interpretations, and political and administrative governance procedures to it, reducing governance complexity and enhancing participation.

Boundary objects also act as a bridge between communities by providing a common understanding of the same object, facilitating the translation of community-specific meanings across communities, and enabling the coordination of activities without necessitating consensus. For example, in a collaborative landscape governance process in the Netherlands, the concept of ‘landscape services’ functioned as a bridge between farmers and government, despite these services constituting various diverging identities, stakes, values, aims, and interpretations across these two communities (Westerink et al. 2017). As a boundary object, the concept created a discursive space within which farmers and government representatives were able to negotiate and reach agreement on joint ambitions relating to the management of ditches and shores to improve water quality and biodiversity (Westerink et al. 2017). The concept of boundary objects, therefore, provides an effective analytical framework through which to explore processes of cross-community collaboration.

There has been significant interest in the role of boundary objects in supporting the exchange and transformation of knowledge and practice. The concept has been widely used to examine cooperation between multi-community systems, such as: natural resource management (Hoogstra-Klein et al. 2017), business innovation and inter-departmental analysis (Barrett & Oborn, 2010), scientific innovation (Swan et al. 2007), and resource policy and planning (Metze, 2014; Ward et al. 2017). The application of boundary object thinking has revealed the complexity of information sharing and the various strategies of those involved in collective action. For example,
in the context of Dutch shale gas policy, Metze (2014) notes how the technology of fracturing acted as a boundary object, creating a sphere of engagement through which disparate actors negotiated meaning and knowledge. Although there was no consensus regarding the fracturing process, a common meaning of the technology developed, creating a shared context – a boundary object - facilitating convergence and coordination, and enabling the development of policy solutions. The use of a boundary object lens is, in this case, beneficial in the examination of collaboration and conflict across politics, science and society, and can help reveal how policy change occurs in the context of such controversies. Boundary objects have thus come to be understood as things that create ‘apolitical’ spaces of engagement and cooperation, which can help overcome rather than reinforce division.

The notion of boundary objects has been widely revisited. For example, Briers and Chau (2001) and Kimble et al. (2010) focused on contextual inequalities, whilst Dar (2018) considered the colonization of the Star and Griesemer’s (1989) concept. In this chapter, I re-evaluate the narrow focus on successful, apolitical cooperation within Star and Griesemer’s (1989) original formulation that has been criticized for concealing issues of power and co-option that may underpin so-called ‘collaborative’ processes. This ‘pluralist turn’ sought to expose the consequences of imposed interpretations, coercion, and silencing, by framing boundary objects as sources of, and influenced by, power (Lee, 2007; Thomas et al. 2007; Oswick & Robertson, 2009; Barrett & Oborn, 2010; Hawkins et al. 2017). Consequently, boundary objects were re-conceptualised as “plurivocal sites of contestation and obfuscation” (Oswick & Robertson, 2009: p.190). This then frames boundary objects as being capable of both enabling and inhibiting egalitarian communication between heterogeneous communities (Oswick & Robertson, 2009). I argue, however, that by conceptually extending boundary objects as both enabling and inhibitory, the pluralist literature acts to undermine the analytic power of Star and Griesemer’s (1989) framework. To borrow a phrase from other fields of research: if boundary objects are everything, maybe they are nothing (Wildavsky, 1973). Similar to concerns raised by Lee (2007), Trompette and Vinck (2009), and Star (2010) I argue that by seeking to classify all trans-community phenomena as boundary objects, the specific explanatory value of Star and Griesemer’s (1989) theory is weakened.
Much of the recent literature has distorted rather than clarified the concept by predominantly focusing on boundary object types and features, rather than functions. Similarly, the pluralistic turn has tended to misapply Star and Griesemer’s (1989) original formulation to boundary spanning phenomena that contain the core features of a boundary object, but which do not necessarily operate as one. The distinction of what is - or is not - a boundary object is central to the application of Star and Griesemer’s (1989) framework. Rather than considering the boundary object concept as a black box within which every cross-community thing fits, regardless of how it functions between communities, I argue that Star and Griesemer’s (1989) framework is worthy of a more critical re-evaluation. I focus on the idea that a boundary object describes a condition of things that - within a specific context, and despite distinct or contradictory interests - provides a platform through which to develop and maintain coherence across intersecting communities (Star & Griesemer, 1989). Objects (material, conceptual or otherwise) that do not function to enable collaboration should not be conceptualised as boundary objects. Rather than narrowly seeing boundary objects as either ‘good’ (enabling) or ‘bad’ (inhibiting), a conceptual re-adjustment of Star and Griesemer’s (1989) framework is needed to better accommodate the issues raised within the pluralist literature. To retain the explanatory value of the boundary object concept, it is important to not only understand when something is or is not a boundary object but also to understand when an object takes on the appearance of a boundary object and is perhaps deployed to hinder cooperation. I argue that a focus on how a boundary object functions can address these issues, advance the analytical strength of the concept, and deepen the understanding of how power subverts boundary objects to obfuscate and obstruct cooperation. As explained below, I hope this subtle re-evaluation allows a reconciliation of Star and Griesemer’s (1989) framework with the critiques around power and co-option raised in the pluralist literature (e.g. Lee, 2007; Oswick & Robertson, 2009; Barrett & Oborn, 2010; Fox, 2011).

2.1 Boundary objects: evolution of the concept

The concept of boundary objects was developed to theorise how heterogeneous actors cooperate in the absence of consensus (Star, 1988; Star & Griesemer, 1989). Boundary objects were first introduced by Star and Griesemer (Star, 1988; Star & Griesemer, 1989) who observed things that facilitated collaboration within complex institutional
settings, including, the development of distributed artificial intelligence (Star, 1988), and later, in the establishment of Berkley’s Museum of Vertebrate Biology (Star & Griesemer, 1989). Work within these contexts required the collaborative efforts of actors with distinct disciplinary, social, and cultural backgrounds, and similarly distinct and potentially conflictual viewpoints and ways of working. Boundary objects facilitated successful collaboration in these contexts (Star, 1988; Star & Griesemer, 1989; Star, 2010). For example, a map of California functioned as a boundary object to facilitate collaboration between professional and amateur conservationists at the Berkley Museum. Whilst viewed differently within each community- professional ecologists emphasized life zones on the maps, while amateur ecologists saw walking trail; the map functioned as a boundary object by providing a means of rendering the knowledge held by one community amenable to the other, enabling them to collaborate despite tensions and potential incoherence’s between their knowledge, motivations, and interests (Star & Griesemer, 1989).

To strengthen the analytical capacity of the concept, Star and Griesemer (1989) and Star (2010) outlined the three distinguishing features that constitute boundary objects: 1) interpretative flexibility; 2) arisen from work or information needs; and 3) are non-static in nature. This means that boundary objects are understood differently by each actor or community and so can satisfy their distinct needs while facilitating communication. For example, Abson et al. (2014) and Steger et al. (2018) illustrate how the multifaceted concept of ecosystem services can function as a boundary object between various academic, government and public actors by representing multiple cultural, economic, ecological, and social matters, enabling collaboration in relation to sustainability. Boundary objects are not arbitrary, they accommodate specific purposes which are inherently varied and dependent on those who use them in the quest to cooperate. Boundary objects are based in an action existing, however temporary, brought to life and used by multiple actors or communities within a particular collaborative exercise (Star & Griesemer, 1989; Briers et al. 2001). In the case of biomedical innovation projects, Swan et al. (2007) describe how, various objects borne out of the need for cross-disciplinary collaboration including a bespoke testing protocol, database, questionnaire, and information pack, functioned as boundary objects enabling the evolution of common knowledge and practice. Finally, boundary objects are dynamic, tacking back-and-forth between communities existing
simultaneously in an abstract state between communities and a locally tailored, specifically interpreted form within each community. Collectively these three features point to the active way in which boundary objects come to exist and helps explain how boundary objects function as powerful tools of communication between distinct communities that lack consensus (Star, 2010).

The analytic appeal of Star and Griesemer’s framework is evidenced by its widespread application (Yakura, 2002; Subrahmanian et al. 2003; Lee, 2007; Oswick & Robertson, 2009; Barrett & Oborn, 2010; Huvila, 2011; McKinley et al. 2018; Steger et al. 2018) and has resulted in attempts to develop typologies of boundary objects. For example, Star and Griesemer (1989) described various types of boundary object including 1) repositories: an indexed collection of objects (e.g. a database or library: Star & Griesemer (1989)), 2) ideal types: vague and malleable objects (e.g. a diagram or concept: Hoogstra-Klein et al. (2017)), 3) coincident boundaries: objects with the same boundaries but different internal contents (e.g. a map or business model: Briers et al. 2001), and 4) standardized forms: objects that set out information in a standardised format (e.g. scientific methodologies or reports: Carlile (2002)). Building on this list, other typologies have been described, including, temporal boundary objects (e.g. timelines: Yakura, (2002)), visionary objects (e.g. the concept of ‘efficiency’: Briers et al. (2001)); and textual objects (Oswick & Robertson, 2009).

While these expanding examples and typologies may be useful in highlighting the widespread application of the idea of boundary objects, they do little to deepen the analytical value of the concept. The value of the boundary object concept is not that it can be applied in a variety of contexts, rather, I see its core analytical value in helping to explain cooperation in the absence of consensus. As argued below, the diffuse (mis-)application of the boundary object concept stems from an over-emphasis on the features that constitute a boundary object rather than a focus on how they function in practice. In particular, the boundary object literature has concentrated on the idea of interpretative flexibility, often meaning that all things that span two or more communities become categorised as boundary objects. The feature of interpretative flexibility is not unique to boundary objects, rather it is descriptive of a wide variety of objects. This feature has been over-emphasized in the literature, minimizing the analytical and explanatory power of the boundary object concept by failing to account
for the entire conceptual model (Star, 2010; Trompette & Vinck, 2010). I argue, however, that the misapplication of the boundary object concept will not be addressed by focusing on the three features outlined by Star and Griesemer (1989; Star, 2010), instead, there is a need to focus on how a boundary object functions between communities. Reorienting research towards the functions of boundary objects will also address the critiques raised by the pluralist turn.

2.2 The pluralist turn

Scholarly attention has more recently turned to the political and power-laden nature of objects, seeking to encapsulate issues of inequality within Star and Griesemer’s (1989) framework (Bechky, 2003a, 2003b; Lee, 2007; Oswick & Robertson, 2009; Barrett & Oborn, 2010; Fox, 2011; Hawkins et al. 2017). Fundamental to this pluralist turn is the argument that a boundary object cannot be considered universally useful or inherently apolitical (Carlile, 2002). In one situation, these objects may facilitate collaborative efforts by creating a shared context, while in another context the same object may be a roadblock to translating distinct community knowledge (Carlile, 2002). The pluralist turn in boundary object scholarship emphasised this transient quality while also seeking to address issues of power, co-option and domination within multi-community cooperative efforts. For example, in the case of collaboration between Jamaican and Indian software development teams, Barrett and Oborn (2010) describe how during the initial phases of the project software specifications and project management tools functioned as boundary objects and facilitated sharing across the different groups. However, in later phases when there was a heavy reliance on formal coordination and control mechanisms, the Indian project lead asserted managerial authority resulting in the same objects contributing to conflict. The contextual nature of boundary objects means that its status is transient rather than fixed, and subject to a life-cycle, ceasing to be a boundary object when it no longer enables egalitarian communication (Star, 2010; Steger et al. 2018).

Rather than boundary objects being perceived solely as platforms for constructive communication and cooperation, the pluralist approach emphasises the implications of asymmetrical power and agency between communities. The pluralist turn conceptualises boundary objects as both subjects and sources of power, capable of
both enabling and inhibiting collaboration between distinct communities. The plurivocal nature of boundary objects is said to explain why in one context such objects facilitate knowledge sharing, but in another context or at another time contribute to conflict (Barrett & Oborn, 2010). Oswick and Robertson (2009) for example, conceptualise reports, project management tools, and Gantt charts as boundary objects capable of inhibiting collaboration. Such objects create barriers to collaboration and innovation by reinforcing existing hierarchical power structures (Bechky, 2003a, 2003b; Oswick & Robertson, 2009; Barrett & Oborn, 2010). For example, in Bechky’s (2003a, 2003b) examination of the EquipCo manufacturing company, engineering drawings and machines functioned to reinforce occupational boundaries by representing and strengthening beliefs about the legitimacy of one group’s work over others.

While the pluralist turn adds a useful critical dimension to the analysis of heterogenous collaborative work, I argue that it dilutes rather than strengthens the understanding of the concept of boundary objects. As a consequence of the growing attention to power, Lee (2007: p.314) suggests that the concept of boundary objects may not be up to the “conceptual heavy lifting” that much of the pluralist literature has tried to assign it. In other words, while attempting to more explicitly consider the role of power, the pluralist literature fails to appreciate when something is and is not a boundary object. Indeed, Star and Griesemer distinguish boundary objects from those objects (overtly) manipulated by powerful communities noting that “the production of boundary objects is one means of satisfying these potentially conflicting sets of concerns. Other means include imperialist imposition of representations, coercion, silencing and fragmentation” (1989: p.413). By again focusing on boundary object features, those who adopt the pluralist tradition fail to acknowledge this distinction, rather they categorize all trans-community phenomena as boundary objects regardless of how they function. Thus, I argue it is necessary to return to Star and Griesemers’s (1989) original intention by extending their conceptualisation to account for these types of objects.

2.3 Distinguishing how boundary objects function

The explanation of how objects function according to Star and Griesemers’s framework has largely been descriptive rather than analytical (Fox, 2011). The concept of
boundary objects has become a theoretical umbrella under which all things that appear to enable collaboration are categorised. I argue that a focus on whether or not a thing has the requisite features to be categorised as a boundary object misses out on their fundamental purpose. The materiality or ‘boundaryness’ of a boundary object derives from its action, the role which it plays between communities (Bowker & Star, 1999; Briers et al. 2001; Star, 2010; Steger et al. 2018). To provide the necessary analytical focus to assess how a boundary object really functions, this study draws on Carlile’s (2002, 2004) work which helps explain the role of boundary objects in managing diversity between communities. I first outline Carlile’s (2002, 2004) understanding of knowledge complexity – including the relational nature of, and pragmatic approach to knowledge- which is central to understand his framework. I then describe the increasingly complex boundaries that knowledge must overcome to enable collaboration and outline how Carlile (2002, 2004) contends a boundary object must function at each boundary if it is to be successful.

Carlile’s (2002, 2004) integrated framework provides a valuable lens through which to critically explore how boundary objects function as a mode of communication to overcome the mismatches in knowledge and practice between communities (Carlile, 2002, 2004). To explore collaboration in complex institutional settings, Carlile outlines three relational properties of knowledge, including: difference: the amount and type of knowledge accumulated by actors and communities; dependence: the extent to which attaining a goal, such as innovation, requires the knowledge of other interviewees and novelty: which refers to the novelty of the collaborative circumstance and the subsequent ability of communities to draw upon existing knowledge in assimilating or developing new common knowledge. The relational nature of knowledge, particularly the consequence of novelty, points to the difficulty that actors or communities face when working together because their knowledge or ways of doing things are at stake (Carlile, 2002). These relational properties point to the practical capacity of a boundary object, in such that it must provide a means of representing and specifying the differences and dependencies (Carlile, 2002).

Knowledge is, however, problematic in as much that it can be both a source and barrier to collaboration (Carlile, 2002). Carlile (2002) adopts a pragmatic approach to knowledge-in-practice that assumes the conditions of difference, dependence and
novelty are present, and as such recognises the need for a process to transform a community’s knowledge so that it is understandable and usable by another. That is to say, a boundary object must enable communities to share, assess, learn and alter knowledge. Such collaborative processes are, however, complicated because knowledge is 1) localised around a particular problem within a given practice or community and can be found simultaneously within multiple practices, so long as it is around the given problem; 2) embedded in the historic practices and experiences of communities; and 3) invested in practice, wherein knowledge that has been deployed successfully in one instance tends to be re-used in future practices. This invested-ness of knowledge reveals the costly nature of giving up, or acquiring new knowledge and reveals why knowledge is at stake when used by communities in a process of collaboration. Carlile’s (2002, 2004) integrated framework thus illustrates that working across the boundaries of communities and accommodating different knowledge and practices is especially difficult due to the path-dependent nature of knowledge within communities.

In the application of this relational and pragmatic approach to boundary objects, Carlile (2002, 2004) identifies three increasingly complex knowledge boundaries between communities: syntactic (i.e. differences in formats and terminology); semantic (i.e. inter-understanding and mutual learning); and pragmatic (i.e. the development of knowledge and practice). These three knowledge boundaries need to be overcome if a boundary object can function respectively to transfer, translate and transform knowledge, and do so iteratively (Figure 2.1).
The syntactic boundary has its basis in information-processing approaches to communication whereby the differences and dependencies between communities can be adequately overcome through the development of a common syntax or lexicon (Carlile, 2004). When an object functions as a common lexicon, the boundary proves unproblematic and so knowledge can be transferred or shared. To illustrate this, Carlile (2002) cites the example of the development of a new automobile fuel system, wherein various repositories (e.g. parts library, costs data base) provided a common reference point and shared definitions and values for problem-solving between four communities (i.e. sales/marketing, design engineering, manufacturing engineering, and production). Boundary objects that create a common lexicon do not convey unambiguous meaning, rather they have symbolic adequacy that enabled collaboration without enforcing commonly shared meanings. The syntactic boundary is thus the most simplistic boundary to overcome.

When the novelty of knowledge increases, and so differences and dependencies are unclear, so too does the complexity of the knowledge boundaries between

Figure 2.1 Integrated Framework for managing knowledge at boundaries and the four characteristics of a pragmatic boundary capability (adapted from Carlile (2004))
communities. The semantic boundary reflects interpretative differences between communities and necessitates the translation rather than processing of knowledge. When faced with semantic differences, a boundary object must provide communities with a means to learn about sources of difference and foster common knowledge. In the context of environmental governance, for example, various spatial scales (e.g. watershed: Ward et al. 2017) and concepts (e.g. ecosystem services: Steger et al. 2018) can foster common understandings between politics, science and society. Likewise, in Star and Griesemer’s (1989) study, standardised forms for data collection enabled administrators, professional ecologists, and amateur naturalists to translate concerns and perspectives and in doing so, meet the scientific goals of the museum.

When novelty is at its greatest, the path-dependent nature of knowledge becomes apparent. Pragmatic boundaries exist when the novelty between communities results in the need to resolve differences. Subsequently, at a pragmatic boundary, knowledge must be transformed. Communities must be able to assess and change their own knowledge, as well as the knowledge of others. Pragmatic boundaries, therefore, require the greatest effort from those involved, to potentially produce new practices, or provide organisational change (Carlile, 2002). The transformation of knowledge can be seen in the creation of fisheries management plans in the North Sea and Northeast Atlantic as examined by Stange et al. (2016). Interim plans served as a boundary object between fishers, scientists, and managers, enabling them to create a common understanding of what a long-term management plan should contain. The transformation of knowledge enables communities to understand how knowledge from another community fits within the context of their interests and work, enhancing and altering what was known previously.

The transferal, translation, and transformation of knowledge cannot be considered in isolation. In order to overcome pragmatic boundaries, objects must also overcome the simpler syntactic and semantic boundaries. The effective transformation of knowledge, for example, requires the existence of common syntax and meaning (Carlile, 2004). Therefore, Carlile (2004) does not assume boundary objects to be a panacea for conflict, but that by overcoming the increasingly complex boundaries, they can be considered effective in supporting an iterative process of knowledge sharing that is central to collaboration.
Finally, using Carlile’s framework, an effective boundary object can be seen to support an iterative process of knowledge sharing, assessing, and learning. The consequences of invested and path-dependent knowledge cannot be resolved in a single action. Rather, as actors participate in iterative stages of knowledge sharing and learning, an effective boundary object enables them to become better at identifying differences and dependencies at a given boundary, creating new agreements and making needed changes. Carlile (2004) demonstrates this function using the example of the Computational Fluid Dynamic (CFD) tool in the early stages of a vehicle’s development. Using the CFD tool, engineering groups specializing in vehicle styling, engine/power train, climate control, and safety, were able to represent their concerns, data points, and requirements, then engage with each other to identify, negotiate, transform, and verify the knowledge that they used to influence the design of the vehicle. The capacity to frequently compare design requirements, identify consequences, experiment, and make trade-offs throughout design processes enabled the CFD tool to facilitate the iterative transformation of knowledge. Through repeated collaborative efforts, boundary objects can transform the invested and path-dependent nature of knowledge, providing an egalitarian mode of cross-community communication.

Carlile’s (2004) hierarchical framework provides a useful analytical tool for a more critical analysis of how boundary objects function to enable collaboration. By highlighting how practical and political mismatches between communities are overcome, and the need for an overall process of transforming existing knowledge, Carlile’s (2002, 2004) framework provides a useful theoretical space within which to critically analyse how a boundary object functions to enable constructive cooperation. However, Carlile does not explicitly consider the role or types of power in knowledge exchange and the capacity of objects to function in an inhibitory manner between communities. Carlile’s framework reveals the practical and political mismatches between communities, yet by focusing on the attainment of mutually agreed innovation as an outcome of cross-community interactions, the framework could be interpreted as naively assuming that the outcome of collaborative efforts is consensus. Yet, as Carlile (2004) remarks, the case of the CFD illustrated rather than tested the value of adopting a pragmatic approach to knowledge boundaries and describing the negative consequences of path-dependent knowledge in overcoming these boundaries.
That is to say, Carlile does not assert that the integrated framework provides a unifying theory of how knowledge is managed. Rather by acknowledging the negative consequences of path dependent knowledge, Carlile leaves open the potential to apply his framework to inhibitory objects. Indeed, Carlile (2002) acknowledges that within one collaborative process an object may function as an effective boundary object, whereas in another it may function as a roadblock. Power, and the consequence of inequality, are present in different forms at all levels of the integrated framework. It should not be assumed that actors who engage in trans-boundary efforts occupy politically equal positions to represent their knowledge (Carlile, 2004). Carlile’s framework, therefore, provides a useful vocabulary for critically analysing boundary objects and the consequences of power in cross-community knowledge sharing.

2.4 **Pseudo-boundary objects**

Using these insights, I suggest that some objects may act as a *pseudo-boundary object* and that this concept can help reconcile the essence of Star and Griesemer’s (1989) conceptualization of boundary objects with the power-conscious critiques that emerged from the pluralist turn. I recentre the consequences of power and inequalities between communities by acknowledging the potential role of objects in inhibiting collaborative efforts. Subsequently, pseudo-boundary objects are conceptualised as objects that provide a façade of collaborative work, resulting in ‘obstructive cooperation’ and the entrenchment of political and practical differences between communities. I argue that pseudo-boundary objects exhibit many of the same features of boundary objects - interpretative flexibility, arisen from work or informational needs, and are non-static - but that processes of sharing knowledge are not progressively iterative and become controlled by one or more of the actors involved.

2.4.1 **Placement of power in and around pseudo-boundary objects**

Before conceptualising how pseudo-boundary objects function, it is necessary to first to consider the placement of power, that is the types of power, and spaces within which power manifests to inhibit an object’s collaborative potential. Power viewed narrowly, is the capacity to intentionally and observably mobilise resources to advance one’s interests (Dowding, 1991). Such a perspective, however, ignores the hidden or
unobserved powers and effects thereof, that create or entrench inequalities and differences. Whilst the theoretical perspectives on power are numerous (e.g. Foucault, 1982; Giddens, 1984; Laclau & Mouffe, 1985), Lukes (2005) provides an approach that embraces the various observable and hidden means by which power relations are produced and reproduced. Power, to Lukes (2005), is multi-dimensional, paradoxically related to democracy, both coercive and non-coercive in form, can be expressed through action and inaction, and functions across generations. Such forms of power can be observed, but Lukes (2005) offers that it is often the inaccessible and least observable that is most effectual, even making people act against their interest.

Defining power is difficult. Lukes (2005) offers a generic definition by saying “A exercises power over B when A affects B in a manner contrary to B's interests” (p.37). This characterisation is, however, too simplistic, and Lukes (2005) himself argues a three-dimensional account of power is necessary to account for the complexity of power and its manifestations. Subsequently, borne out of the examination of political settings, Lukes (2005) defines three faces or dimensions of power including: decision-making, non-decision-making, and ideological.

First, decision-making power is the most public form and represents that those that can make decisions have power, and those who cannot do not have power. This dimension is revealed through political action such as determining policy development. Decision-making power is itself multi-dimensional, further defined by matters of perceived legitimacy (e.g. legitimate: technocrats, or illegitimate: economic), competency (e.g. experts) and resource constraints (i.e. induced power) (see for example Saito & Ruhanen, 2017).

Lukes (2005) second dimension is non-decision-making, or agenda-setting power, which reflects the ability to legitimises or de-legitimises certain issues and understandings within public forums. This power manifests through the extent to which a person or group can create or reinforce barriers to the airing of policy conflicts and reflects how it is possible to influence decisions by shaping the agenda, not merely by weighing in on existing decision points. Non-decision-making power, such as political lobbying, channels and directs decision-making.
Finally, there is ideological power, described as the most subtle but perhaps the most impactful dimension. Ideological, or thought control power reflects one’s ability to influence the ambitions and understandings of others, even making them support matters opposed to their own self-interest. Such acquiescence can be thick (in which the oppressed believe the values that oppress them) or thin (wherein they are merely resigned to them) in form (Scott, 1990; Lukes 2005). Power is, therefore, more complex than simply domination, it is understood to be multi-dimensional; observable, hidden and inaccessible; coercive and non-coercive; consciously and unconsciously used, it is both embedded within and determines the processes through which it manifests.

These dimensions of power operate within dynamic fora. To renew analytical attention to the consequence of power it is necessary to consider the arenas in which objects are utilised and power manifests, and which are themselves shaped by power. To do so, I draw off Gaventa’s (2003, 2006) Power Cube. Building on Lukes (1974, 2005) work, and with a development perspective, Gaventa (2003, 2006) conceptualises how the dimensions of power (visible, hidden, and invisible) operate, how interests can be marginalised from decision making, and suggests strategies needed to increase inclusion within spaces and places. By space, Gaventa (2003, 2006), refers to arenas or spheres of engagement within which actors participate and power dimensions manifest. There are three inter-connected spaces including closed spaces that are controlled by an elite group (i.e. bureaucrats, experts), and in which decisions are made behind closed doors without broad consultation or participation. Second, there are invited spaces wherein additional actors such as citizens are included in an attempt to increase legitimacy. However, participation within invited spaces is limited by boundaries set by the powerful and thus is inherently restricted. Finally, Gaventa (2003, 2006) identifies claimed or created spaces that are established by less powerful actors and organised around common concerns. The exertion of power by the powerful (either elites or the masses) determines participation and contestation within these spaces and the capacity to define and shape the space itself and the rules within it. The continua of interacting spaces help to explain where the dimensions of power manifest.

Power within participatory processes, Gaventa (2003, 2006) argues, also has a vertical dimension. Delving deeper into the question of ‘where does power reside’, Gaventa
accounts for the expanding scale on which power is organised and exercised in an increasingly globalised world by conceptualising places of power. These places of power – from the household, to local, national, and global – are interrelated and points to the levels of public space for participation available (Gaventa, 2006). Engagement in and exclusion from these places shape capacity for action both in terms of marginalisation and empowerment. Gaventa (2006) argues that to account for the complexity of power within participatory actions it is imperative to consider how power from above (formal mechanisms at international level e.g. Paris Agreement 2015) and below (household and local level organisation e.g. Extinction Rebellion) are interrelated. An examination of power is, therefore, not solely focused on who does or does not participate at a given decision-making level. Rather, one must question how power, or its absences within a level effects action in another whilst being inherently interrelated to the other places and spaces within which power manifests.

These aspects of power – dimensions, spaces, and levels (Lukes, 1974, 2005; Gaventa 2003, 2006) – are situated within historic practices and settings. An account of this context, or the historic manifestation of power, is particularly relevant to the examination of objects within collaborative efforts. Objects – boundary or pseudo-boundary - do not exist within an institutional void, rather they are nested within historic contexts (Contu & Willmott, 2003; Subrahmanian et al. 2003; Carlile, 2004; Lee, 2007; Oswick & Robertson, 2009). For example, Lee (2007) illustrates how the political agendas, and lack of pre-existing standards between communities in a newly formed interdisciplinary design group working on museum exhibitions adversely affected the capacity for physical artifacts and social practices to enable collaboration. Examination of the historic context both within and between communities, from where an object is constructed is, therefore, required to understand fully the effects of power when such objects fail to facilitate collaborative efforts. Moreover, due to the problematic nature of knowledge (Carlile, 2002), this historic context points to the consequence of invested and path-dependent knowledge on the functioning of an object.

Power is, therefore, multi-dimensional and omnipresent within the pseudo-boundary object framework. Viewing the effect of power on an object as intentional domination is too simplistic, rather, it is necessary to understand that it can be visible, hidden, or
invisible, coercive or non-coercive, multifaceted, relative, and realised through action or inaction (Lukes 1974, 2005; Gaventa 2003, 2006). Collectively the aspects of power (dimensions, scales, levels, and visibility) determine the construction and functioning of an object which this chapter now moves to conceptualise.

2.4.2 The functioning of pseudo-boundary objects

To explore how pseudo-boundary objects and types of power entrench the political and practical mismatches between communities I expand on Carlile’s (2002, 2004) framework to embrace both the insights into knowledge exchange and the consequences of inequalities. Thus, Figure 2.2 combines Carlile’s (2004) original concept for constructive knowledge exchange, with a situation where knowledge is obstructively controlled. While a pseudo-boundary object has the form of a boundary object it does not function as such. In place of the transfer, translation, and transformation processes that signify a progressive overcoming of knowledge boundaries in constructive cooperation, I suggest that solecistic-transfer, obfuscation, and pseudo-transformation processes characterize objects wherein cooperation may be obstructive.

Figure 2.2 Integrated Framework for controlling knowledge at boundaries
The consequence of power dimensions and imbalances manifest at each knowledge boundary, and it is assumed that this will act for the benefit of the most powerful actors. At the syntactic boundary, a pseudo-boundary object supports the solecistic-transfer of knowledge. Whilst providing some shared syntax, a pseudo-boundary object may misrepresent a concept or the degree of shared knowledge so that when a syntactic boundary is faced, it may inhibit the transfer of domain-specific knowledge. When novelty arises and a semantic boundary must be overcome, pseudo-boundary objects function to obscure the differences and dependencies between communities. Similarly, at a pragmatic boundary, pseudo-boundary objects may produce a pseudo-transformation of knowledge and practice between communities. By preventing communities from transforming knowledge, pseudo-boundary objects function to inhibit effective collaboration, entrenching inequalities between actors. The fourth and final characteristic of a pseudo-boundary object relates to its reuse. A pseudo-boundary object is not meaningfully accessible to all actors, it is not co-created, or negotiable. A pseudo-boundary object supports an iterative approach to entrench the solecistic-transfer, obfuscation, and pseudo-transformation of knowledge for the benefit of dominant actors. A pseudo-boundary object can therefore be thought of as being effectively obstructive when, despite actors having an insufficient capacity or ability to manage the novelty present, it is reused, preventing actors from developing an adequate common knowledge for sharing, assessing, and learning of each other’s knowledge.

These obstructive functions, I argue, are exemplified by the concept of ‘ecosystem services’. As a point of a common language across research disciplines, environmental managers, global markets and others, the introduction of ‘ecosystem services’ sought to provide a focus on the relationship between humans and nature, and the negative actions that are degrading the earth’s ecosystems (Chaudhary et al. 2015). While the concept was seen to be flexible enough to function at the science-policy interface, it has become overshadowed by economic thinking, relying heavily on economic valuation and assumptions (Steger et al. 2018). When the concept is used, the differences and dependencies between communities, particularly social and intrinsic values, are frequently obscured by economic rationale. As such, the transferal or translation of those intangible values, and knowledge thereof, is inhibited or obscured for the benefit of the most powerful. As the concept of ecosystem services has become
standardised to favour economic knowledge, its use - and continued re-use (Chaudhary et al. 2015) - has restricted its capacity to facilitate the transformation of knowledge across multiple communities. As a consequence of the political sphere within which the concept of ecosystem services resides, it creates a pseudo-transformation of knowledge, and by extension ecosystem management.

As with the constructive features of *bona fide* boundary objects, these inhibitory functions are not permanent. The conditional nature of how an object functions has long been recognised. To account for the transient nature of objects, I amalgamate the thinking on how pseudo-boundary objects function to control knowledge with Carlile’s (2004) ideas to form my conceptual framework for distinguishing between boundary and pseudo-boundary objects (Figure 2.3).

### 2.5 Distinguishing boundary and pseudo-boundary objects

The conceptual framework is premised on the fact that the functioning of an object is conditional, determined by the context within which it is constructed and used. It is therefore beneficial to integrate Carlile’s (2004) framework for managing knowledge with the thinking on how the negative consequences of knowledge (i.e. path-dependent and invested) manifest at the syntactic, semantic and pragmatic boundaries of knowledge. Figure 2.3, therefore, conceptualises the conditionality of objects as they move between functions.
Figure 2.3 Conceptual framework for distinguishing boundary and pseudo-boundary objects
Objects may manifest as boundary objects or pseudo-boundary objects on opposite sides of the conceptual framework (Figure 2.3). Objects that provide a shared context that enables communities to constructively transfer, translate and ultimately transform their knowledge and practices are found on the left (Carlile, 2002, 2004). Conversely, when practical and political mismatches manifest at the boundaries, differences, dependencies, and novelty are not addressed sufficiently and cooperation may become obstructive. Because communities are not equal in their access to resources (Briers et al. 2001) and do not occupy politically equal positions (Carlile, 2004), there are situations when differences between them cannot be bridged (Bechky, 2003a, 2003b). In such instances, powerful communities may seek to decrease the opportunities for collaboration through means of “imposition of representations, coercion, silencing and fragmentation” (Star & Griesemer, 1989, p.413). Such pseudo-boundary objects, as I conceptualise, are situated on the right-hand side of the model, and function to inhibit effective collaboration. Inequalities and differences remain unresolved, leading to the pseudo-transformation of knowledge. While boundary objects overcome the boundaries of communities, pseudo-boundary objects produce and use knowledge boundaries to reinforce power.

The broken line separating the facilitative or inhibitory functions is indicative of the temporary nature of boundary and pseudo-boundary objects. This conceptual framework does not seek to assign an object to a function indefinitely, as that would go against the inherently fluid conceptualization of boundary objects as outlined in Star and Griesemer’s pioneering framework (Star & Griesemer, 1989; Star, 2010). My conceptual framework leaves open the possibility of shifting boundary functions within an ever-changing context of community interactions. If actors become unwilling or unable to overcome the boundaries of knowledge that divide them, the ‘boundaryness’ of an object that once created a shared context through which to work can deteriorate and thus function to obstruct constructive knowledge sharing. Conversely, an object that once inhibited opportunities for collaboration may be reconstructed to productively satisfy the needs of a range of communities. However, I imagine that such an instance of transformed function would require a substantial redistribution of power and agency.
The framework conceptualised here (Figure 2.3) provides a strengthened analytical approach to the examination of objects that facilitate or inhibit collaboration, providing an in-depth consideration of their features and functions. This model develops Star and Griesemer’s (1989) seminal work on collaboration without consensus, by recognising the pluralistic functions of objects that can both enable and inhibit collaboration (e.g. Thomas et al. 2007; Oswick & Robertson, 2009), and links this with Carlile’s (2002, 2004) vocabulary of objects at the boundaries of knowledge. This conceptual framework thus provides a robust theoretical background for examining interactions of distinct communities acknowledging the role of unequal power, domain-specific knowledge, and the influence of the historic, social, and political context.

2.6 Conclusion

The analytical strength of boundary objects is evidenced by their capacity to explain the dynamic process of cooperation between heterogeneous communities in the absence of consensus. The application of Star and Griesemer’s concept (1989) has revealed the complexity of multi-community systems and the ability of objects - material, conceptual or otherwise - to function as translational devices. An uncritical focus on object types and features and the pluralist turn has, however, done little to deepen the analytical value of Star and Griesemer’s (1989) concept. As such the aim was to stimulate a more explicit analysis of how so-called boundary objects may be implicated in the construction of obstructive cooperation. I suggest that the framework for distinguishing two forms of boundary objects, established within this study, provides a more nuanced perspective on knowledge collaboration. The expansion of boundary object typologies pointed to the myriad of things that exist within and between communities, the narrow focus on the features of boundary object diminished the strength of Star and Griesemer’s framework. The recognition that such features are not unique to boundary objects thus required the reorientation of research towards the dynamic manner in which they function. In doing so, and turning to the critique of the pluralist turn, this study’s framework provides greater detail of function, describing how objects can facilitate, or obstruct, constructive communication and cooperation.

The framework for distinguishing between boundary and pseudo-boundary objects will support the answering of this study’s objectives. Central to this study is the aim
of understanding how the low carbon economy, as a multi-pathway, multi-community transition, is realised within MSP. This is a question of how MSP mediates spatio-temporal demands with the need to foster climate action. Or, more specifically, how heterogeneous communities and their, at times contradictory, viewpoints of the low carbon transition are coordinated. This necessitates the sharing, assessing and creation of common understanding (knowledge) around the transition, for example through the development and use of the low carbon economy as a boundary object. Such notions of consensual collaboration reflect much of the literature on MSP but fail to acknowledge the negative consequence of inequalities and the political aspects of planning the marine area. Therefore, by allowing for the capacity of objects to create obstructive collaboration, this framework accounts for the gap between how MSP is conceptualised and how it is implemented (e.g. through post-political processes: Clarke & Flannery, 2019). Moreover, by acknowledging the way in which things can function to control and co-opt collaborative efforts the framework focuses on matters of power and other political aspects that are missing from both MSP and boundary object scholarship. When applied to the case of MSP in England and Scotland, the framework developed here is well suited to revealing the practical and political mismatches that occur between marine communities in the functioning of the low carbon transition object, and manifest within the policy arena.
Chapter 3 Research design and methodology

3.0 Introduction

This chapter builds upon the theoretical framework (Chapter 2) in addressing the first objective of this thesis – to develop a conceptual framework capable of capturing how marine stakeholders articulate their interests and understanding within MSP. This chapter discusses the methodological design and approach employed within this thesis to address the aim of exploring how the transition to a low carbon economy was realised, or functioned as an object, within English and Scottish MSP. The design and methodology of this study were devised around the research aim, objectives, and theoretical framework as outlined in Chapters 1 and 2 (Table 3.1). This chapter justifies the use of multiple case studies within this study, and the use of discursive analysis of political speeches, documents and marine plan documents, and semi-structured stakeholder interviews as data collection methods. The following sections describe in more detail the methods of data collection and analysis, concluding that collectively, they are best suited to generating critical insight into MSP initiatives, and how the low carbon transition functioned within them.

3.1 Research design

By accounting for the practical and political mismatches that occur between communities, this thesis has so far established the profoundly contested nature of MSP and the problematic nature of collaborative work. There is, therefore, a clear need to employ a design and methodology that allows for the examination of how the transition to a low carbon economy was articulated within English and Scottish MSP initiatives. Whilst all research designs have specific advantages and disadvantages (Bryman, 2016), for this thesis, the multiple comparative case study design provides the most suitable research framework. This choice of research design provides a practical space within which to gather data and apply the novel theoretical framework (Chapter 2) to answer the research objectives of this thesis, drawing theoretical conclusions and good-practice lessons.
Table 3.1 Research objectives and methodological design

<table>
<thead>
<tr>
<th>Research Aim</th>
<th>Research Objective</th>
<th>Data collection</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>To evaluate how the low carbon transition is articulated by multiple communities through UK MSP.</td>
<td>(1) To develop a conceptual framework capable of capturing how marine stakeholders articulate competing interests and develop common understanding within MSP.</td>
<td>-</td>
<td>-</td>
</tr>
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<td></td>
<td>(2) To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this.</td>
<td>Political speeches and documents</td>
<td>Discourse analysis</td>
</tr>
<tr>
<td></td>
<td>(3) To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans.</td>
<td>Multiple case studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4) To compare English and Scottish evidence, to reveal how different political discourses have shaped the low carbon transition within UK MSP approaches.</td>
<td>Political speeches and documents</td>
<td>Thematic analysis</td>
</tr>
<tr>
<td></td>
<td>(5) To synthesise the research insights to highlight implications for improving MSP processes and its future research.</td>
<td>Policy speeches and documents</td>
<td>Comparative analysis of case study findings, reflection on novel theoretical framework, and consideration of practical implications of the functioning of the low carbon transition as an object within MSP policy arena</td>
</tr>
</tbody>
</table>
3.1.1 Multiple case study approach

Case study selection begins with a desire to derive a detailed understanding of the ‘how’ and ‘why’ of particular phenomena within a real-world context (Mitchell, 1983). As a methodology, case studies are used to explore a real-life bounded system (a single case), or multiple bounded systems (multiple cases) over different periods of time (Mitchell, 1983). A case study constitutes the observer’s data, that is, the documentation of event(s) or phenomenon assembled with the explicit aim of drawing theoretical conclusions from it (Mitchell, 1983). The aim of case studies is, therefore, to produce a deep understanding of the chosen phenomenon, drawing on insightful cases to derive new learning about real-world behaviours (Mitchell, 1983). In doing so, case studies provide a source of rich and detailed data that is unlikely to be gained through other research designs.

Multiple case studies can be more difficult to implement than a single case but provide the opportunity for a rich understanding of the social phenomenon. As a matter of course, multiple case studies are more resource intensive than singular studies, however, they offer several benefits. First, multiple case studies facilitate detailed and intensive analyses of processes in their real-life contexts where the studied phenomenon is entangled with contextual conditions, thus providing a robust understanding of causality (Yin, 2012; Bryman, 2016). Furthermore, multiple case studies provide the opportunity to compare and contrast findings from potentially distinct contexts (Mitchell, 1983). Analytic conclusions derived from multiple cases are more authoritative than a single case study and are more easily generalised in both a statistical and analytical manner (Yin, 2012). Finally, the comparative approach facilitates the theory generation and testing by acting as a springboard for theoretical reflections about contrasting findings (Flyvbjerg, 2012; Yin, 2012). Conclusions drawn from multiple case studies can create a more convincing theory by providing opportunities for replication, contrast, and extensions to emerging theoretical conjectures, emphasising the rich, real-world context of the phenomenon (Yin, 2012).

Notwithstanding these strengths, criticisms exist relating to the nature of case studies, specifically their validity and generalisability (Mitchell, 1983; Flyvbjerg, 2012). There are five common misunderstandings of case study research including: (1) theoretical knowledge (context-independent) is more valuable than practical knowledge (context-
dependent); (2) one cannot generalise from case studies; (3) case studies are most useful for generating hypotheses, rather than hypotheses testing and theory building; (4) there is a bias towards verification rather than critical examination; and (5) it is difficult to summarize and develop general propositions and theories from case studies (Flyvbjerg, 2012). However, these oversimplifications are countered by Mitchell (1983) and Flyvbjerg (2012) whereby the reliability and validity of case study research stem from the strength of the theoretical reasoning upon which the observer’s data has been examined, rather than the typicality or representativeness of the case.

Similar concerns relating to the use of the multiple case studies have been voiced (Yin, 2012). Whilst such a research design can be particularly time and resource intensive, by ensuring that the respondents questioned and data analyses are equivalent and comparable across sites, the multiple case study approach can produce detailed insight into the implications of context (Yin, 2012). Rigour is thus found in the theoretical framework upon which the case studies are designed (Mitchell, 1983).

Subsequently, and based on the novel theoretical framework developed in Chapter 2, a multiple case study design is employed to facilitate an investigation of MSP initiatives in England and Scotland.

3.2 Selection of case studies: England and Scotland

Selection of case studies, particularly when using a multi-case design, is often done on the basis of exemplifying cases that provide a suitable setting within which to study the posed research questions. An initial review of global MSP initiatives was carried out to identify initiatives that aim to facilitate the transition to a low carbon economy. Various nations such as Belgium, Spain, the USA, and Portugal were found to have begun implementation of MSP with climate change mitigation and adaptation a common objective across plans (Jay et al. 2013). However, none of these case studies were as focused on transitions to the same extent as the emerging UK MSP initiatives.

10 Global MSP initiatives were found and examined through the European Union’s MSP platform (Available at: https://www.msp-platform.eu/ [Accessed February 2017]), and additional google searches (e.g. for MSP across the United States of America).
The UK was the first nation to link MSP and climate mitigation. Transitioning to a low carbon economy is firmly established within these initiatives as the UKMPS specifically highlights MSP as a means of enabling “the UK’s move towards a low carbon economy in order to mitigate the causes of climate change and ocean acidification and adapt to their effects” (HM Government, 2011c: p.3). Within the UK’s MSP participatory process, the object of transitioning – boundary or pseudo-boundary – thus clearly arises from a need to achieve this overarching objective of climate action and collaboration between communities. Moreover, given the transition is defined as a source of climate action it can therefore be interpreted flexibly (e.g. habitat restoration, expansion of renewables). The UK was, therefore, found to be an entirely appropriate case study upon which to focus this study.

Due to the UK’s devolution settlements, MSP has not been implemented uniformly across the four devolved nations. Devolution refers to the transferral of power from Westminster to the nations and regions of the UK. In this way, UK devolution is a practical example of the principle of subsidiarity whereby the aim is to make decisions at the lowest level, better recognising local factors. It has occurred asymmetrically with varying legislative and non-legislative forms of devolution and degrees of power across the four nations. For example, while matters of justice and policing are devolved to the Northern Ireland and Scottish Governments, this remains reserved to Westminster for Wales.11 Environmental matters, however, including MSP are devolved to each nation. How decisions are made around MSP reflects the different political frameworks, histories, and cultures for which there are significant differences between the four nations. A key area of differentiation between England and Scotland for example relates to the fact that a dominant political debate in Scotland, revolves around attitudes to the constitutional question of independence. How these political differences will affect the utilisation of MSP for climate action is thus at the core of this study. Of the devolved nations, England and Scotland were the first to develop marine plans, with those for Wales and Northern Ireland not adopted at the time of

11 Devolution fact sheet
commencing this research.\textsuperscript{12} As comparative case studies England and Scotland were deliberately chosen to allow for theoretical replication (Yin, 2012). Utilising insights from the theoretical framework (Chapter 2) this study will delve into how the concept of transitioning was articulated, and if it functioned as a tool of communication between distinct communities.

3.2.1 The legal framework for the low carbon transition and MSP in England and Scotland

As noted, there is an asymmetric distribution of legal powers within the UK owing to the system of devolution. It is necessary to analyse and reflect on the statutes that underpin the articulation of the low carbon transition and realisation of it within MSP. The following sections, therefore, evaluate the: Climate Change Act 2008 and Climate Change (Scotland) Act 2009; and the Marine and Coastal Access Act 2009, and Marine (Scotland) Act 2010.

The Climate Change Acts: a legislative framework for the low carbon transition

The UK’s carbon management framework constitutes a ‘complex interplay of reserved and devolved responsibilities’ (Defra, 2007b: p.12). Taken together, the Climate Change Act 2008, and the Climate Change (Scotland) Act 2009 - referred to collectively as the Climate Change Acts - provide the legislative framework for the low carbon transition. Regarding the focus of this study, the Climate Change Act 2008 provides the statutory framework for the English case study, and it is then substituted, and contextualised for the Scottish case study by the Climate Change (Scotland) Act 2009. This two-part legislative framework reflects the UK’s system of devolution.

Climate Change Act 2008

The Climate Change Act 2008 (CC Act 2008) was a landmark piece of legislation that took an important step towards making the UK a low carbon economy (Carter, 2014). Hailed as a revolutionary moment (Tempest, 2007), Westminster passed the CC Act 2008, establishing the world’s first legally mandated national greenhouse gas (GHG) emissions reduction target—*the 2050 target*—of 80% by 2050 on a 1990 baseline. With support from cross-party politicians, environmentalists, trades unions and business (Lockwood, 2013), the CC Act 2008 made provisions for three key components including: (1) interim carbon budgets: to compel future Governments to act to meet the 2050 target\(^{13}\), and at a more general level provide ambition for the UK’s transition to a low carbon economy (Howarth, 2017); (2) a National Adaption Programme (NAP): highlighted the risks to the UK as a result of climate change\(^{14}\); and, (3) established a Committee on Climate Change (CCC) to provide independent scientific oversight and advice. The CC Act 2008 requires the UK Government to bring forward policies and proposals to ensure that the 2050 GHG emissions targets are met.

The CC Act 2008 is a comprehensive statute. Intended as a means of binding future Governments, regardless of political alignment, into meeting emission reduction targets, the CC Act 2008 adopts a cross-generational approach. Furthermore, it establishes a cross-sectoral and cross-territorial approach committing the UK to achieving emissions reductions across all land-based activities and activities occurring above or below the UK waters within the Exclusive Economic Zone (EEZ) (Part 1, 1; Part 6, 89). The CC Act 2008, therefore, establishes a duty to facilitate climate change action in the marine area.

Beyond mandating GHG emissions reductions, the CC Act 2008 aimed to provide a source of financial stability during a time of economic recession. The CC Act 2008 framework of GHG reduction targets aimed to elaborate a financially viable emission reduction path (Giannarakis et al. 2017). The pathway to decarbonisation, as

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established within the CC Act 2008 was set within the difficult post-2008 economic crash, therefore the low carbon economy was legislated for alongside the necessity for economic recovery. The constraints on future politicians in terms of policy creation was intended to give confidence to investors in low carbon technologies and infrastructure, with the protection of sectors competitiveness enshrined in the Act (Part 1, 10 (2c)) (Lockwood, 2013). Furthermore, the CC Act 2008 seeks to encourage the investment and support of activities that reduce or remove GHG emissions from the atmosphere. The emissions reduction framework established within the CC Act 2008 is therefore consistent with the “least cost path to meeting the UK’s long-term climate objectives… increasing the competitiveness of the UK in the long term by encouraging greater innovation and efficiency” (Bassi & Duffy, 2016). The intention of providing support and investor confidence, therefore, appears to be a consequence of a significant economic downturn across the UK.

**Climate Change (Scotland) Act 2009**

The Scottish parliament adjusted goals and intentions relating to climate change action through the establishment of the Climate Change (Scotland) Act 2009 (CCS 2009). The CCS Act 2009 made provisions for, amongst other things, interim emissions reduction targets, an adaption plan, framework for advice and Ministerial reporting, and a duty for Public Bodies and business to be held accountable. Thus, beyond setting reduction targets, the CCS Act 2009 aimed to fabricate a robust evidence base for decision-making, as well as compel action.

While the Scottish climate act (CCS Act 2009) is subservient to the CC Act 2008, so the 2050 target remains the same, the manner in which emissions reductions are to be met is distinct in three keyways relevant to the focus of this thesis. First, anticipated depth of interim emissions reductions are more ambitious, set at 42% by 2020 within the CCS Act 2009, compared to the 26% reduction committed to within the CC Act 2008. Second, the CCS Act 2009 makes provisions for environmental matters to be accounted for when interim targets are set, specifically in relation to the likely impact of targets on biodiversity. There is no equivalent provision within the CC Act 2008. Third, and finally, the CCS Act 2009 adopts both a micro and macro-economic approach requiring Ministers to account for economic circumstances relating to the Scottish economy, small and medium-sized enterprises, and jobs and employment
opportunities. Comparatively, the CC Act 2008 focuses solely on macro-economic circumstances relating to the competitiveness of sectors and the UK economy. The CCS Act 2009 recognises the need for actions across Scotland’s socio-economic sectors, taking into account environmental considerations if emissions reductions are to be achieved.

In the context of this study, the comparison of the climate acts reveals two key matters. First, both England and Scotland have legislated for the low carbon transition in the form of a 2050 economy, and by extension society, that produces 80% less carbon on a 1990 base line. Second, the manner in which these binding targets will be achieved varies between the two nations. The key question is thus, to what degree does the legislative framework for MSP make provision for climate change action?

**The Marine Acts: a new legislative framework for the marine area**

The UK’s extensive marine area is governed by a complicated framework of international, regional (e.g. EU), and domestic devolved legislation and administration (Boyes & Elliott, 2014, 2015, 2016). Development of the framework for MSP within the UK began in 2002 when the Department of the Environment, Food and Rural Affairs (Defra) published the Safeguarding out Seas strategy and Marine Stewardship Report (Defra 2002a, b). In 2004, Defra’s Five-Year Strategy was launched and the plans for a Marine Bill were announced by the UK Government. Within these documents, Defra recognised the consequence of the unsustainable management and protection of the UK marine area and outlined the need to reconcile a wide range of environmental, social, sectoral, institutional, and political actors and interests. Subsequently, provisions for improvements in the UK marine area, and the legislative basis for MSP, were establishes within the Marine and Coastal Access Act 2009. Following this, and again because of the devolution settlement, the Scottish Parliament brought forward the Marine (Scotland) Act 2010, establishing a framework for MSP in Scottish waters. The legislative and administrative components of these marine acts are considered sequentially.
Marine and Coastal Access Act 2009

The Marine and Coastal Access Act 2009 (MCA Act 2009) was a pioneering piece of legislation (Maes, 2009). As a result of growing calls from non-governmental organisations (NGOs) for an integrated system of marine management, and years ahead of the EU MSP Directive (2014/89/EU)\(^{15}\), the UK legislated for MSP (Slater & Claydon, 2020). The MCA Act 2009 provides the statutory basis for a new ecosystem-based plan-led system that aimed to provide a more coherent and simpler legal regime through which economic, social, and environmental needs can be more appropriately regulated and managed (Gibson & Howsam, 2010; Fletcher et al. 2013; Boyes & Elliott, 2015; Jones et al. 2016). The MCA Act 2009 was designed to “replace a fragmented, ad hoc, and bureaucratic process of marine management” (Scarff et al. 2015: p.96). As such, there are eight components of the new strategic, integrated, and centralized system established within the MCA Act 2009 including:

1. the Marine Management Organisation (MMO): a new executive non-departmental public body with the duty to licence, regulate and plan marine activities within the seas around England;
2. a marine planning system including the provision of a UK National Marine Policy Statement (UKMPS);
3. a reformed marine licensing system;
4. a new mechanism for marine nature conservation: Marine Conservation Zones (MCZs);
5. the modernisation of inshore fisheries management and enforcements;
6. a new authorisation scheme for migratory and freshwater fish;
7. a duty to improve access to English coastal areas for the purpose of enjoyment; and
8. a more joined up approach to coastal and estuarine management.

Of these, and concerning the focus of this thesis, the development of the UKMPS (HM Government, 2011c), was key, setting out the process for developing marine plans which should be, among other things, “based on an ecosystem approach, participative

\(^{15}\) The MSP Directive (2014/89/EU) establishes the requirement for all coastal states to implement marine plans by 2021.
and informed by data provided by consultees, stakeholders, regulators and relevant experts” (p.12). The MCA Act 2009 covers the whole of the UK marine area and requires the devolved administrations to produce marine plans – for the inshore and offshore regions of devolved waters- in the context of the 21 high-level marine objectives (HLMOs) established within the UKMPS. Covering matters of a thriving economy, a just society, environmental limits, good governance, and use of science, the HLMOs support the preparation of marine plans to achieve the UK’s shared vision for ‘clean, healthy, safe, productive, biologically diverse oceans and seas’ (Defra, 2002a). By planning in accordance with the HLMOs, the UKMPS outlines the desire to promote sustainable economic development; ensure a sustainable marine environment that promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; contribute to the societal benefits of the marine area, including the sustainable use of marine resources; and finally, enable the UK’s move towards a low-carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects. Thus, established within the UKMPS is the goal for MSP across the UK to facilitate the low-carbon transition.

A further key component of the MCA Act 2009 is the establishment of the Marine Management Organisation (MMO). The duty to develop marine plans is divided between marine plan authorities across the UK. Due to the UK’s devolution settlements, the MCA Act 2009 compels the Secretary of State for Defra (England), Scottish Ministers, Welsh Ministers, and the Department of the Environment (now the Department for Agriculture, Environment, and Rural Affairs) in Northern Ireland to prepare marine plans. Each devolved regime has developed a separate process under its own administration, however, the MCA Act 2009, remains the overarching legislation that enables those individual regimes to be implemented in accordance with the UKMPS. Within the English marine area, the MMO was established to oversee the functions (e.g. marine planning and licencing) and objectives (e.g. sustainable development) of the MCA Act 2009. As a statutory, non-departmental public body, the MMO is an arm’s length body, sponsored by Defra to deliver the Government’s structural reform priorities but functions at arm’s length from Ministers (HM Government, 2012; Scarff et al. 2015). The creation of the MMO is indicative of the

**Marine (Scotland) Act 2010**

Through the Marine (Scotland) Act 2010 (MS Act 2010) Scotland introduced its own system of marine planning. Under the terms of devolution, the Scottish Parliament is entitled to legislate activities affecting their marine area, subject to some excluded reserved matters (e.g. oil and gas, and defence). As such the MS Act 2010 gave the Scottish Government unprecedented powers to plan its seas. As a devolution-equivalent act to the MCA Act 2009, the MS Act 2010 has measures relating to marine planning, licencing, marine conservation, and enforcement. Due to Scotland’s legislative prerogative, there are a number of distinctions between the two marine acts—such as nature conservation Marine Protected Areas (MPAs)—which are beyond the scope of this project. There are, however, several notable distinctions—tiered plans, and duty to facilitate climate change action— that are considered in detail in order to highlight the legislative deviations within the UK’s MSP legislative landscape that seeks conformity.

The first distinction relates the tiered approach to marine plans. The MS Act 2010 gives Scottish Ministers the duty to prepare an overarching National Marine Plan (SNMP), and the right to designate inshore Scottish Marine Regions (SMRs) and to appoint a ‘delegate’ made up of members with the relevant expertise, skills, and knowledge to produce regional marine plans. Subservient to the MCA Act 2009, Scottish marine plans must conform to the relevant marine policy statement (i.e. UKMPS), and for regional plans, they must conform to the SNMP. This tiered approach to marine planning is distinct from that adopted for England, but again the complexity of these differences are explored further within the methodology chapter.

Another significant distinction between the two marine acts is the mechanisms for climate change mitigation and adaptation. Within the MS Act 2010, the need to mitigate and adapt to the issues of climate change is enshrined throughout the general duties (Part 2) and more specifically in the issues of marine planning (Part 3), and nature conservation (Part 5). The MS Act 2010 is a primary mechanism for action, establishing in law the duty to mitigate climate change and compels Scottish Ministers
to achieve this in relation to the functions of the act (e.g. licencing and planning). In contrast, the MCA Act 2009 establishes secondary mechanisms – the UKMPS- to allow aspects of climate change to be addressed indirectly within the English marine area. The two marine acts thus establish different legislative and policy frameworks to meet their commitments within the relevant climate acts.

Duty to fulfil the functions of the MS Act 2010 was transferred to Marine Scotland, a Directorate of the Scottish Government. Established in 2009, Marine Scotland was the consequence of the merging of two executive agencies – the Fisheries Research Services and the Scottish Fisheries Protection Agency- and the Scottish Government marine and fishery policy division. As the institution responsible for the MS Act 2010, Marine Scotland has the primary duty to prepare marine plans at the National level and assist in the development of regional plans. When compared to the institutional framework of English MSP, the retention of responsibility with a Government Directorate suggests Scotland is adopting a more centralised approach to MSP.

**Summary of legal frameworks**

A comparison of the two marine acts illustrates a key matter relating to the focus of this thesis. There is no singular legislative pathway for the low carbon transition, rather there are distinct primary (e.g. MS Act 2010) and secondary mechanisms (e.g. UKMPS) that provide a framework for planning institutions, and the respective governments as a whole, to operationalise mitigative and adaptive action. The way in which MSP is being implemented in England and Scotland are both distinct (tiered systems) and bound to each other (legal framework), and to which the methodology of this thesis seeks to evaluate.

**3.2.2 Tiered systems of marine planning in England and Scotland**

England and Scotland have developed tiered systems of marine plans, whereby the national level UKMPS and Scottish National Marine Plan (SNMP) are complemented by regional plans. To sufficiently evaluate the MSP initiatives it is, therefore, necessary to account for this within the research design (Figure 3.1).
England has adopted a single-tier approach to marine planning. Guided by the UKMPS, the MMO is developing eleven inshore (up to 12nm) and offshore (12-200nm) marine plans (Figure 3.1; 3.2). The decision to create a single-tiered system aimed to streamline the decision-making process and avoid duplication between regional and national plans (Defra, 2011). These plans will interpret and provide locally relevant expression of Government policy and objectives, as set out in the UKMPS. For the English case study then, the focus is on how the regional marine plans provide an area-specific interpretation of the aim of transitioning.

Figure 3.1 Flow diagram of the UK’s tiered marine planning systems
Scotland, on the other hand, has adopted a two-tiered system of MSP whereby a national plan is augmented by regional inshore plans\(^\text{16}\) (Figure 3.1; 3.3). Marine Scotland developed a national plan, the SNMP, through an extensive stakeholder engagement process from 2010-2015 (Marine Scotland, 2010: p.2). The national plan sets out strategic policies for Scotland’s marine resources out to 200 nautical miles in line with the UKMPS (MS Act 2010: Part 3, cl 6) and the EU Directive on MSP.

\(^{16}\) Marine (Scotland) Act 2010 s. 5 and the Scottish Marine Regions Order 2015 No. 193.
2014/89/EU (Marine Scotland, 2015b). At a local level, marine planning will be implemented through eleven Scottish Marine Regions (SMRs) that extend out to 12nm and are established through secondary legislation (Scottish Marine Regions Order 2015 No. 193). To take account of local circumstances and bolster local ownership and decision-making, Marine Planning Partnerships (MPP), will be formed to develop these regional plans in accordance with the UKMPS and SNMP. For this study, it is necessary to examine the two tiers: questioning how the low carbon transition is facilitated within both the national and regional plans.

### Figure 3.3 Scottish national and regional marine plan areas

#### 3.2.3 Regional cases: East of England and the Pentland Firth and Orkney Waters

Regional plans have not been uniformly developed and implemented across English and Scottish seas. At the time of developing this study- in 2017- three regional plans were adopted: the East of England Inshore and Offshore marine plans (Defra, 2014)
(referred to collectively as the EMPs), and the Pentland Firth and Orkney Water (PFOW) pilot plan (Marine Scotland, 2016). Developed under the UKMPS framework, these plans are required to enable the UK to transition to a low carbon economy. Owing to both their similarities (e.g. legislative & policy framework; multi-functionality) and differences (e.g. spatial scale, institutional framework) (Table 3.2), the EMPs and PFOW provide useful and appropriate comparative cases within which to examine how the low carbon transition was realised within both MSP initiatives’, and space for theoretical replication.

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17 Marine plans were developed for Shetland and the Clyde area prior to the MS Act 2010. However, these plans originated from a 2006 initiative, known at the Scottish Sustainable Marine Environment Initiative that aimed to “test and trial different approaches to marine management and to share any data and stakeholder engagement concerns” (Hull, 2013, p.518).
Table 3.2 Comparison of English and Scottish, national and regional case study characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>East of England marine plans</th>
<th>Scottish National marine plan</th>
<th>Pentland Firth and Orkney Waters Pilot plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance with UKMPS</td>
<td>Statutory requirement</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Extent</td>
<td>58,666 km²</td>
<td>462,263 km² (0-200nm)</td>
<td>4,487 km² (0-12nm)</td>
</tr>
<tr>
<td>Adoption status</td>
<td>Statutory requirement</td>
<td>Pilot plan, document of material consideration</td>
<td></td>
</tr>
<tr>
<td>Planning Authority</td>
<td>Marine Management Organisation</td>
<td>Marine Scotland</td>
<td>Highlands Council; Orkney Islands Council; Marine Scotland</td>
</tr>
<tr>
<td>Use of Marine area</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aggregates</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Carbon capture and sequestration</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Coastal communities</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Commercial fisheries</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Defence and National Security</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Energy: hydrocarbon</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Energy: nuclear</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Energy: renewables</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Historic environment (terrestrial and marine)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Marine dredging and disposal</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Marine transport</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Ports and shipping</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pipelines, subsea cables</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Protected species and habitats</td>
<td>MPAs; Ramsar; SACs; SCIs; SPAs; SSSIs</td>
<td>MPAs; NSAs; Ramsar; SACs; SLAs; SPAs; SSSIs</td>
<td>MPAs; NSAs; Ramsar; SACs; SLAs; SPAs; SSSIs</td>
</tr>
<tr>
<td>Recreation, sport, leisure and tourism</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Subsea cables</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
The East inshore and offshore plans

In 2014, following a three-year development, the MMO published the EMPs as the first two regional plans for England (Figure 3.4). The East inshore and offshore areas - extending from Flamborough Head to Felixstowe and from 0-12, 12-200nm respectively - were chosen by the MMO as the first plans based on seven decision streams which included: (1) stakeholder engagement; (2) coastal stakeholder partnerships; (3) economic, environmental and social information; (4) implications of current and proposed MPAs; (5) future pressures and their implications; (6) implications of planning inshore and offshore together; and (7) planning with bordering nations. As part of the ‘most industrialised sea in the world’ (House of Lords, 2015), and with a vast range of economic, social and environmental pressures (Scarff et al. 2015), the co-development of the EMPs aimed to deliver “the greatest sustainable development gain due to the step-change in marine activity in the offshore area and the impacts this will have in terms of pressure of other users and the natural environment”, and provide socio-economic opportunities to deprived communities on the East coast of England (MMO, 2010: p.3). More specifically, the expansion of offshore wind energy projects is noted as being particularly important for providing significant socio-economic and environmental benefits within the 2034 vision that was used to guide the development of plan and policies:

“By 2034, sustainable, effective and efficient use of the East Inshore and East Offshore Marine Plan areas has been achieved, leading to economic development while protecting and enhancing the marine and coastal environment, offering local communities new jobs, improved health and well-being. As a result of an integrated approach that respects other sectors and interests, the East Marine Plan areas are providing a significant contribution, particularly through offshore wind energy projects, to the energy generated in the United Kingdom and to targets on climate change.” (Defra, 2014)
Production of the plans was strongly driven by the need to meet the objectives of the UKMPS, balanced with input from statutory consultees and the needs of local communities. The MCA Act 2009 establishes a duty to involve interested persons - defined as those who appear to Defra have an interest in the area (e.g. energy, marine conservation, cabling) and members of the general public - and provide mechanisms through which to make representations regarding the development of marine plans. The mechanisms and timeline of engagement are set out in the EMPs Statement of Public Participation (MMO, 2013a: p.7). Founded on evidence and the principles of early engagement, inclusion, adaptability, respect for diversity, clarity of purpose,
accessibility of documents, and clarity of language the development of the EMPs constituted several stages of formal and informal stakeholder engagement including scoping, draft consultation, and implementation (MMO, 2013a). That is to say, the MMO was duty bound to engage with statutory consultees, such as Natural England, in a more structured manner as opposed to the open public consultation platforms. Nonetheless, public involvement across the three years was explicitly aimed at two key matters; first, there was a clear need to understand local aspirations to ensure the plans delivered meaningful benefits to the local community, and second, to generate local buy-in so as to support the implementation and enforcement of the plans. The development of the plans was designed around evidence and engagement (MMO, 2013a: p.7).

In relation to the focus of this thesis, the EMP is an entirely appropriate case study. Given the stated vision of supporting climate change action- particularly through offshore wind energy-, and the significant historic, contemporary, and projected economic, environmental, and human pressures, it is right to question the effectiveness of this new planning process to sufficiently deal with the political nature of trans-community collaboration.

**The Pentland Firth and Orkney Water Pilot plan**

The PFOW area is found at the north of Scotland, spanning the coastline of Orkney, Sule Skerry and Sule Stack, Stroma and the north coast of mainland Scotland from Duncansby Head along the Caithness and Sutherland coast to Cape Wrath (Figure 3.5). Set between the Atlantic Ocean and the North Sea covering an area of around 12,000 km², the PFOW area comprises two statutory regions of Orkney and the North Coast that will eventually be planned. The purpose of the PFOW pilot was to test the planning policy framework in advance of Scotland’s statutory regional planning process. Subsequently, and to test a partnership approach to MSP, a working group consisting of Marine Scotland, Orkney Islands Council and Highlands Council lead in the development of the plan between 2012 and its eventual publication in 2016\(^{18}\).

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\(^{18}\) Work on the PFOW plan, mainly the demarcation of plan area, began in 2009 following licencing agreements for marine energy developments and was solely led by Marine Scotland until 2012. Preparation of the plan began in 2012 with guidance from an advisory partnership and wider stakeholder engagement. This study focuses on the process of plan consultation and development.
resulting plan established a strategic vision, objectives and policies to achieve sustainable development in the plan area, of which, supporting the transition to a low carbon was one such objective.

![Pentland Firth and Orkney Waters Pilot plan area](image)

The seas off the north coast and around Orkney are home to an extensive range of economic, environmental, and social interests there has been particularly rapid development of marine renewable energy developments of the region. To manage these diverse and interconnected pressures, and aid the Working Group, an Advisory Group was formed in 2013 that included representatives of the Orkney Harbour Authority, Scrabster Harbour Trust, Scottish Natural Heritage (SNH), Historic Environment Scotland, Scottish Environment Protection Agency (SEPA), Highlands and Islands Enterprise, and the Royal Yachting Association Scotland. Neither the working nor advisory groups were intended to be representative of all the interests in the PFOW area, rather they were drawn from organisations with expert knowledge of
the protection and enhancement of the PFOW area (Marine Scotland, 2016). As such, the group’s efforts were supplemented by individual and broader community scale processes of engagement and consultation including workshops, public drop-in sessions and individual meetings. To a greater extent, the preparation of the PFOW plan followed the statutory process as outlined within Schedule 1 of the MS Act 2010. However, because the PFOW was a non-statutory plan it could not follow all of the steps such as an independent investigation (Marine Scotland, 2016: p.17). Thus, given the development process, and nature of the plan as a matter of material consideration in licencing and planning consents\textsuperscript{19}, it is entirely appropriate to utilise the pilot PFOW a case study through which to explore the role of regional MSP in Scotland to facilitate the transition.

\textbf{3.2.4 Reflecting on the theoretical framework in the context of the case studies}

It is proposed that the objective of transitioning will function as either a boundary or pseudo-boundary object within these MSP case studies. The low carbon economy can be interpreted and achieved in a multitude of ways in the marine area. There is a clear need for MSP to holistically manage these, at times conflicting, interests and understandings, and to do so necessitates the transformation of policy and practice across the UK marine area. MSP processes should provide a political space within which stakeholders can articulate interests and create joint understanding through the transformation of knowledge. In theory, MSP should enable marine communities to work collaboratively, moving between general and more specific understanding of the transition. However, accounting for the depoliticised nature of MSP, the framework (Chapter 2) allows for the specific analysis of the consequence of power and inequalities. A robust methodology that will enable the detailed exploration and subsequent analysis of the English and Scottish case studies is thus needed.

\textsuperscript{19} The plan will be used by the Marine Scotland Licensing Operations Team (MS-LOT) as a material consideration in the determination of marine licensing and consent applications; and planning guidance for both Highland and Orkney Islands Councils.
3.3 Research Methodology

To explore these case studies through the theoretical framework and fulfil the objectives of this study (Chapter 1), multiple methods of data collection were employed. The primary data collection and analysis within case studies includes the discursive analysis of political speeches and documents (referred to collectively as political texts) relating to the low carbon transition and MSP; and the thematic analysis of semi-structured interviews with key stakeholders (Figure 3.6). Findings drawn from each case study are then comparatively analysed to draw theoretical conclusions (Mitchell, 1983). As the most appropriate approach to generating data required to fulfil this studies research objectives, the following sections discuss in greater detail sources of qualitative data, and data analysis.

3.3.1 Sources of qualitative data

The qualitative methods of data collection and analysis were chosen for this study are particularly useful in generating intensive, detailed examination of the case studies (Bryman, 2016). By focusing on the experiences of interviewees, and broader
contextual issues, data collected within case studies are typically rich in detail and in-depth in nature (Yin, 2012). To fulfil this potential, case studies can draw on several sources of data such as documents; archival records; interviews; direct observation; participant observation; and physical artifacts (Stake, 1995; Yin, 2012). Indeed, case study research benefits from the use of multiple sources of data (Yin, 2012). This study, therefore, drew upon four sources of data including: (1) political speeches relating to the transition agenda, and MSP; (2) relevant policy documents on the low carbon transition, and MSP; (3) policy documents related to the marine plans case studies; and (4) semi-structured interviews.

**Political texts: speeches and supplementary documents**

Speeches and documents provide the political rationalisation at both UK-wide and devolved legislature scale. Due to the system of devolution in the UK sources of data including political speeches and documents produced by the UK Government in Westminster provide a UK-Wide rationalisation of both the transition agenda and MSP. As England does not have a devolved Parliament or Assembly, and because English affairs are decided by Westminster, these texts represent the political context for the English case study. For Scotland, however, because various matters relating to the low carbon transition and MSP are devolved, political texts produced by the Scottish Government in Holyrood provide a Scotland-specific context.

**Political Speeches**

Political speeches justify and rationalise English and Scottish Governments’ move towards a low carbon economy within MSP. As a political text, speeches by Government representatives are considered the concrete by-product of strategic political authors (Laver et al. 2003). Such speeches are significant sources of justification by the Government, forming part of the decision-making process of governance change and institutionalisation (van Dijk, 2008; Cowell & Devine-Wright, 2018). Analysis of political speeches, therefore, reveals important information about the policy positions of their authors (Laver et al. 2003). Political speeches were obtained from the respective Government’s announcements on publicly accessible
supplementary documents

Government documents between 2010-2016 were reviewed to assess the broader and historic context of the transition to a low carbon economy, and MSP within the English and Scottish case studies. Whilst speeches represent a justification, documents represent an institutionalisation of policy positions held by Governments. Documents are ‘social facts’ which are produced, shared, and used in particular social contexts (Atkinson & Coffey, 1997: p.47). In the context of environmental policy, these documents represent rationalisation, justification, and institutionalisation of particular agendas. Analysis of documents, therefore, revealed the overarching goals and details of how low carbon economy policies were to be implemented across the case study areas.

Documents were selected based on relevance to this study’s aim and objectives. To choose appropriate documents for analysis, and so reduce selectivity bias (Yin, 2012), a selection protocol was developed to understand the broader political context of both the low carbon transition and MSP. Texts chosen were publicly available and represented policy rationale from the UK and Scottish viewpoints. For each case study, documents were obtained through Google searches (keywords: low carbon economy, marine planning, MSP), as well as through searches of the relevant Government websites. For the UK there were nine low carbon economy and two MSP documents,

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20 For English speeches see https://www.gov.uk/government/announcements for Scottish speeches see https://news.gov.scot/speeches-and-briefings
and for Scotland, there was six low carbon economy and three MSP documents analysed (listed in Appendix 3).

**Marine plan documents**

Marine plan policy documents were examined to understand how the low carbon transition was operationalised within each case study. For the East of England case study, there were seven documents, ten for the National Scottish, and five for the PFOW pilot. Documents included the relevant marine plans, statements of public participation, strategic environmental assessments and more (listed in Appendix 3).

**Semi-structured Interviews**

Semi-structured interviews produced data relating to how the concept of transitioning was constructed and used between stakeholders in the MSP process. Interviews are a useful method for collecting detailed and wide-ranging qualitative data (Bryman, 2016). In-depth interviews focusing on stakeholder perceptions provide a rich source of data (Bryman, 2016) and are increasingly used as a key method within the social science approach to examining MSP initiatives (e.g. Ritchie & Ellis, 2010; Jay et al. 2016; Flannery et al. 2018; Walsh, 2018). Semi-structured interviews are utilised within this study to reveal stakeholder and decision-maker perspectives on the process of negotiating the transition to a low carbon economy (as an object between communities) with the process of MSP in each case study.

Semi-structured interviews revealed stakeholder perspectives by allowing them to describe and explain their own experiences in their own words, whilst allowing the researcher to probe further into particular phenomena (Valentine, 2005). Semi-structured interviews comprise pre-determined questions that have flexibility built into them (Silverman, 2013; Bryman, 2016), enabling a level of standardisation at the analysis stage, while retaining the capacity to obtain additional information that may not be provided as a response to the original questions. Indeed, if questions did not allow for this flexibility and were entirely structured, it would be difficult to probe further about participant’s interpretation and understanding of the MSP process. The flexibility of semi-structured interviews enables the researcher to explore an
interviewees’ response by asking further or probing, questions based on the information provided (Silverman, 2013).

Semi-structured interviews allow the researcher to understand issues in the interviewee’s terms by hanging a series of follow-up ideas and questions onto the initial interview schedule (Valentine, 2005). The conversational flow and interactive nature of semi-structured interviews enables a rapport to be developed with the informant. Probing questions such as “tell me (more) about…?” or “you mentioned X, can you expand on that…” are tailored to interviewees helping to refrain from generalisations, recognising the diversity of interviewees and specific perceptions (Maxwell, 2012). The semi-structured interview approach, therefore, encourages the openness and honesty of interview participants ensuring that the necessary data was obtained to fulfil research objectives and facilitate comparison, whilst enabling greater focus on particular phenomena or when new themes and valuable information was provided by interviewees (Valentine, 2005; Bryman, 2016). Hence whilst questions were piloted prior to use, responses are contextual, and the flexibility of semi-structured interviews was of particular value to this thesis.

Semi-structured interviews are only as good as the questions asked and the interviewees involved (Bryman, 2016). Challenges such as comparing responses were overcome by developing and using an interview schedule (Yin, 2012; Bryman, 2016). An interview schedule was developed based on the research objectives and theoretical framework. Questions were divided across several key topics including:

1. Perception of the transition to a low carbon economy;
2. participation in, and perception of, the MSP process;
3. what transition agenda was operationalised in the marine plan;
4. reflections on the opportunities and challenges relating to negotiating the transition to a low carbon economy in MSP;
5. role of new institutions and governance structure;
6. functioning of Government; and
7. outcomes and future potential of MSP in relation to the transition agenda.
Whilst there were overarching questions, they were tailored to interviewees and probing questions were used to further explore particular aspects of the interviewees’ experiences.

Stakeholders were chosen through purposeful and snowball sampling, representing the sectoral and geographical expanse of the two case study regions. The selection of interview participants was focused by the research objectives and theoretical framework. Sampling of participants was focused on the need to select interviewees through which the most productive relationship could be established, and from whom the most relevant information can be derived (Maxwell, 2012; Bryman, 2016). Analysis of the relevant documents indicated a diverse range of key stakeholders involved in the MSP processes, representing potentially distinct national and sectoral interests. Interview participants were, therefore, chosen to achieve representativeness whilst capturing the heterogeneity of those involved (Maxwell, 2012). Drawing on relevant documents, stakeholder and decision-maker maps were developed, highlighting who was engaged, when, and in what capacity. The selection of interviewees from these maps ensured that participants represented both distinct backgrounds (sectors, interests) and the geographical range of the case study areas. The purposeful sampling of stakeholders facilitated the testing of theoretical concepts, by enabling comparisons, between stakeholder backgrounds, to be drawn out of the data (Maxwell, 2012).

Snowball sampling was also employed to ensure that the most relevant interview participants were selected. Snowball sampling is a process of utilising initial contacts to nominate and then engage with the most appropriate participant (Bryman, 2016). The primary purpose of semi-structured interviews was to reveal the personal accounts of MSP and the perceptions of stakeholder and decision-makers. It was vital then that interviews were held with those who were directly involved in the MSP processes. The snowball approach used started from identifying and contacting participants based on their inclusion in the relevant documents. Potential interviewees were then asked to suggest other potential interviewees with knowledge within each case study.

Initial contact was made via email (Appendix 4) which included an information sheet detailing the purpose of the research (Appendix 5). Representatives were selected on the likelihood of being involved in, and, therefore, having a detailed understanding of,
the process of negotiating the transition to a low carbon economy. In selecting interview participants this sampling approach emphasised identifying stakeholders and decision-makers that were illustrative of the engagement process within each case study, as well as ensuring a representative sample was taken to allow comparison across English and Scottish case study sites.

Reasonable judgement was applied to ensure neither too many nor too few interviews were carried out. Whilst for quantitative research there is a somewhat substantial literature describing the requirement for interview participants, the same cannot be said of literature that considers the necessary sample size for qualitative research. For qualitative research, the aim is to reach the gold standard of data saturation (Guest et al. 2006). Reasonable judgement must therefore be used at the design stage of qualitative research because waiting to reach saturation when in the field is not a viable option (Guest et al. 2006). Due to the heterogeneous nature of MSP, it was decided early on that the sample size needed to cover the relevant sectors and interests. At the same time, there was a relatively limited group of stakeholders involved in the development of the marine plans for each region. Hence, while the theoretical and purposeful geographic sampling of interview participants ensured that the data was representative of the heterogeneous nature of MSP initiatives, best-guess decisions were made. In total 51 interviewees were involved in the study split across the two case studies, with some participants involved in both MSP cases (Table 3.3).
Table 3.3 Breakdown of interview participants

<table>
<thead>
<tr>
<th>Sector</th>
<th>England</th>
<th>Scotland</th>
<th>England &amp; Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>East of</td>
<td>National</td>
<td>PFOWP</td>
</tr>
<tr>
<td>Academia</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cables</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Coastal partnership and fora</td>
<td>2</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Energy: Renewables</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Fishing</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Government</td>
<td>4</td>
<td>4</td>
<td>3*</td>
</tr>
<tr>
<td>Heritage conservation</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Local authorities</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ports and shipping</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Statutory nature conservation bodies</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>28</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

* Government representatives were involved in both national and regional plan processes.

Interviews were recorded and transcribed verbatim. In order to be part of the study, participants gave informed consent before the interviews and were guaranteed anonymity (Appendix 6). Interviews began with questions examining general engagement in the marine planning process and proceeded to more detailed questions concerning the process and outcomes of the negotiations constituting the MSP process. Most interviews were carried out face-to-face at the participant’s place of business or another public place of their choosing, with just eleven interviews carried out by Skype or telephone. Interviews were then transcribed verbatim and, to ensure anonymity, coded in the order in which they were carried out and the case study which they represented i.e. the first interviewee was in the English case study (In_1E), second was Scottish (In_2S), and third was involved in both cases (In_3ES), and so on (Appendix 7).
3.3.2 Data analysis

Political texts and semi-structured interviews were analysed using the methods of discourse and thematic analysis respectively. Collectively, these methods of analysis seek to reveal the discourses and institutions that serve an overall strategic function (e.g. to normalise and (de)legitimise knowledge/understandings) in the realisation of the low carbon transition within English and Scottish MSP initiatives.

Discourse analysis of political speeches and documents

Discourse is essential to the operation of power, providing a vehicle through which knowledge and subjects are constituted, rationalities are (de)legitimised, and through which resistance manifests. This thesis is based upon social constructionist assumptions which hold that reality- and so an object, boundary or otherwise - is constructed by actors through interactions in which shared understandings are formed. Linguistic processes, or the discursive interactions of actors, whether coercive or constructive, are fundamental to both the functioning of an object (Metze, 2014; Chapter 2), and environmental politics (Hajer, 1995; Feindt & Oels, 2005). Developments in environmental politics, for example, such as marine policies and plans, critically depend on the specific social construction of environmental problems, and the institutional context which acts as a co-determinant to solutions adopted (Hajer, 1995). Discourse analysis is, therefore, a useful and appropriate method of analysis because it helps to explore the realm of power within which meaning is contested, negotiated and co-constructed (Hajer, 1995; Feindt & Oels, 2005). Moreover, regarding the context of this study’s focus and theoretical framework, the discursive analysis seeks to trace and explore the aspects of power (i.e. dimensions, spaces, and levels) that preceded and structured how the object of transitioning functioned and was subsequently realised within English and Scottish MSP initiatives.

Discourse analysis is not a singular analytical approach or methodology but is instead a multi-faceted way of examining how language and practices of communication construct social realities. Discourse theory has evolved from the linguistic tradition of perceiving the purely semantic aspects of spoken or written text (Fairclough, 2003), to encompass both linguistic and non-linguistic aspects of social life past and present, each with their own methodological implications (Torfing, 2005). From the later
perspective, and encouraged by Foucault’s work on power and agency, discourse is understood as “the structured totality resulting from the articulatory practices” (Laclau & Mouffe, 1985: p.105). Discourse, therefore, includes all social practices linguistically and non-linguistically mediated (e.g. spoken, written text, images, and gestures) (Phillips & Hardy, 2002). Everything is ultimately constructed through discursive systems of difference (Torfing, 2005). Discourse analysis, regardless of approach, is founded on a preoccupation with the exploration of, in what context and for what reasons discourses are constructed, contested, and changed, by whom and when (Phillips & Hardy, 2002). Discourse analysis is therefore a qualitative method of exploring the use of resources and the role of power between actors.

Drawing on Laclau and Mouffe’s (1985) approach to discourse theory, a broader constructivist notion of power indicates that meaning is never permanently fixed, and discursive struggles focusing on exclusion are features of social life (Jorgensen & Phillips, 2002: p.6). This post-structuralist approach is founded on the assumption that discourse is influenced by power (van Dijk, 2008). Power, more specifically, the social power of actors or groups, is defined here in terms of control (van Dijk, 2008). Actors, therefore “have (more or less) power if they are able to (more or less) control the acts and minds of (members of) other groups” (van Dijk, 2008: p.469). The purpose of Laclau and Mouffe’s approach to discourse analysis is, therefore, to explore the implications of this power and understand “the way in which political forces and social actors construct meaning within incomplete and un-decidable social structures” (Howarth, 2000: p.129). Discourse analysis reveals the power structures of society, providing a method of exploring and explaining agency and resistance (Hajer, 1995; Howarth, 2010).

A discursive approach to analysing policy is increasingly common due to the growing dissatisfaction with mainstream positivist models of policy analysis (Glynos et al. 2009). The discursive approach emphasises the role of interpretations and subsequent interactions between actors. From this perspective, environmental problems and their solutions are socially and discursively constructed by actors (Hajer, 1995, Hajer & Versteeg, 2005; Shapiro, 2005). The various interpretations of the problem compete to become dominant within a discursive political sphere (i.e. stakeholder engagement process), from which policies and solutions are produced (Dryzek, 2013: p.13). It is
this ‘politics of nature’ (Latour, 2004), that renders governable environmental phenomena (Feindt & Oels, 2005).

A discursive focus is particularly valuable for environmental policy analysis because it highlights the constant discursive struggle between actors on various geographical and temporal scales (Fischer & Forester, 1993; Hajer, 1995; Dryzek, 2013). Within the field of environmental politics, a discursive approach to analysing the construction, development and implementation of environmental policy highlights the political contest through which issues and solutions are given meaning by actors. For example, in the context of ozone depletion, Liftin (1994) demonstrates the interactions of science and political spheres of knowledge. Likewise, Hajer (1995) demonstrates that the late 1980’s environmental politics was characterised by two competing discourses, that of ‘traditional pragmatist’ and ‘ecological modernisation’. By focusing on ‘argumentation’ authors including Fischer and Forester (1993), Hajer (1995), Liftin (1990) and Dryzek (2013) demonstrate that a more critical examination of the discursive strategies used by planners, policy-makers, scientists, and the broader public is not only possible but is a valuable method for examining the political discursive processes that underpin policy change. Whilst other discursive lines of inquiry focus on the nature and structure of arguments, the argumentative approach searches for how actors and incompatible positions engage in social interactions (Fischer & Forester, 1993). This approach stresses the significance of interpretations, rhetorical strategies, argumentation (agency), and power in the examination of problem forming, policy formation, implementation and evaluation (Glynos et al. 2009). Hajer (1995) eloquently summarises that by recognising the dynamic struggle between actors:

*Environmental conflict has changed. It has become discursive. It no longer focuses on the question of whether there is an environmental crisis, it is essentially about its interpretation... Environmental conflict should not be conceptualised as a conflict over a predefined unequivocal problem with competing actors pro and con, but is to be seen as a complex and continuous struggle over the definition and the meaning of the environmental problem itself. Environmental politics is only partially a matter of whether or not to act, it has increasingly become a conflict of interpretation in which a complex set of actors can be seen to participate in a debate in which the terms of environmental discourse are set* (Hajer 1995: p.13-14).
A discursive analysis of political texts, therefore, describes the causal mechanisms driving policy change, taking account of how problems are defined and the political consequences of the definition (Hajer, 1995; Feindt & Oels, 2005).

The purpose of discursively analysing speeches and documents within this study is to consider how dimensions of power are expressed, and where such power resides in the determination of MSP role in facilitating the low carbon transition. Power, as described in Chapter 2 is multi-dimensional (i.e. decision-making, non-decision-making, ideological); coercive or non-coercive; visible, hidden and invisible, and realised through action or inaction in interrelated places, spaces, and settings (Lukes 2005, Gaventa 2003, 2006). The manifestation of these aspects of power ultimately determines the capacity for action within, and outcome of policy-making processes (Gaventa, 2006). Therefore, discursive analysis of political texts within this study (Chapter 4 and 6) seeks to explore the dimensions (namely non-decision-making and ideological) and placement (levels) of power that formed the context or setting within which the low carbon transition object functioned, and was realised within English and Scottish MSP process.

Analysis was carried out via NVivo to manage and structure the rich empirical data, and deductively derive discourses. Discourses that emerged from the political texts represent the ideas, concepts, and categorisations that the UK (de facto English) and Scottish Governments used, alongside institutions of engagement (explored through semi-structured interviews), that serve to (de)legitimise ambitions for both the low carbon transition and MSP.

**Thematic analysis of semi-structured interviews**

Thematic analysis is an umbrella term for a wide range of approaches that aim to identify patterns (“themes”) across qualitative data (Braun & Clarke, 2006). Thematic analysis involves the examination of data that focuses on ‘what’ is stated rather than ‘how’ it is stated (Bryman, 2016). To do so, the data set is coded for themes, that are smaller units of meaning, usually a word or short phrase that symbolically signs a summative or essence-capturing attribute for a portion of language (Saldana, 2015; Braun & Clarke, 2006). The process of ‘coding’ therefore refers to a “researcher-
generated construct that symbolises or translates data” (Saldana, 2015: p.4). As a method of qualitative analysis, coding attributes interpreted meaning to the data enabling pattern detection, assertions, theory building and other analytic processes (Saldana, 2015). Coding is a cyclical process, with various rounds of coding necessary, with each more refined than the last to extract meaning and make sense of a large quantity of data (Saldana, 2015). This process of coding can be done inductively from the data or deductively using categories or themes derived from earlier work such as literature review or theories (Saldana, 2015).

The purpose of thematic analysis in this thesis is to identify patterns in semi-structured interviews that reveal stakeholder perceptions of the plan development process. A deductive coding approach is subsequently employed within this study to derive lessons relating to the how the objective of transitioning to a low carbon economy functioned within the marine plan development process (the policy arena). Themes relating to key elements of the cross-community collaboration and the consequences of power were derived from the theoretical framework, then used to analyse and code transcripts within NVivo.

**Analytic memoing**

For coding procedures in speeches, documents and interview transcript analysis, an important analytical step was memoing. Analytical memos, in the form of personal notes were developed to organise thoughts regarding different codes and themes. Memos illustrate reflections and thinking about data, findings, and theoretical possibilities and were used to synthesise codes into higher-level meanings e.g. themes (Bryman, 2016). Memoing was used throughout the analysis of speeches, documents, and interview transcripts within, and between cases to tie together different findings (Bryman, 2016).

**Comparative analysis of English and Scottish case studies**

The systematic analysis of data was used to describe and explain each case study independently, and then findings were compared between cases. Cross-case comparison can enable the transferability of research findings and allow more sophisticated descriptions and explanations to be derived from the data (Yin, 2012;
Bryman, 2016). Within this study comparative analysis of the MSP processes performed two primary functions relating to the theoretical and real-world conclusions drawn from the English and Scottish cases. First, by seeking to understand how MSP processes can facilitate the low carbon transition, and the related knowledge sharing and learning, a novel theoretical framework was developed (Chapter 2). The rigorous research design employed within this study provides strong empirical leverage upon which to test the theoretical framework. The English and Scottish cases thus provided an opportunity to robustly test and compare the suitability of the framework for exploring the development of common knowledge and constructive (or obstructive) collaboration. Second, cross-case comparison helped to develop a better understanding of different practical approaches to decision-making arrangements within MSP. This study was in part driven by the desire to understand how the broader political landscape affected how the low carbon transition is realised through MSP. Comparison between the contrasting but intertwined political landscapes, and distinct tiered systems of MSP, therefore provides for a better understanding of the success or failure of the planning processes.

3.4 Ethical considerations

Ethical approval, as a key concern to social research (Griffith, 2008), was obtained from the Faculty of Natural and Built Environment Research Ethics Committee of Queens University Belfast (QUB). This research complies with the policies and principles of the Ethical Approval of Research set out by QUB which commits to ensuring that all research undertaken is done in a manner that protects the rights of research subjects.

All precautions have been taken to meet QUB research standards and that all contact with participants had informed consent. Interview participants were given a Participant Information Sheets and Participant Consent Form, designed using Griffith (2008: p.248) specimen consent form as guidance. These forms provide participants with a full description of the research including background and purpose; why they have been chosen; the process of consenting to be involved and their legal right to remove themselves from the research at any time; what they are expected to do; what are the
possible benefits and, risks or disadvantages to participating; and how confidentiality would be assured throughout the project.

Confidentiality is a central consideration in research (Griffith, 2008), subsequently, participants privacy, anonymity and confidentiality were ensured throughout the research. Participants consent enabled interviews to be recorded and transcribed verbatim. Information collected such as interviews transcripts were stored on a Queen’s University password protected and encrypted computer. To safeguard the anonymity of interviewees, participants were coded (In_1E; In_2S etc.). Quotations within this thesis are, therefore, not attributable to particular individuals.

3.5 Conclusion

This chapter makes use of a stakeholder-centred approach to examining how the object(ive) of transitioning to a low carbon economy functioned within MSP initiatives. Established within previous chapters was the political nature of MSP and a novel theoretical framework – for distinguishing between boundary and pseudo-boundary objects - through which to examine the process of multi-community collaboration. Consequently, the use of multiple methods of speech and document analysis and semi-structured interviews allows for an examination of the political context and stakeholder perspectives of the low carbon transition within English and Scottish MSP initiatives. Collectively these methods help to reveal the aspects of power (dimension, spaces, levels, and settings) and explain whether the low carbon transition functioned to facilitate productive (boundary object) or obstructive (pseudo-boundary object) knowledge sharing and learning. The comparative case study design, within which the methodology is employed enables this thesis to evaluate how the low carbon transition is articulated by multiple communities through UK MSP.
Chapter 4 The English political context: 
discursive analysis of speeches and documents

4.0 Introduction

This chapter addresses the second objective of this thesis within the context of the English case study, by evaluating the UK Government’s rationalisation for the low carbon transition and role of MSP. To evaluate the aspects of power (Lukes, 1974, 2005; Gaventa, 2003, 2006) at play within MSP initiatives it is necessary to understand the dominant political articulations. Discourses produced and used by UK Government to frame the low carbon transition and MSP, reveal the manifestation and consequences of the dimensions, and settings (space, place, and historic context) of power within which the EMP process took place. Tracing these discourses thus exposes how the government, and other powerful interests, sought to exert their power to frame the low carbon transition within MSP, and in doing so rationalise and (de)legitimise particular pathways. Moreover, as is established within the theoretical framework of this thesis, objects - boundary, or pseudo-boundary - do not exist within an institutional void. Rather, they are nested within a historic setting both within individual communities and in the collective action between these communities. As such, an examination of this historic context and exertion of power is a necessary first step in applying the conceptual framework for distinguishing boundary and pseudo-boundary objects to the English case study. The discursive analysis of political texts produced by the UK’s Liberal Democrat-Conservative coalition (2010-2015) and Conservative Government’s (2015-onwards) presented in this chapter thus reveals the political context of the low-carbon transition (object) and the role of MSP, within which the object is eventually employed when constructed and used within the EMP initiative.

Seven key discourses emerged from the political texts, six of which relate to the low carbon transition, and one to MSP (Table 4.1). The first part of this chapter explains how the low carbon transition was framed by the UK Government as an encompassing policy objective that reached across almost every aspect of government, representative of a fundamental change to the UK’s use and production of energy, and vulnerable to changes in the dominant political ideology. Following this, the chapter focuses on
understanding the role that MSP was intended to play in implementing the UK’s low carbon ambitions. The grouping of discourses and themes within this chapter should not be read to mean that they are distinct, rather that they represent the shifting political articulation of the low carbon economy and MSP, drawing off, building upon, or disavowing each other over time. Collectively, these themes reveal how the aspects of power effect how the UK’s low carbon transition is framed as an all-encompassing solution to socio-economic, environmental, and political problems.

Table 4.1 Summary of discourses through which the UK government articulate their low carbon agenda and role of MSP

<table>
<thead>
<tr>
<th>Focus</th>
<th>Discourse</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition to a low carbon economy</td>
<td>Renewing economic stability</td>
<td>The newly formed Coalition government seek to exhibit a united front, intent on making the UK more socio-economically resilient. This discourse however reveals inherent tensions between the Liberal-Democrats and Conservatives.</td>
</tr>
<tr>
<td>Solution to crises</td>
<td>Socio-economic</td>
<td>The Coalition articulate their low carbon agenda as capable of building socio-economic resilience into the UK. This discourse reflects ideals of ecological modernization whereby the economy will benefit from a move to environmentalism.</td>
</tr>
<tr>
<td></td>
<td>Environmental</td>
<td>Through this discourse, the Coalition frames the transition as a morally correct response to the threat of climate change. The clarity of this drive for environmentalism is however blurred by support for maximised hydrocarbon exploitation.</td>
</tr>
<tr>
<td></td>
<td>(Geo)politics</td>
<td>The transition is framed as providing national security and overcoming political uncertainty, both within the UK and on a global scale, by fostering energy security.</td>
</tr>
<tr>
<td>An energy-based transition</td>
<td></td>
<td>This discourse reflects how at the heart of the UK’s transition, is significant sectoral electrification and increasing energy demand. Increased and decarbonized energy production is a central tenant of both government’s agendas.</td>
</tr>
<tr>
<td>Market-led transition</td>
<td></td>
<td>This discourse marks a rightward shift in the political landscape and ideological foundation of the transition. The Conservative government, diminish the environmental consequence of capitalism, through this discourse and reiterate the ambition to support a market-led transition.</td>
</tr>
<tr>
<td>MSP</td>
<td>Planning for energy security</td>
<td>For both Coalition and Conservative governments, MSP is articulated as a mechanism of conflict resolution through which to best plan for the expansion of renewable energy.</td>
</tr>
</tbody>
</table>

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4.1 The broad political context of the transition

The Coalition frame their Programme for Government (PfG) as radical and comprehensive. The low carbon transition forms part of the PfG, and texts relating to it reveal a set of interconnected, and at times contradictory, discourses used to normalise and legitimise political ambition regarding the low carbon transition. The political context (and the consequence of aspects of power (Gaventa, 2003, 2006)) of the object of transitioning is demonstrated through the following discourses: renewing economic stability, a solution to crises (socio-economic, environmental, and (geo)politics), an energy-based transition, and a market-led transition.

4.1.1 Organising political ambitions: purpose of the coalition

From the point of formation, the Coalition cites the disastrous state in which they find the UK. Reflecting on the legacy of past governments, specifically Labour (1997-2010), the Coalition highlight the consequences of ineffective and irresponsible decision-making. Subsequently, the Coalition depict themselves as collectively interested in redeeming and renewing the UK both on a national and global scale, for which the transition will play a central role.

The Coalition pursues a discourse of purpose when lauding their agenda. Faced with the consequences of worsening socio-economic and environmental contexts, the Coalition frame their PfG as redemptive, putting the success of the country before political popularity. The discourse of purpose reveals details of their new system of government, distinct they argue, from the failures of the previous Labour Government. This discourse represents the government’s ideological power, exerted to legitimise the PfG by demonstrating political consensus and developing confidence in the Coalition’s actions:

*This Coalition was formed to bring order to the country’s finances and growth to the economy. To take unpopular decisions* (DECC, 2014g).
Through this discourse, however, tensions between the two parties of the Coalition become apparent. Following the 2010 election, the Conservatives were faced with two options, first, form a minority government that would be unstable and possibly result in another election, or second, form a coalition and implement their chosen economic plan. Equally, the Liberal Democrats were arithmetically boxed in, whereby their choice was between forming a minority government with Labour, or a majority with Conservatives. The choice to go into the coalition was, therefore, a form of ideological preservation for both the Conservatives (i.e. secure economic growth) and Liberal-Democrats (i.e. socially-just action on climate change). Thus, while seeking to signify political consistency, through the pursuit of sustainable economic growth, the discourse of purpose highlights competing ideologies:

This coalition government’s core agenda: restoring fiscal responsibility; securing sustainable economic growth; achieving carbon reduction goals and establishing social justice (DfT, 2010a).

The discourse of purpose reveals an ideologically fragmented government. Contrary to the image of the Coalition as one orientated around shared ambition, this discourse points to the complexity of a coalition government. That is not to say that the Liberal Democrats and Conservatives are diametrically opposed, for the two parties reflect centre/centre-right ideologies in British Politics. Rather, and regarding the low carbon transition, the discourse of purpose suggests a lack of consistency relating to motivation and mechanisms through which the transition agenda will be realised caused by division in departmental control.

4.1.2 Solution to crises: socio-economic, environmental, and (geo)political

The low carbon transition is framed consecutively by the discourses of it being a solution to socio-economic, environmental, and (geo)political crises. These discourses reveal three distinct capabilities of the transition that the Coalition emphasises relative to changing global circumstances and the dominance of the Conservatives party’s

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21 2010 Election results: Conservatives: 306 MPs, Labour 258 MPs, and Liberal-Democrats 57 MPs. 326 seats are needed for a parliamentary and thus government majority.
political purpose. These concurrent and at times contradictory discourses demonstrate an exertion of ideological power to legitimise the Coalition's ambitions and reveal the controlling effect of an increasingly globalised world (i.e. placement of power) wherein the UK’s transition is inherently reflective of global demands. Moreover, the hierarchical relationship that emerges between these interrelated crises discourses is indicative of the government's decision-making power whereby matters of national security, and economic gain, are given precedence over environmental morality and action (e.g. maximisation of indigenous oil and gas reserves).

**Solution to socio-economic crisis: diversification of the economy**

Throughout the Coalition's formative years (2010-20112), the low carbon transition was primarily framed in the context of the global economic crisis and poor financial management of previous UK Governments. The 2007/2008 global recession was a consequence of deregulation and the presumed morality of the financial markets (Mishkin, 2011). Political overdependence on financial institutions caused a widespread downturn and revealed systemic inequalities across the UK. Subsequently, the newly formed Coalition Government make broad assurances that they will invest beyond the confines of South-East England, namely London. Thus, the solution to socio-economic crisis discourse is based on the notion that the Coalition’s transition agenda can overcome the country’s budget deficit by diversifying and upskilling the UK workforce:

Unrestrained capitalism led to economic imbalance. The Square Mile proved no substitute for a rounded economy. And the cost of taming the biggest ever peacetime budget deficit will be with us for years to come. But out of the wreckage of the past can come a new economic future. This time, our economy must be greener, cleaner and more sustainable (DECC, 2010b).

Employment of this discourse seeks to create a sense of opportunity around the low carbon agenda that presents an equal benefit to all. Assurances of upskilling and job creation that will provide unanimous benefits across the UK are, however,

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22 The Institute for Fiscal studies detail the disastrous knock-on social and economic issues the UK faced as a result of the deepest recession experienced in the UK and much of the Western world since the Second World War (see [https://www.ifs.org.uk/publications/13302](https://www.ifs.org.uk/publications/13302)).
overshadowed by government action that reflects a trickle-down approach to growth. The socio-economic solution discourse further reflects the ideological motivations and dominance of the Conservative party. Austerity measures to reduce the government budget deficits through reducing investment in the public sector, whilst providing significant tax reductions and subsidies for private investment are emphasised:

*Our first priority is to build a new kind of economy. One where green growth leads to green jobs. A low-carbon economy that will help us recover at home and compete abroad* (DECC, 2010b).

*The UK has the lowest low corporation tax rate of all the major European economies. And in David Cameron’s Coalition you have a Government committed to supporting business and industry* (DECC, 2013u).

The Conservative party’s ideology and their control of the government are apparent within this discourse. Through authorship of this discourse, and as a consequence of being the largest party in the Coalition, the Conservatives define resilience through a market-based approach to the transition. This point is further demonstrated by calls to evolve better consumption behaviour in which societies role is to stimulate economic growth by purchasing eco-friendly products, rather than profoundly reduce their resource consumption. The true sentiment behind the low carbon transition, and the government’s agenda more broadly, transpires as an economic progression:

*[The Coalition will] remain market-oriented - indeed, in the longer term, we are blazing a trail to pure competition* (DECC, 2012n).

Whilst the Coalition highlight the harmful effects of past economic mismanagement and fixation on financial markets, this discourse reveals that central to their transition agenda is the pursuit of macro- rather than micro-economic growth. Rather than foster a substantively reformed society and economy this discourse exposes incongruous promises and actions relating to the Coalitions low carbon transition agenda. This socio-economic focused discourse is thus indicative of the exertion/entrenchment of the government’s ideological power that serves to legitimise a reinvigorated approach to economic maximisation despite the inherent contradictions between growth and a lower carbon economy.
Solution to environmental crises: resilience through ecological modernisation

The second dominant crises to be resolved through the low carbon transition is climate change. Between 2013 and 2014, reflecting global political discussions in the lead up to the 2015 United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP), the solution to environmental crisis discourse emerges, framing the central necessity of the UK’s transition around the need to reduce carbon emissions to mitigate and adapt to climate change:

*The UK led the way with [developing adaptation strategies including] the 2008 Climate Change Act. This requires government to report regularly on the risks of climate change, publish a programme setting out how these will be addressed, and put in train actions to meet UK and EU targets, through a transition to a low carbon economy by 2050 (DECC, 2012t).*

Whilst this discourse reveals the Coalition’s acceptance of the man-made nature of climate change, it falls short of condemning capitalism. Political texts frame climate change, not as a consequence of unabated carbon emissions per se, rather it is the failure of international politics to act. By attributing climate change to external factors and reducing the UK’s proportion of blame – such as repeatedly touting that the UK produces *just* 3% of global emissions- this discourse reflects an attempt by the Coalition to rationalise their growth-focused transition agenda:

*We are playing Russian roulette with our children’s future. So it is not the science that has failed. It is international politics that has proved the obstacle to a truly global response. We have, as an international political class, failed to respond to the warnings of the science (DECC, 2014d).*

The Coalition’s transition low carbon transition is lauded for its ability to foster resilience, providing a source of stability and security for the near and long-term future. Climate change is framed as not only negatively impacting the UK’s natural resources but is also framed as a source of inequality and instability on a global scale. Thus, while defending their low carbon agenda as an environmental necessity, the Coalition contextualise this as a matter of economic, social, and national security:

*A world where climate change goes unanswered will be more unstable, more unequal, and more violent (DECC, 2011s).*
This discourse echoes an ecological modernisation viewpoint whereby the Coalition maintains that the economy will benefit from the move towards environmentalism. By drawing parallels between their low carbon agenda and the industrial revolution, the Coalition evoke Britain’s past industrial successes and rationalise the transition as a source of eco-innovation. The UK’s low carbon agenda is thus subject to market logic of modernisation and competition leading to innovation, whereby the market potential of climate change action is prioritised:

To change our national economic story from one of financial speculation to one of future growth, we need a third industrial revolution: a green revolution. It will transform our economy as surely as the shift from iron to steel, from steam to oil. It will lead us toward a low-carbon future, with cleaner energy and greener growth. With an economy that is built to last - on more sustainable, more stable foundations (DECC, 2010j).

Climate change action is not just economically useful; it is an economic requirement (DECC, 2015d).

As the Coalition’s programme of austerity materialised, the economic basis of this discourse became ubiquitous. Throughout political texts, significant weight is given to the Stern Review’s findings whereby climate change is described as an exemplar market failure, necessitating a systemic change to managing the economy. However, the pursuit of long-term climate goals was overtaken by the desire for short-term economic gains:

Since the 1960s, North Sea oil and gas has given Britain - and many of our neighbours - a real competitive advantage. This came about because of the ingenuity of the private sector together with strong pro-active support from government. Today, that same partnership between government and business has the potential to make North Sea once again a source of investment and comparative advantage (PMO, 2012b).

It is not altruistic to be green: it makes cold, hard economic sense (DECC, 2014a).

Whilst this discourse centres on matters of environmental morality and responsibility to mitigate and adapt to climate change, it ultimately reveals an innovation-based approach to the low-carbon transition. The rationale for early climate change action through the transition was increasingly suppressed by notions of macro-economic prudence reflected in a shift in focus from the benefit to cost of the low-carbon
transition. This discourse shifts attention on the placement of power from within the UK Government towards global conventions thus representing a shift between national to international levels (Gaventa, 2003, 2006). However, ultimately the decision-making power remains within Westminster and as such global commitments to climate action are overshadowed by economic prioritisation.

**Solution to (geo)political crises**

The third point of resolution stemming from the transition relates to political crises. Amid rising tensions, the *solution to (geo)political crisis* discourse emerges, vindicating the Coalition’s low carbon transition as capable of providing international and domestic political stability.

At an international level, the low carbon transition is necessary to enable the Coalition to reduce the UK’s reliance on hydrocarbon imports. Due to the discrete, geographic distribution of hydrocarbons, the UK is reliant on imports and so vulnerable to geopolitical forces, particularly from Russia and the Middle East. Securing the UK’s independence from these forces is thus framed as a catalyst for the UK’s low carbon transition:

*The global nature of energy markets and our increasing reliance on energy imports mean that our overall energy security - ensuring we have access to the energy we need, at stable and affordable prices - is heavily dependent on international issues* (DECC, 2010a).

*Fail [to transition], and we send a signal to Putin, that Russia can continue to flex her muscles and continue to use her energy resources as a political and economic weapon* (DECC, 2014c).

This discourse further reveals the Coalition’s pursuit of economic growth whereby, continued hydrocarbon extraction, including unconventional sources such as shale gas, is justified as necessary to ensure financial, energy, and national security. The social and environmental benefits of removing this reliance is an after-thought:

*In the UK’s view gas has an important role in the transition to a low carbon energy mix. There is great potential in “unconventional” gas sources, especially shale gas. For example, in the United States unconventional gas has transformed the domestic energy market, with the US becoming self-sufficient in gas. Increased supply in global markets has lowered spot market prices... This transformation in relationships between producer and consumer*
countries could have a profound effect on the world energy scene and international relations (FCO, 2011a).

Use of the low carbon transition agenda to mediate domestic instability is apparent in the Coalitions pursuit of a No vote in the referendum on Scottish independence. This discourse - of political capacity - reveals how, in seeking to prevent Scottish independence, the Coalition draws on the shared nature of the UK’s low carbon transition. Two notions dominate speeches given by Coalition Ministers in Scotland: first flattery of Scotland’s vast human and natural capital; second, the danger that should Scotland become independent that they would be socio-economically worse off. Thus, in relation to domestic political struggles, this discourse exposes the Coalition’s recognition of Scotland’s renewable resources in enabling the UK to meet international and EU targets. Moreover, it reflects the Coalition’s growing alarm at the potential loss of control over significant energy resources including economically significant hydrocarbon reserves found in Scottish territorial waters:

With its superb natural - and human - resources, Scotland is central to our plans for a thriving low-carbon economy (DECC, 2012a).

[As a result of Scottish independence] our respective citizens would be less secure, less prosperous, and less influential (DECC, 2013b).

Following on from the 2014 referendum, the low carbon transition moves from effecting political durability between the devolved nations towards hostility within Westminster. In the lead up to the 2015 General election, this discourse translates assurances of strength in the face of significant political instability. Akin to the tensions within the Coalition revealed in the purpose discourse, each coalition party lay claims to being the only party that will ensure stability, claiming that only they will provide the necessary support for the transition agenda. The focus and motivation of the transition agenda, therefore, becomes shrouded by antagonist sentiment, used by both parties to isolate themselves as the ultimate source of long-term economic security within which the transition agenda will prosper:

We all know the Conservative party is in a collective panic over the UK Independence Party (UKIP). All these latest Tory green wobbles may be explained by Nigel Farage, but for a party of Government

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23 The Scottish Independence Referendum was held on 18th September 2014, with No winning with 55.3% of the vote.
who seeks to Govern again, that is not nearly good enough. You can't treat a business like that, you can't treat an industry like that, and you can't treat Britain's economic future like that... Without Liberal Democrat involvement in this Coalition I don't believe that together we would have made the progress that we have (DECC, 2014m).

In the context of domestic politics, this discourse reveals the vulnerability of the UK’s transition agenda to a changing political context. In 2015, when speculating about the consequence of the forthcoming general election (20015) and EU referendum (2016), the political nature of the low carbon transition is particularly evident. For Liberal Democrat Ministers, Brexit is a manifestation of populist politics – amongst which lies climate scepticism- that will adversely affect the UK’s transition by creating uncertainty and division. On the other hand, Conservatives emphasise the pioneering role of the UK, distinct from the EU, namely in relation to the Climate Change Act 2008. In seeking to instil investor confidence in the UK's exit from the EU, Conservative Ministers emphasise the sovereignty and successes of the UK Parliament in fostering the transition. The discourse of (geo)political crisis thus reflects the growing desire to bolster their green credentials and claim ownership of the transition:

There are worrying signs that in the next Parliament we could see this progress [on the transition agenda] reversed... If UKIP and those on the climate change denying, Europhobic right are able to hold the next Government hostage, and Britain turns away from the low-carbon path and turns away from the European Union, we could see investment melt away (DECC, 2014g).

The Act was not imposed on us by the EU. It was delivered with cross-party support by the UK Parliament. Leading Leave campaigners have made clear they remain committed to it. The Climate Change Act in 2008 underpins the remarkable investment we have seen in the low carbon economy since 2010 (DECC, 2016c).

Framing the low-carbon economy as a source of political stability provides a new expression of the Coalition’s pursuit of a market-led transition (ideological power) before the 2015 general election. Notions of national security and energy independence are used to legitimise a low carbon economy constituting innovations in fracking and continued North Sea exploitation due to both their macro-economic significance ability to shield the UK. The discourse of (geo)political crisis thus reveals the political aptitude of the concept of transitioning and signifies that the realisation of
the transition is susceptible to manipulation as a consequence of being populated by ideological notions.

4.1.3 An energy-based transition: securing diversification and affordability

Running concurrently to the discourses of purpose and solution is the energy-based transition discourse that reveals how the Coalition will realise their low carbon agenda. This discourse points to the reformation of both the production and use of energy to foster the UK’s socio-economic security:

*Our modern society simply cannot function without power. Energy security has to be the number one priority. But no responsible government should take a risk on climate change either. Because it’s one of the greatest long-term threats to our economic security. So the challenge we face is how we make sure that energy remains as the backbone of our economy, while we transform to a low carbon system (DECC, 2015a)*

Notions of an innovation-based and market-led transition are reinforced through this discourse. The continued use of fossil fuels, through the development and application of new technology such as carbon capture and sequestration (CCS) and shale gas fracking, is rationalised as key components of the UK’s transition. This discourse is thus marked by a greenwashing logic that seeks to vindicate hydrocarbon consumption, particularly conventional and shale gas, on the basis that it has a smaller carbon footprint in comparison to coal or oil-based electricity, and so it will provide a necessary bridge between current infrastructure capacity and a renewable energy future:

*The transition also means moving forward on emerging technologies such as CCS and give new opportunities for fossil fuels in the energy mix. Britain should be leading the world on CCS (DECC, 2010a).*

*As a bridge to that future, shale gas can help the UK, and other countries, transition to the low carbon energy system that we need if we are to limit climate change (DECC, 2013j).*

The Coalition’s transition agenda involves four interconnected, but often competing demands of international competitiveness, energy security, energy poverty, and
climate change mitigation. The low carbon agenda and energy goals (including increased production) are entangled within a complex mix of political strategies. Through the energy-based discourse, the Coalition explain the entrenchment and expansion of a higher-emission model of energy production on the basis of technological advancement – carbon capture and sequestration - that will make indigenous coal and gas ‘clean’. Matters of security - national, economic, and energy- are used to defer commitment to a complete phase-out of hydrocarbon sources:

*Our ultimate goal is for renewables to be competitive with other forms of electricity generation, and we need to balance government support with the need for value for money for taxpayers* (DECC, 2010s).

*Our energy security is best served by minimising our exposure to the volatile global fossil fuel markets, enhancing our energy efficiency and maximising home-grown low carbon energy, as well as cleaner indigenous reserves, such as natural gas, to help ease the low carbon transition* (DECC, 2014k).

This discourse further reflects ecological-modernisation convictions. The UK’s transition is conditioned upon increased energy production, as a consequence of the political ambition to electrify heat and transport sectors (e.g. heat pumps, electric vehicles). To simultaneously meet these energy demands and decarbonise the energy sector, the Coalition support an extensive expansion of renewable energy developments. Furthermore, building on the notion of benefits being spread beyond London, particular emphasis is placed on job creation along the English coast particularly through the expansion of the offshore renewable energy industry. The Government’s support of technological, market-led innovation thus presupposes the profits of capitalism will trickle down to society in the form of workforce upskilling and job potential. Through this discourse, supporting renewable energy developments –through a range of policy and financial instruments- is legitimised as a principal mechanism through which the UK’s transition will be achieved:

*I can assure you that this Government has resolved that we will be the largest market in Europe for offshore wind... That’s why we set aside £200 million for the development of low-carbon technologies, including £60m for supporting major new manufacturing projects on the English coast* (DECC, 2011c).
The energy-based discourse intersects the economic, environmental and (geo)political discourses above, particularising how the Coalition’s ambitions for the transition are to be realised. Through this discourse, the Coalition exert their power, both ideological, and decision-making, and premise their transition agenda on increasing energy demands and the associated need to secure UK-based energy sources. Whilst the Coalition support the expansion of offshore renewables, the decarbonisation potential is overshadowed by notions of affordability and national security that the Coalition employs within this discourse to legitimise continued exploitation of hydrocarbons. This discourse is underpinned by greenwashing notions that suppose the decarbonisation targets of the UK will be met through four pillars: renewables (namely offshore wind), nuclear, clean coal, clean gas. Whilst renewables and nuclear are supported based on their socio-economic capacity (i.e. green jobs), the political weight that is given to the economics of energy is reflected in the frequent assurances given to the supposed ability to obtain clean hydrocarbon-based energy. This discourse confirms the Coalition’s aspirations of technological innovation and market-based approach to realising the UK’s transition to a low-carbon economy, cementing their macro-economic attitude.

4.1.4 A changing political landscape: prioritising the hidden hand

Following the 2015 General election, the Conservative party gained majority control of Westminster [331 of 650 seats], marking a rightward shift in the political ideology underpinning the transition agenda. The consequence of this change is discernible through an intensified emphasis on the economic foundation of and rationale for the UK’s low carbon transition and signified by the government’s faith in the hidden hand discourse.

The Conservative Government seek to vindicate capitalism and promote a small-government approach to realising their low-carbon transition. The faith in the hidden hand discourse reflects the Conservatives’ sceptical attitude to climate science, wherein the role of industry as a source of national socio-economic benefit outweighs the environmental harm caused. Characterized by a conviction in the ability of financial markets, this discourse communicates the Conservatives’ ambition to realise a non-interventionist and pro-competition low carbon economy:
No-one is 100% certain of the precise effects of man’s activity on our climate... [but] as Margaret Thatcher said in her speech to the UN General Assembly back in 1989: We must resist the simplistic tendency to blame modern multinational industry for the damage which is being done to the environment. Far from being the villains, it is them on whom we rely to do the research and find the solutions... we know the smart thing to do is harness the power of the market to tackle the challenges of climate change... [the answer is] to let the “hidden hand” of market forces loose on the challenge we are facing. And watch it deliver solutions – as it has delivered solutions to every other problem we have faced and resolved in our history (FCO, 2015d).

The cause and consequence of the 2007/2008 economic recession are obscured following the 2015 general election. To legitimise the UK’s return to market dependence and the commercialization of low-carbon solutions, the Coalition promote the transition on the basis of providing macro-economic benefit. The hidden hand discourse reflects the Conservatives’ derogation of the environmental and micro-economic potential of the UK’s low carbon transition. Rather, and akin to the Conservatives’ market-ambitions demonstrated by the discourse of purpose, the national economic benefits of a low-carbon economy founded on financial markets are emphasised and used to legitimise a trickle-down approach to the transition:

*The best way to deliver [the low carbon economy] is through the way we know the economics will work best. Using the markets. Using free enterprise and competition to drive down the costs of climate action* (DECC, 2015j)

The economics of a low carbon economy and political ideology feature as the organising principles of this discourse and around which the Conservative Government’s transition agenda is founded. The Conservatives seek to legitimise a trickle-down approach to the transition by refuting the contradictions between market-based growth and both social and environmental benefit. This discourse reflects, and serves to support an intensified capitalist approach, advocating for the privatization of the low-carbon transition. This neoliberal prioritisation is indicative of the hidden and ever-growing power of lobbying and economic interests manifesting through the Conservative party’s political discourse. This crony capitalism (non-decision-making power) is perpetuated throughout all aspects of the Coalition and to a greater extent Conservative Governments (see for example Cave & Rowell, 2014), and whilst often invisible in function, is clear in the outcome.
4.1.5 Reflecting on the Coalition’s low-carbon economy discourses

From 2010-2016 the low carbon transition is framed as capable of delivering socio-economic, environmental, and (geo)political assistance to the UK. Responding to countless global and national events the Coalition and the Conservative governments articulate the low carbon transition as a strategic political objective. However, contrary to declarations regarding the UK’s climate mechanisms – which includes the low carbon transition- as being safely institutionalised within the cross-party Climate Change Act 2008, the discourses crafted by the Coalition and the Conservative governments reflect increasing political dissensus and polarization. The changing discursive landscape signifies that while the concept of transitioning has gained significant political traction in the UK in recent years -on the basis that it will provide socio-economic, environmental and political security- it has been developed on a capitalist foundation. As such, and through these discourses, the UK Governments (2010-2015) greenwash the exertion of power by the powerful (i.e. government, and lobbying from the oil and gas sector) and the subsequent continuation of the hydrocarbon energy model, rationalising the bridging capacity. Despite recognition of the need to take climate action on a global scale, the determinant of the transition (i.e. greatest decision-making and location of power) is within UK Government and amenable to those with access. Regarding the focus of this thesis, the question is thus how will MSP facilitate this market-based and energy-lead transition?

4.2 The role of MSP in the UK’s transition

Set within these low-carbon discourses is the government’s articulation of MSP and its role in facilitating the UK’s transition. Political ambition emerged through the discourse of planning for energy security that runs across both the Coalition and Conservative Governments. While there were broader discourses about the introduction of MSP across the UK, the focus here was on understanding the link to the low carbon transition, and as such the sole issue of energy security was relevant.
4.2.1 Realising the transition: planning for energy security

The duty of MSP to facilitate the low carbon transition is substantiated by the planning for energy security discourse. The marine environment is framed as a space of unexpected resource, with the offshore area providing the greatest opportunity for economic development. Through this discourse, the functioning of MSP is linked to the reformed marine licensing system, with notions of the two concurrently holistic, and strategic processes used to create confidence and bolster acceptance. This discourse is primarily concerned with the role of MSP – and by association, marine licensing - to facilitate the expansion of large sources of renewable energy such as offshore wind. The government vindicate this new era of ocean industrialization as essential to meeting the interconnected matters of increased energy demands, decarbonisation/climate change targets, and workforce upskilling:

The sea may actually hold some of the answers to a number of questions around our future energy needs as we move to a greener economy. This transition will throw up lots of opportunities for creating economic growth and jobs, as well as contributing to a cleaner environment (Defra, 2010f).

The marine area will also provide an increasing proportion of the UK’s energy needs from offshore renewable sources of generation – wind, wave and tidal, and will also need to support the expansion of offshore electricity networks to connect these to shore. The expansion of these industries will support our transition to a low-carbon economy and could bring significant economic benefit to the UK as a whole (HM Government, 2011c).

For the Coalition, the benefits of investing in renewable developments would trickle down through the creation of jobs across the breadth of the UK, providing particular benefit to coastal areas that are recognised as being socially deprived:

The Coalition government brings a new philosophy to marine energy. We can’t just look at it through the narrow prism of our 2020 renewables targets. We need to look at the whole opportunity. To work together to build a global industry in the UK which will create new jobs and growing economic opportunities (DECC, 2011a).

Furthermore, MSP, and by association, the licensing system, are positively framed by the government as mediating spatial and institutional conflict. Rather than challenge dominant economic interests, which arguably gave rise to the need for governance reform, the government emphasises the technical rationality of MSP. Efficient spatial
decision-making is rationalised as a central objective of MSP on the basis of macro-economic logic i.e. how to maximise the economic potential of marine space:

A key principle [of marine plans] will be to promote compatibility and reduce conflict (HM Government, 2011c).

The decision to create a single tier of Marine Plans for England means that a decision maker need only consult and comply with the relevant Marine Plan(s) and the MPS, thus avoiding the scope for duplication between any tiered plans (HM Government, 2011c).

The government’s proclivity to rationalise the economic and security potential of energy sources is apparent within this discourse. Whilst endorsing the UK’s potential as a world leader in marine renewables, this discourse reflects government ambition to safeguard and maximize hydrocarbon extraction as part of the low-carbon transition. In reasoning this, both government’s draw upon the tangled notions of energy-bridging (i.e. gas) and national security to support renewed efforts around indigenous hydrocarbon sources. MSP is thus framed by this discourse as a process through which to more strategically plan to make space for energy production:

Obtaining the UK’s hydrocarbon supplies from indigenous sources minimises dependence upon foreign imports and thus enhances our security of energy supply. Maximising the economic recovery of UK oil and gas resource sustainably is therefore a priority in the UK’s energy supply and energy security strategies (HM Government, 2011c).

MSP, and the associated licensing reforms, are legitimised through the exertion of the government’s ideological power as tools to aid a new era of ocean development. As a mechanism through which to deliver climate change mitigation and adaptation, the yet untested system of MSP is lauded by the government through the planning discourse for its capacity to unlock the potential of the marine area. However, the promotion of MSP’s environmental aptitude is obscured by political ambitions and promises, viz. the Conservative party. Drawing on concepts of economic and national security, the government legitimise the role of MSP as one to facilitate rather than hamper industrial growth (i.e. energy). The planning for energy security discourse, that is employed by both governments, justifies a form of blue-ecological modernization whereby, despite assurances, enables unsustainable practices to continue. This is apparent in the greenwashing of indigenous gas resources, in parallel with the promotion of renewable
energy as a source of decarbonisation and jobs. MSP’s role in the low-carbon transition is thus solely framed as facilitating energy developments.

4.3 Conclusion

The discursive analysis of the Coalition and Conservative Government’s texts indicates that, as a concept, the transition to a low carbon economy has garnered significant political traction. The respective governments have occupied the transition with notions of salvation encompassing socio-economic, environmental, and political challenges. Whilst the various discourses reveal changing political ambitions, affected by and reflective of the interrelated dimensions and location of power, the expansion of offshore renewable energy and continued exploitation of gas sources provide a centripetal force for the low carbon transition. Consequently, MSP is framed as a system of spatial and institutional conflict resolution through which to expedite the energy-based transition. Analysis of speeches and documents demonstrates the dimensions and placement of power that subsequently manages the scope for a radical transition within the marine area. Despite notions of environmental and social sustainability threaded throughout the capabilities of MSP, its role in facilitating the transition is reserved to primarily assisting the maximisation of indigenous hydrocarbon resources and expansion of offshore wind. It is within this political context, whereby the transition and MSPs role is narrowly defined, and contradictorily framed, that the EMPs are developed. The capacity of stakeholders within the MSP process to influence or alter this energy focus within the engagement process (employ dimensions of power within spaces or places) is, therefore, the focus of the next chapter.
Chapter 5 Stakeholder perspectives on MSP in the East of England

5.0 Introduction

Through analysis of semi-structured interviews and marine plan documents, this chapter addresses the third research objective, explaining stakeholder perspectives on the process of realising the low carbon transition within the East of England MSP process. By employing the theoretical framework developed in Chapter 2, stakeholder interviews and marine plans were analysed to determine whether the objective of transitioning facilitated constructive, or obstructive cooperation. That is, whether the low carbon transition functioned as a boundary or pseudo-boundary object within MSP in England. This chapter is subsequently structured in two parts; first, the communities and boundaries that exist within the EMP process are identified, and second, the effectiveness of managing knowledge across these boundaries is explored, in doing so the features and functions of boundary and pseudo-boundary objects are drawn upon.

The analysis of interviews reveals that those with political capital (decision and non-decision-making power) were able to move outside the established MSP participatory process wherein they worked with regulators and planners to shape policy specific to their sector. Interviewees distinguished different capacities to share, assess and learn within MSP. Those with the greatest political capital – the agency to influence decisions made within the political sphere – were best able to transform their interests. Joint understanding through the transformation of knowledge was achieved between regulators and their sectors, but this took on the form of exclusionary practices (closed and invited spaces) that prevented broader cooperation across communities from occurring. However, due to the path-dependent nature of MSP, and knowledge thereof, the low carbon object provided little more than a pseudo-transformation of policies. Whilst constituting the features of a boundary object, institutional and organisational boundaries negatively affected the functioning of the low carbon object within English MSP.
5.1 **Distinguishing communities and their boundaries**

The EMP process operates at the intersection of several distinct communities. The first step in applying the theoretical framework is identifying the boundaries across which an object must function, thus it is necessary to understand how these boundaries were formed and functioned between communities. To reiterate, communities are social configurations wherein people engage in various practices, negotiate meaning, and develop identities. Individuals can belong to multiple communities at any one time, and so must work across the boundaries between them. Differences between communities can lead to innovation, as well as misunderstandings and conflict, and so require methods and devices of coordination. The EMP process can, therefore, be described as a contested collaboration between multiple communities:

*Through extensive public involvement, [marine planning] will offer everyone with an interest in our seas and coasts the opportunity to have a say in how their marine area is managed* (MMO, 2013a: p.3).

It is wrong, however, to assume that these communities, and membership of them, are determined by purely economic, environmental, and social interests. Interviewees distinguished and self-identified as part of one or more distinct but ultimately dependent communities that reflect differences in knowledge and resource availability. The creation and existence of these communities are indicative of/akin to what Gaventa (2003, 2006) describes as *created spaces*, within which power exists and is amassed around particular interests. My analysis illustrated that there were six distinct communities engaged in the EMP process including: motivation, past practice, resource availability, political capital, regionality and power. Distinguished by knowledge, organisational, and territorial boundaries, these communities reflected stakeholders’ distinct, shared knowledge, and respective power (e.g. non-decision-making). Moreover, it points to the political and contested nature of MSP which required interviewees to make a trade-off between their ambitions and practical realities of engaging within the novel EMP process. In other words, stakeholders were confronted with the reality of who and where decision-making power is exerted. The multiplicity of communities evidences the need for the objective of transitioning to facilitate the transformation of knowledge and practice between communities across pragmatic (knowledge), organisational, and place-based boundaries.
5.1.1 Knowledge boundaries: motivation and past practice

Sectoral affiliation was the most basic distinguishing factor of communities, reflecting the pragmatic knowledge boundaries within the EMP. The EMP process was perceived as a contest between sectoral ambitions for use of the marine space (e.g. renewable energy, fisheries, conservation). Distinction based on these ambitions, or more specifically the type of knowledge held by stakeholders, was evidenced through the emergence of communities of motivation. These communities represent interest-based associations, and pragmatic differences that were compared to fraternities, or families, brought together by at least one common economic (e.g. fisheries; energy), environmental (e.g. conservation), or social (e.g. jobs) objective and use of the marine area. These communities reveal the semantic difference between stakeholders defined by distinct knowledge, or ways of seeing and doing that was beneficial in aiding joint working:

*We engaged, or at least made sure one of the NGO community was there for the environmental issues* (In_1E).

*There is a need to be involved in those conversations, so along with our cousins in the port sector, of course we want to make sure we're heard* (In_19ES).

Knowledge is also shared between communities. Whilst acknowledging their differences and disagreements, interviewees identified the opportunities arising from multi-community collaboration – created spaces within which knowledge sharing took place. Examples included engagement between fishers, developers, and eNGOs that helped to create a shared understanding around the licensing, construction, and operation of renewable energy developments. These collaborative efforts (sharing and learning) are indicative of translation across the semantic boundaries of communities with different interpretations and the subsequent creation of common knowledge. Past collaborative efforts between communities within such created spaces thus provided a functional setting within which to create shared knowledge and foster trust:

*We have a forum called FLOWW, the fisheries liaison for wet renewables and that was in existence going back to the 2003 with the specific objective to, um help with co-existence so it's been happening before the plans came in terms of having a dialogue about how the industries relate to each other* (In_4E).
Outside of [the MSP] process, there's already a route, an existing relationship already there that we kind of have a sense of trust (In_13E).

However, just as knowledge within these communities was shared, so too did it put communities in conflict with others. There was substantial negativity, and distrust between the communities of motivation. These communities were commonly described as distinct and competing with each other to use or protect resources in the East marine plan area. Such pragmatic tensions were expressed most clearly through feelings of victimisation, whereby the EMP process was seen to disproportionately favour certain communities’ interests:

Of course with some sectors there will be a clash between, well normally the one which clashes with everyone is marine conservation. It's unbelievably important but sometimes they go in a rather, well they just run in there and don't really consider the other sides and it's only when (In_19ES).

The presence of these communities, and their semantic and pragmatic differences, is indicative of problematic knowledge. The boundaries of these communities are marked by collective objectives and the different types of knowledge, and shared knowledge, that are confronted within the EMP process. This knowledge-in-practice is problematic because it is localised around problems faced. For example, in relation to the low carbon transition for knowledge was localised around, among others, matters of nature conservation, the pursuit of economic growth, or social regeneration. As such, knowledge was hard to translate because it is contextually embedded within the social interactions and understandings, of the community, and invested in past practices. Moreover, the transferal, translation, or transformation of knowledge pertaining to the low carbon transition is subject to the exertion of power by these communities both within and external to the MSP process. Tensions, as noted by interviewees, therefore, reveals how knowledge within functional settings may be a pragmatic threat to collaborative efforts, whereby it limits the problem-solving and transformative capacity of communities. It is thus hard to communicate, transfer, and transform knowledge across these functional boundaries.
5.1.2 Organisational boundaries: resource availability and political capital

Challenges caused by knowledge boundaries were exacerbated by resource inequalities - induced power - between interviewees that manifested as organisational boundaries. To engage in the EMP process, stakeholders had to expend significant human and financial resources (i.e. time, travel expenditure). Access to such resources, which are a communities induced non-decision-making power, created a practical limitation that effected the capability of communities to transfer and transform knowledge within the MSP process. The existence of this divide was evidenced by the distinction made by interviewees between privileged (capital rich) such as energy development firms, and restricted (capital poor) communities such as inshore fisheries organisations. Due to the nature and longevity of the stakeholder engagement process, and as a consequence of the demands of interviewees job (e.g. fishers, or consultants), communities had the unequal ability (power) to engage in the process:

I think one of the tricky things for stakeholders [engaging in MSP], well for example in my day job I get paid and I can go and do things, but other people, for example, if they are out fishing, they have got to take time out from that to go and attend a meeting (In_11E).

Those stakeholders that held the greatest sum of capital were subsequently seen to be most capable of transferring and transforming knowledge to influence the outcome of MSP. In general, communities identified as resource rich represented nationally significant economic interests who had the greatest decision and non-decision-making power. For example, the energy and ports sectors were well-known for being particularly resource rich and well-organised, and so able to engage in stakeholder processes more readily. The outcome of the MSP process was, therefore, perceived to be subject to the exertion of illegitimate decisions and non-decision-making power. In other words, it was less related to balancing economic, environmental, and social objectives, and more a reflection of the most prepared and persistent voices:

It is true of any process, the bigger and more organised industries will have more say because they are good at influencing. I remember the marine aggregate industry and the possibly offshore renewables, being very much involved in the development of marine plans. I think they are big and well organised. I’m not saying that is wrong, I’m just saying that they have used marine planning to influence, or to
make sure really that the East waters and the East marine plan areas are recognised as having the relevant valuable resources (In_5E).

Indeed, for some particularly privileged communities, it was an issue of too much stakeholder engagement:

There was an awful lot of stakeholder engagement that went on and on [laughs] (In_20E).

Another matter of resource-based influence related to the political capital (non-decision-making power) of communities. The lobbying power of stakeholders was said to be indicative of the nature of MSP as a shouting match, whereby those who could make their point loudest - both in the engagement process as well as within the political sphere - would ultimately determine the outcome of the plan. MSP was seen as another arena within which non-decision-making power, described as illegitimate owing to the inequalities it reflected, could be expressed. Together, access to human, financial, and political capital created a practical constraint to collaboration that ultimately silenced or emboldened stakeholders, and thus influenced the MSP process:

Well, the RSPB can shout louder than the fisheries organisations. It’s got much more lobby power. That’s how we see it anyway (In_5E).

The significance of political capital is clearly illustrated through the role that government departments had. As was established in Chapters 1 and 4, the government employed their decision-making and ideological power to define the low carbon economy and MSP. In turn, departments were able to utilise their political capital (dimensions of power) within the MSP process to ensure that policies were acceptable to their ambitions. This was evidenced by the additional effort required of the MMO to seek out and engage with political representatives. Government engagement in the planning process was, therefore, indicative of the translation, and legitimisation of departmental needs into the EMP, rather than a sincere attempt to transform the management of the East marine area:

The involvement from DECC [Department for Energy and Climate Change], now BEIS [Business Energy and Industry], and that steer, that I would have thought should have been a strong steer and a desire to use this tool to the fullest extent, wasn’t there, such that the marine planning team had to kind of get their foot in the door and ask the question rather than it being the other way around (In_10E).
Other stakeholders were, however, not as fortunate. The extent to which stakeholders could engage to share their understanding was limited as a result of having limited access to human, financial or political capital. Subsequently, these poor communities frequently cited the need to strategically weigh up the costs and benefits of engaging in MSP, as well as having to rely on the efforts of other members of their community of motivation:

*We’re had to basically say we need to see the agenda of meeting before we can send anybody, because we haven’t got the capacity now to be able to just turn up for every meeting that we were invited to (In_13E).*

*[Engaging in MSP] is a very hard thing to do within the resource limitations we are faced with. So you know you have to piggyback off lots of the work that the other conservation NGO’s do in order to have an effect (In_7E).*

The issue of resource-inequalities was not isolated to community definition within MSP, rather the EMP process was viewed by many interviewees as another costly governance process. Resource fatigue is seen to be an unavoidable pragmatic issue, that was part and partial of stakeholders seeking to secure their right and access to the marine area:

*People had just gone through the marine conservation zone process, so there was a bit of stakeholder fatigue […] that fatigue I guess was down to that unknown of what each process was going to do but at the same time the need to be involved especially if you saw it as having a direct impact on your livelihoods (In_11E).*

Stakeholders within so-called capital rich communities, however, rejected the assumption that they were uninhibited by resource limitations and fortuned by unincumbered non-decision-making power. Rather so-called rich communities argued that they were also restricted by pragmatic limitations but to a different extent. When viewed through the lens of the theoretical framework of this study, however, this appears to be indicative of a solecistic transfer of knowledge/understanding. This is exemplified by a representative of an energy firm who considers the matter of fishermen in engaging with MSP processes who therefore lose out financially because they cannot go out on their boat. When considering this fiscal predicament with their own situation, the energy representative concludes that they are comparable. But they are not because it is only the fisherman that is losing their salary by attending, the
energy developer will be paid. Moreover, given that the political ambition for MSP is such that it will prioritise energy developments this representative and their firm will ultimately benefit. This fundamental misunderstanding thus represents a solecistic transfer of knowledge between stakeholders:

When talking to fishermen, they'd say I'm losing X by being at these meetings, if I am here I can’t be on my boat fishing. Well likewise, if I'm not at my office, I am not earning money for my company. It just always just sounds more dramatic for fishermen (In_27E).

As the following quote from a local government representative shows, the consequence of perceived capital-wealth was a significant matter of concern regarding the engagement in and subsequent implementation of marine plans:

I work for a local government and [funding cuts] is what we are faced with the top think the bottom can do it, and they think why aren’t you getting on with it. […] but in reality, there’s not a lot of resources available for us, and other local authorities to take on the additional demands of marine planning (In_18E).

Organisational boundaries came to prominence with relation to the ability to engage in the MSP process (i.e. induced non-decision-making power) as an essential condition to sharing, assessing and learning about the EMP area. The distinction of communities on a capital-based spectrum highlights both the inequalities within the MSP process and the dependencies between communities. More specifically, and concerning the focus of this thesis, by limiting the capacity to engage in meetings, resource constraints of interviewees determined the extent to which they could translate and transform knowledge of the object of transitioning.

5.1.3 Territorial boundaries: regionality and power

Geographic location was used by interviewees to distinguish stakeholders as part of communities that were either a source of positive collaboration or unfairly advantaged. Whilst the communities described this far reflect boundaries defined by the difference in types of knowledge and access to capital, interviewees also identified as part of place-based communities which included members from dissimilar communities. The distinction of geographic-based communities was indicative of both positive and negative feelings between communities. In the first instance, communities that
engaged with others in smaller regions (*community of regionality*) reflected positively on the capacity to translate their concerns. On the other hand, the identification of communities from places of power were indicative of obstructive collaboration. Place, therefore, creates a strong influence of collaborative efforts.

Membership of communities was identified by interviewees on the basis of stakeholder’s interest in and use of a specific geographic location. Rather than being focused on specific issues or sectors, like those in communities of motivation, these were communities of circumstance, arranged around social, political and naturally defined boundaries (e.g. a coastal town/area). These place-based communities represent created spaces, which preceded the MSP initiatives and constituted localised knowledge. These close-knit networks of members were perceived to produce more equitable outcomes as opposed to other places of decision making (e.g. national policy creation). Subsequently, there was significant trust held by and between members:

"I've also been dealing with stakeholder issues and also attending a number of stakeholder meetings up on the North Norfolk coast for example the North Norfolk fisheries forum and also the Wells Advisory Group which is connected to the Wash and North Norfolk coast marine partnership [...] So as long as those passions are utilised in a constructive way then actually you know great things can be achieved. I think North Norfolk is a good example, a lot of positive stuff is really coming out now, but it's taken it takes a while to build relationships and trust to enable that to happen. I mean you're always going to get individuals that disagree and fall out with each other the rest of it but it’s about finding your way through all of that (In_13E).

Place was also associated with the relative power (decision and non-decision-making) of a community to influence the EMP process. Those located closest to Newcastle or London were characterised as being in communities of *power*. Interview participants emphasised their concerns that the ability of any community to engage and influence the EMP process was correlated to their location. The significance of these decision hot-spots was evidenced by concerns that due to the size of the East area, those making decision were unaware of local issues:

"We've been developing a relationship with the MMO and the licensing team but ultimately they're based in Newcastle which you know it's a six-hour drive away plus [laughs]. They don't know the local circumstances (In_18E)."
Interviewees’ sense of place also expanded onto the marine area. Whereas towns or local authority areas provided a physical point of reference for place-based communities on land, in the marine area, offshore communities were distinguished based on economic intentions. In particular, those with nationally significant economic interests such as aggregates, and energy were seen to be favoured by the MSP process. These communities based predominantly in the offshore region represented the privatization of marine space. Due to this local onshore communities were disadvantaged on the basis that this privatization represented national economic gains. Being from an offshore community, therefore, became a source of power:

That also brings to mind the difference between offshore and onshore in terms of community […] it is a bit of a thorny geographical question, which community in a sense has a stake in that resource, and how do you identify that. There certainly seems to be like a gap in terms of a more formal system or even just like a tradition of how benefits could accrue to coastal communities (In_32ES).

Place was not an abstract concept within the minds of interview participants, rather it was either a source of cooperation and trust or command. The geographical demarcation of powerful communities was reflective of entrenched socio-economic inequalities across England, and akin to capital constraints (decision-making and induced power), highlighting fundamental inequalities that underpinned MSP. Such distinction points to the absence of widespread trust between communities, which was framed by interviewees to be a prerequisite to collaboration through MSP.

5.1.4 Summary of the boundaries of communities

Analysis of interviews illustrates the boundaries which existed between communities defined by their motivation, human and political capital, and geographic location. There are clear pragmatic, and by extension syntactic and semantic, boundaries within the MSP process with knowledge localised, embedded, and invested within the functions of communities. This community-bound knowledge and use of the East area was at stake within MSP, as well as other management or governance processes (past or present e.g. MPAs). The problematic nature of the boundaries between communities, therefore, materialised through the need to share, assess, and learn across communities. Because such interactions are not inconsequential, and to resolve the
negative consequences, individuals must be able and willing to alter knowledge. Yet, as interviews revealed, the nature of interactions across communities was messy whereby the differences and dependencies were not clearly understood. Inequalities, such as dimensions of power held by communities, and access to locations of power, manifest through the multiple examples of ineffectual knowledge translation across the boundaries of communities. The question then, within the context of this thesis, is how or if the objective of transitioning functioned within the EMP process, across these communities to transform their domain-specific knowledge, and overcome power differentials.

5.2 The low carbon transition between communities

In order to question if the objective enabled successful constructive collaboration, it is necessary to first consider the features of the transition. Boundary and pseudo-boundary objects share the features of interpretative flexibility, dynamism and are arisen from a need (Chapter 2). Whilst the theoretical framework of this thesis refocused attention on the functioning of boundary objects, it does not diminish the consideration of these features. Indeed, they help to explain how objects come to exist and explains how they can function as powerful tools of communication between distinct communities that lack consensus. Therefore, just as the features of the transition from the perspective of the political sphere were presented in Chapter 4, it is necessary to understand broader stakeholder understandings of the object here.

Interview participants were asked to consider their understanding of what the low carbon transition was, and it was not surprising that between and within the community’s views were far from homogenous. Whilst interviewees agreed with the need for the transition, principally for climate mitigation and energy security, there was no simplistic or singular definition of the low carbon transition. For example, for eNGO representatives, the transition represented both an opportunity for environmentally advantageous action including protection of blue carbon habitats, as well as potential risks through, for example, detrimental impacts on habitats such as the mispositioning of offshore wind developments. On the other hand, for fisheries representatives, the transition exemplified a spatial squeeze on their industry and the privatisation of marine space and top-down policymaking. Between interviewees the
transition represented an antagonistic relationship between various economic, social, and environmental interests and the spatial demands of marine communities both now and in the future:

*Transition means change and the low carbon transition takes in many aspects some of them are really quite obvious, like energy but others are things like policies that support this in terms of displacement of activity [...] it is almost hidden between activities (In_12E).*

The objective of transitioning was also thought to be hollow in meaning. Interviewees remarked that the low carbon transition was a concept derived from politics and thus susceptible to multifarious uses. Interviewees thought that the objective of transitioning could be used to rationalise a range of decisions, policies, or activities, dependent on the wishes of powerful communities under idealistic notions of beneficial outcomes:

*It’s one of those phrases that can mean absolutely anything, I don't find it particularly helpful. The interesting bit for me is when that gets translated into government policy or our budget which could then affect development in the marine space [...] so it depends on how you interpret it, or who you ask [laughs] (In_20E).*

A public authority representative evidenced the political malleability of the transition. He remarked that due to government ambition, they were required to account for technology-based developments within the marine planning process, that to them represented political fads rather than sound policy choices:

*[Part of the transition] is seeing what opportunities there are going forward, but again some things like sub-sea subtraction of gas, well that is like a marine fad, interest in it comes and it goes, but it is one of those things it is a possible, like CCS, that is dependent on technology, but again interest comes and goes. Technology change in shipping, dredging etc, these are all things that we need to stay on top of so that we understand how the sectors are moving along and developing their technology (In_12E).*

Within the East marine area, the low carbon transition was acutely associated with issues of energy production. An energy-based transition formed the lowest common denominator, with the exploitation of strategic renewable energy resources functioning as an anchor around which communities worked. This de facto meaning of the transition as one of energy-production was argued by interviewees from various
communities to reflect political ambitions for energy and economic security. Indeed, even for those who did not consider the low carbon transition as a point of concern, there was broad recognition that the objective was focused on making space for offshore wind:

For the fishing industry [the low carbon transition] would be a secondary consideration, it’s an effect of losing important fishing grounds to offshore wind (In_4E).

Such was the affiliation of the low carbon objective with matters of energy production that when asked to describe their understanding of the transition, a participant remarked:

We don't have any specific responsibilities regarding energy policies, so we don’t really have any particular views on the transition (In_16E).

Within the EMP process, the low carbon transition demonstrated the features of a boundary/pseudo-boundary object. Interview participants understood the transition to be a contested concept that had multiple meanings in localised use but had a singular meaning in its general use. Many visions of the transition were articulated through interviews, however, interviewees agreed that in its totality the low carbon transition arose from the need to facilitate climate mitigation and had thus become a reference to the provision of space for offshore wind developments. In as much as anything can be a boundary object (Star, 2010), the low carbon transition reflected the necessary features. What was unclear for interviewees, however, was how it functioned within the novel MSP process. To understand how, or if, stakeholders within the MSP process were able to tack back-and-forth between abstract and locally tailored interpretations, and, subsequently transform knowledge, the following sections consider how the transition objective functioned within the four increasingly exclusive spaces of engagement.

5.3 Working across the boundaries within English MSP

The EMP process, and the objective of transitioning, were required to operate across the boundaries of knowledge, resource, and geographically defined communities. To provide a policy window (a democratic space of engagement) through which to reduce conflict and pressures, fostering economic, environmental, and social benefits, MSP
in England necessitated the transformation of knowledge and practice. English MSP is lauded by the UK Government through progressive discourses (Chapter 4) or ‘governmentalities’ (Foucault, 1982), as the rational solution to climate change, among other matters, through stakeholder-centred governance processes. When considering their involvement in the EMP process, however, interview participants remarked that their capacity to transfer, translate, or transform knowledge was reflective of the engagement opportunities available to them. That is to say, the EMP process constituted a hierarchy of four spaces of engagement including: public stakeholder workshops, national stakeholder meetings, one-to-one meetings with decision-makers, and inter-departmental meetings. Whilst indicative, these four spaces do fit neatly within the closed, invited, and creates spaces conceptualised by Gaventa (2003, 2006). Rather, just as Gaventa argues, they reveal the relationship between the presence or absence of the dimensions of power, and the effect of action and inaction both within MSP, and in external but related processes. Access to and engagement within these spaces afforded stakeholders increasingly greater influence within the MSP process and provided focal points through which interview participants described the movement of knowledge. As one fisheries representative remarked of this hierarchy:

*There was always the issue of a pecking order and everybody was wondering how this was going to come out [in the plan] (In_4E).*

Through the lens of the boundary and pseudo-boundary object framework, the following sections analyse how the objective of transitioning functioned within each of the four spaces of engagement. The discussion that follows describes that while political discourses appear to function as an attempt to co-opt the less powerful into believing that MSP will serve their interests, stakeholders were aware of the duplicitous nature of the government’s ambitions.

### 5.4 The first space of engagement: Stakeholder workshops

The first space of engagement in which the low carbon objective existed was the general stakeholder workshops, that were held across the East of England between 2010-2014. In accordance with the MCA Act 2009, the MMO was required to engage with all those who had an interest in the East area. These invited spaces, such as
workshops, were held to inform and engage with, among others, industry representatives, eNGOs, the general public, bordering nations, local authorities, and coastal partnerships (MMO, 2013a). Opinion on the value or effectiveness of this engagement was split. For some interview participants, stakeholder workshops represented a genuine attempt to capture and account for stakeholder knowledge by engaging a broad spectrum of communities. This perspective was widely held by interviewees that identified within powerful communities such as ports and government, who argued the EMP was free to advance in whatever way was best for the area. Such stakeholders appear to be subject to thick ideological power wherein they believe actively in the MSP process that ultimately relegates them to tokenistic engagement. However, given that those who spoke favourably of MSP largely benefit from the continuation of the neoliberal hegemony, the truth of this consciousness is questioned. That is to say, these are not subordinate groups, rather they have other means through which to achieve their ambitions and as such are content to acquiesce with the process. This perspective was typified by a public authority representative who remarked:

*We had a blank canvas, okay driven by the Marine and Coastal Access Act and the Marine Policy Statement, but really we were given a blank sheet to take forward marine planning across all of England’s waters (In_12E).*

However, for most interviewees, workshops represented an onerous and insincere participatory process within which there was limited opportunity for substantive engagement:

*I always remember the [workshops] swinging wildly from one thing to another […] it seemed quite a nebulous process (In_4E).*

*I did go to some of the initial workshops and meetings held by the MMO, well [laughs] I didn’t go to many more of them because it didn’t seem very worthwhile to participate in those […] It started out with, we’re going to plan the marine environment, and then [it became] more like this is what we’re doing (In_27E).*

Participant’s discontent with workshops was explained through two key themes that were emblematic of the inability of MSP workshops to function independently of various external influences. Specifically, interviewees emphasised the historic and political contexts within which the EMP was developed and the problematic control
of knowledge between the communities. Invitation to these spaces of engagement, whilst welcomed was understood to be inconsequential.

5.4.1 Historic context: path dependency the East plan area

For those who saw workshops as being restricted, the first source of limitation related to the historic context within which the EMP existed: the path-dependency of knowledge. The East area was well-known for being highly industrialised with a significant, and long-standing presence of many industries including aggregate, cabling, energy, and fishing. As such, interview participants from various communities agreed that previously established spatial uses fundamentally limited the transformative potential of MSP. The negative consequence of historic decision-making power manifesting through the privatization or protection of large parts of the EMP area was demonstrated by a representative of the renewable energy industry who remarked:

*Maybe it's just because the East North Sea is so developed, there's so many things going on but [MSP] seemed sort of irrelevant […] The entire sea is license blocks. We've got the Round 3 zones which have carved up huge areas and then also we've got the SCA’s and MCZ’s. There are all of these spatial measures which were already there. Stakeholders were in a position of asking, well what is your plan going to do and how does that then actually enable some sort of hierarchy of decision making? It's pretty much a fait accompli (In_27E).*

It was clear that the legacy of use also affected how the transition was to be realised. The UK’s market-led approach to resource exploitation was frequently cited as a determinant of how the transition could be realised. Such was the scale of ocean privatisation that the workshops and the MSP process more broadly were limited to producing maps of industry ambition:

*We have an economy predicated on a free-market economy. I think the view is that it may be wrong to [change the way we use the seas through marine planning] because it’s not market-driven. Our marine space is a first-come, first use approach (In_3E).*

Reflections on the historic use of the EMP area reveal the path-dependency of MSP and the embedded nature of the transition within it. Workshops were only able to consider options that would fit alongside the plan area’s legacy (the historic exertion
of the dimensions of power), subsequently opportunities to assess and learn of stakeholder perspectives and ideas within the EMP process was negated. Interviewees were merely able, and resigned to, share their knowledge, with the understanding of the limited potential for change.

5.4.2 The political context: pseudo-democratisation of government decisions

The second theme of discussion that emerged from interview transcripts related to how the political context (exertion of decision-making power) effected workshops. For most interview participants, the system of MSP in England was developed to be less influential than other government policy such as national energy policy statements. The EMP process was unable to transform this institutional boundary. Marine plans were thus likened to a new rung on an already established policy ladder that was unable to transform the management of the marine area due to the lack of government will:

*It was [limited by] the fact that Government is conservative in its approach to change, its risk-averse obviously and they see an opportunity for instigating change, and drivers of change through marine plans for example is relatively, on the Government scale of this, risky (In_10E).*

The perceived inability of workshops to facilitate change, wherein power remained at a national, or higher government policy level, was substantiated within the EMP itself:

*The marine plans do not establish new requirements, but apply or clarify the intent of national policy in the East Inshore and Offshore areas, taking into account the specific characteristics of the plan areas (Defra, 2014: p.8).*

It was also evident that the manner in which the low carbon transition was framed within the marine plan was dependent on the legislative and broader pollical framework:

*[The transition] can be fairly loose and it depends on interpretation also and especially some of the regulations that we work under can be interpreted different (In_13E).*

The consequence of the transitions broader regulatory framework was particularly evident in the case of offshore renewables. Interviewees recognised the strategic nature
of wind resources in the East area, defining them as the motivating factor for developing the EMP. However, as a consequence of decisions made elsewhere, and by its very nature of existing at the bottom of the policy ladder, the realisation of the low carbon transition within the EMP was determined outside of the stakeholder workshops. There was no capacity within workshops to determine a key aspect of the transition, rather MSP was required to piece together decisions taken elsewhere:

*In reality, it was round 1 and 2 had been decided by the Crown Estate and consented by PINS process [the National Infrastructure Planning process]. So a lot of the momentum [for the expansion offshore industry] was already there, the plans just enshrined that through to the use of spatial mapping (In_10E).*

The consequence of political interference on the transition was not straightforward, rather it revealed the contradictory nature of ambitions for MSP. For interviewees, the futility of workshops was typified by the low carbon objective. Whilst workshops provided an opportunity to engage, the inclusion of the transition was seen to be a form of greenwashing to facilitate continued hydrocarbon extraction. The pseudo-inclusion of climate ambition was, for an SNCB representative, clearly evidenced by the insertion of supportive hydrocarbon policies within the plan despite the obvious inconsistency:

*It was amended by how the government departments [after workshops] to reinsert the primacy for oil and gas. So we had some fairly good discussions as the plan was being created but I guess the final plan was a little bit weak for arguing the need to transition to a low carbon economy with a kind of degree of urgency […] the process to create the plans was done in less than 6 months with quite little stakeholder engagement basically […] As it got closer to the plan preparation stage that, um, the views of stakeholders weren't necessarily taken into account. We couldn’t see a chain whereby they took our comment into consideration and changed something or didn’t change something, they didn’t justify it either way. They had these workshops, then took everything behind closed doors, and we didn’t really hear from them for 6 months until the draft plan came out for consultation (In_1E).*

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24 Development of the UK offshore wind industry has been carried out through four successive leasing rounds, granted by The Crown Estate. Round 1 began in the early 2000’s with the latest round commencing in 2020. See Higgins and Foley (2014), and The Crown Estate (2021).
As the following quote from a public authority representative shows, support for hydrocarbon exploitation was rationalised on the basis of economic opportunity, and path-dependency:

*Our problem is [...] there is the financial benefits of oil and gas brings to the UK economy, it is a big influence so the UKMPS makes clear we want to exploit as much in terms of the carbon-based fuels. You could argue that there is a contradiction there, but then you could also say historically we were oil and gas-focused and that was it [...] in terms of is there a contradiction, well no, it is not a contradiction but it is this whole element of transitioning, changing from one world to another (In_12E).*

The political susceptibility of the transition and more broadly MSP was not unforeseen for stakeholders because the MMO is a non-departmental public body, and thus an extension and delivery agent for the government. This is clearly demonstrated in remarks made by a public authority representative who recalled:

*Bearing in mind our main sponsorship is Defra, we are also sponsored by what is now BEIS, was DECC, also supported by MOD, DCMS do have an interest in this, as does Treasury on the periphery. These government departments and ministries. are all seeking slightly different things and we're sitting in the middle of a rather broad world of stakeholders outside. The plans can't undermine or overwhelm existing legislation from central government [...] So for example the Ministry of Housing were very concerned about the interface between the land and the Marine and that we weren't trying to exercise our newfound powers of planning from the marine, on the land, because there is some overlap (In_12E).*

The consequence of political interference reflects an institutional resistance to change that can be explained by the invested nature of knowledge. The protection of established uses and control of marine space that was yet to be exploited was the problem at stake within the EMP process. Competence over this space thus presented the UK government with both an opportunity for economic growth, as well as a risk to their control. As such, workshops functioned to provide a pseudo-democratisation of marine governance whereby political influence undermined substantive engagement opportunities. Government documents, and interview representatives, rationalised expert-led workshop as best suited to overcoming the challenges of planning multiple marine uses. This rationalisation represents a significant institutional boundary that is itself explained by the political capital of stakeholders
within the EMP process. For interviewees, however, workshops typified the tokenistic invitation to participatory processes that were frequently employed by the UK government to maintain the status quo.

The interrelated industrial and political legacies of the EMP area are evidence of the problematic nature of knowledge (historic exertion of power) and inequalities within workshops. Faced with a novel system of governance, interview participants understood their knowledge and use of the marine area to be at stake. However, they were not naïve to the challenges posed to the translation and transformation of such within the workshops. Stakeholders were not under the false assumption of their transformative capacity. Rather EMP workshops represent an expression of thin ideological power held by the government, through which subordinate groups are resigned to accepting the hierarchical nature of MSP, and inevitable subordination. Despite there being a clear need to share, assess and learn about the transition as well as wider matters of marine use, the industrial and political legacies provided a restrictive force to engagement. The challenge within workshops was not just that communication between communities was hard (i.e. resource intensive), but that the most powerful communities were unwilling to alter their own knowledge of how the transition was to be realised. Subsequently, knowledge of the transition that was permissible within workshops was localised around maintaining the status quo, embedded within historic and external decision-making processes, and invested in tokenistic participation. The procedural-greenwashing of the low carbon objective was consistent with facilitating obstructive cooperation and indicative of issues of asymmetrical power structures and hierarchical engagement that underpinned English MSP.

5.5 The second space of engagement: National meetings

Statutory, or national level stakeholder meetings formed the second space of engagement within the EMP’s hierarchy of participation. Further to general workshops, a range of communities including conservation, energy, and ports were involved in national-level meetings with the MMO. For the MMO, these were ‘key stakeholders’ that they recognized as being significant within the EMP area (MMO, 2013a). National-level engagement - or invited spaces - provided key stakeholder with
the opportunity to develop positive relationships across stakeholder interests and construct shared understanding through the translation of communities’ interests and concerns:

*We sat down with the MMO in the stakeholder focus group and fortunately for us the planning team that was there were opening to listening* (In_15ES).

Interviewees involved in this space were aware, however, that such engagement functioned within the confines of the EMP’s industrial and legislative context. Across the range of environmental, socio-economic and institutional issues faced in the EMP process – which included the realisation of the low carbon transition- national-level workshops were ineffectual in creating constructive collaboration. Concerns for the novelty and effectiveness of MSP is typified by an SNCB representative who noted that while friendly in nature, the high-level statutory engagement of stakeholders effected little change:

*Everyone is friendly at the top level because producing a high-level plan that doesn’t really change things is easy* [laughs] (In_1E).

Whilst providing a basis for collaboration, due to the inability to foster change beyond the wishes of government – the institutional and organisational boundaries-, national-level workshops were unsuccessful in facilitating transformative governance. For stakeholders who engaged in these meetings, there was an opportunity to learn from other marine interests, indeed there was a willingness to learn between stakeholders with conflicting interests. However, again the consequence of institutional resistance was clear whereby the output of such engagement was seen to be a procedural necessity. Interview participants did not contend that the MMOs intentions were misplaced, rather they recognised the consequences of external limitations, and the political purpose of the MSP process was such that the intention was not to foster constructive collaboration. This second space engagement is, therefore, distinct from the first beyond simply which stakeholders were included. Whilst both are indicative of what Gaventa’s defines as invited spaces, wherein those outside government were encouraged to share their understanding, the translation of knowledge around both the low carbon object is only evidenced within the second space. Those within the second space thus appear to have greater capacity to exert non-decision-making power.
5.6 The third space of engagement: one-to-one Meetings

Constituting one-to-one meetings with the MMO, the third space of engagement allowed a limited number of stakeholders to influence the EMP. This third arena of engagement is understood to be both closed and invited spaces, in as much that invitation to engage was offered beyond government but they were closed to wider observation (e.g. not in a public forum). For interviewees who had access to this space – namely capital-rich, national-scale economic and environmental interests – private meetings enabled them to open up and understand better the differences and dependencies between marine interests. As the following quote from an SNCB representative demonstrated, such meetings allowed stakeholders and decision-maker to develop stronger, more trusting relationships:

I think it did make a difference, it offered an informal opportunity for us to spend a bit more time getting to know them and explaining things. It gives you more opportunities than you would get in a meeting room or a consultation response, to try and explain stuff without any pressure, just trying to help them understand their area (In_11E).

By building relationships and creating shared understanding, through the translation of knowledge, stakeholders were granted access to policies as they were developed by the MMO following workshops. These national-level workshops provided a period of knowledge sharing and assessment, evidenced by iterative draft policy development:

We had a set of meetings as the NGO community, partly on [the MMO’s] request and partly on our request. We felt we weren’t having a lot of contact with them at various points of time. Then it was probably the last 6 months that we started getting draft policies (In_1E).

For just one participant within this study, a representative of the cabling industry, the privileged nature of the one-to-one engagement was such that they had the capacity to reject and re-write policies for their sector. As recognised by all interview participants, both the MMO and MSP were novel mechanisms and as such there was a lack of shared understanding of the EMP area. The nature of the stakeholder workshops was such that common knowledge was not sufficiently created. As alluded to above, the second space provided for this creation and the same is true of one-to-one meetings. However, the consequence of such collaborative processes within the third space was greater. As the following quote shows, the cabling representative had a genuine ability
to translate knowledge, create a shared understanding and determine relevant policies. This capacity for action represents the first exertion of decision-making power. This uniquely preferential ability is indicative of how the low carbon transition simultaneously functioned to facilitate obstructive (in workshops) and constructive collaboration. Ultimately, actors sought to normalise and legitimise this invitation-only engagement on the basis of expertise:

*We definitely had more access than just about any other sector that I'm aware of, but that was also partly because we offered, partly because the people in the planning department realised that they didn't have the expertise... I was given privileged access to those policies which were being written by people outside of the MMO in some cases or being manipulated by ministers. I got to see those at a stage before they got published. So that I could work with the regulator and then the decision-makers to make them sensible because they were sometimes completely wrong or finesse them, so the language worked for both sides, not just for one (In_15ES).*

Yet, as the cabling representative points out, this was not truly a transformation of knowledge. Rather, whilst they were able to translate their understanding, even spaces of privileged engagement were inherently path-dependent, limited by the existing regulatory and policy framework:

*[The MMO] wanted to learn more so I sat down with the planning team over a period of time, each time they wrote a draft of their legislation they took the brave decision to privately to share that with me as the representative of the cables sector so that if anything was not correct, or unacceptable I could head it off before anyone else saw it. That was massively useful. Also, I had to be careful not to overstep my mark or otherwise it becomes a pointless exercise so I basically sat with the MMO and we co-wrote the cable policies (In_15ES).*

Whilst granting a select group of marine stakeholders’ opportunity to share, assess, and learn, private meetings focused more on the nuances of policy creation than substantive transformation. The novelty and sheer scale of the problem facing the MMO in planning the East area were such that allowances for restricted engagement were necessary to gain support: exertion of both thick and thin ideological power. These hidden spaces of engagement functioned largely to express pseudo-decision-making power within the confines of the institutional landscape within which the EMP was constructed. The determination of policies within the EMP remained external to the MSP process.
5.7 The fourth space of engagement: within government

The greatest ability to determine the low carbon transition, and the EMP more broadly, belonged to those with access to the fourth space of engagement that was identified by interviewees. Given that the industrial and institutional landscape profoundly inhibited the other spaces of engagement, it was not surprising that government appear to have had the sole agency (decision-making power) to determine the organisation of the low carbon transition through ensuring a spatial representation of existing policy within the plans. This privileged manifested through closed-door, and invisible, meetings that occurred between the MMO and various government departments. This closed engagement is defined as a fourth space because, first, it is distinguished by and represents a 6-month period in which the plan disappeared from public view before returning noticeably different. Second, although the MMO is part of government they are first and foremost part of the Defra family, meaning that while they are controlled by the Defra Secretary of State and were required to engage with other departments. Moreover, the marine plan was subject to ‘write round’ approval whereby other departments had to consent to the plan given that policies within it were cross-cutting. In this way, government departments were stakeholders with an interest in ensuring that the outcome of the marine plan was suitable. Unfettered access to this fourth space provided government departments with the opportunity to reinsert policy and political ambition, disregarding the outcome of the participatory process:

Previous versions of the plan contained quite ambitious visions and policies that have been supported by stakeholders but what happens is they go back in for internal government clearance and those other government departments haven’t been as involved in the process and they get a little bit threatened about what the plans say about their own ways of working. That often ends up watering those policies back down to whatever their government departments are doing (In_1E).

The existence of this space demonstrates the entrenched inequalities between government and non-government stakeholders whereby transformation of policies or management could only occur with political consent:

There was a bit of a fuss between the marine plan, the environment department and the communities and local government department. They hadn’t really seen or been involved in the development of these
plans and so they were, I think the whole plan was delayed by about 6 months to get the DCLG back on board with the final plan (In_1E).

As the following quote from a government representative shows, such was the need for departmental support that the MMO had to actively seek input from departments:

[It wasn’t the case that] DECC was wanting to say, right, planners you are going to have to do this, this is what we want, go forward with this, I think it was very much the other way round and the marine planning team had to knock on the door and say well this is relevant to you, we’re supposed to be doing this, what can we do for you (In_10E).

Encompassing both historic interactions, and contemporary political interventions relating to the transition, the fourth space facilitated the overcoming and indeed creation of institutional and organisational boundaries that plagued the EMP process. This closed space of engagement was, therefore, less a case of constructive collaboration between the government and the MMO, and more indicative of institutional resistance to the decentralisation of control. This space typified MSPs lack of transformative potential which it been previously lauded for by the government and whilst this exertion of power was hidden within the MSP process in as much that very few participants were aware of it, the systemic proclivity for closed-door decision-making within the UK Government was well understood by participants. Thus, despite creating spaces of engagement (first to third), the government was understood to have remained the locus of decision-making power, ultimately controlling how the object of transitioning functioned to create a pseudo-transformation of knowledge.

5.8 Review cycle: Absence of iterative collaboration

A final theme that emerged from the analysis of the interviews reflected the absence of iterative collaboration. Established within the theoretical framework is the iterative capacity of objects whereby their effectiveness, whether in facilitating constructive or obstructive collaboration, is partly defined by their ability to be re-negotiated or re-entrench inequalities. It follows then that attention is turned to the question of whether the low carbon transition object has this iterative capacity. While a time-bound duty to review and replace marine plans is established within the MCAA 2009, there was no such reflexivity observed in practice. The EMP was adopted by the government in 2014, and as legally required was reviewed by the MMO in 2017. However, despite
several technical changes needed the plan remains unchanged. A particularly concerning consequence of this is evidenced in the failure to reflect shifts in the political environment such as Brexit, and departmental reform (e.g. DECC now BEIS). The lack of sufficient review was indicative of a lack of resources that was itself representative of continued austerity and institutional resistance to new systems of governance:

*Unfortunately, when it came to the three-year review cycle for the east plans, the MMO basically didn’t think it was necessary to review the plans really at all. You’ve got this situation whereby you know, the east plan still makes reference to the department for Energy and Climate Change (DECC) and Business Energy and Industry Department (BEIS). It was a bit disappointing to see that between those years 2014-2017, that given the fact that the MMO coped a lot of flak for these plans not being very visionary and ground-breaking, that they didn’t really take the opportunity to review it last year. But I guess they have got limited capacity and limited resources that are generally focused on finishing the plans in the other marine plan areas (In_1E).*

As the following quote from an NDPB representative shows, there was an unwillingness to reflect on and alter the plan that indicated an aversion to criticism across government:

*I really am loathed to go into any great detail on [how effective the participatory process was] you really do need to talk to the management organization for their explanation about how they conducted the exercise of producing and reviewing the plan (In_16E).*

It was clear from interviews that the future of MSP was constrained by the path-dependent nature of knowledge. The institutional and organisational boundaries that entrenched inequalities between interviewees were not thought of as inescapable. Furthermore, the failure to fix seemingly simplistic discrepancies in the first EMP was evidence of the absence of English MSPs iterative potential.

### 5.9 Conclusion

This chapter focused on the participatory process of the EMP, presenting an analysis of the collaboration, and exertion of the dimensions of power across pragmatic, organisational, and institutional boundaries, as well as through arenas of engagement.
To address the third objective of this thesis - stakeholder perspectives on the participatory process - this chapter applied the framework for distinguishing boundary and pseudo-boundary objects to semi-structured interviews and plan documents. Subsequently, it became apparent that due to pragmatic knowledge, organisational and institutional boundaries, the objective of transitioning functioned differently between communities within the four spaces of engagement that constituted the plan development process.

The four spaces of engagement reflect how the objective of transitioning functioned differently for communities within the planning process. Interview participants distinguished and self-identified as communities defined by their distinct interests, human and political capital, and geographic location. These delineations of difference evidenced the pragmatic boundaries that existed within the planning process whereby knowledge, and use of marine space, was at stake. The ability to transform knowledge and create a shared understanding of the transition (i.e. decision and non-decision-making power) within the novel MSP process was influenced, whether positively or negatively, by matters of capital and agency (induced power). These inequalities materialised through the four spaces of engagement wherein the objective of transition appears to have functioned to create a pseudo-transformation of knowledge. The EMP process was not wholly conducive to creating shared understanding due to the entrenched organisational and institutional boundaries which demonstrated the interrelated significance of the location and use of the dimensions of power. Collectively concerns for the tokenistic nature of stakeholder engagement, and independence of MSP processes revealed how interviewees were merely able to share but not transform their knowledge within the first three spaces within the participatory process. It was only those in the fourth space, namely government representatives, that held sufficient agency to affect the plan. However, as a consequence of institutional resistance and the problematic nature of knowledge (i.e. path-dependent), the objective of transitioning functioned obstructively within the participatory process to create a pseudo-transformation of knowledge and policy within the EMP. The absence of reflexivity within the review processes further highlighted the capacity of the low carbon transition as a pseudo-boundary object to facilitate obstructive collaboration which ultimately frustrates stakeholders.
Chapter 6 The Scottish political context: discursive analysis of speeches and documents

6.0 Introduction

The second objective of this thesis - how the Scottish Government rationalised the low carbon economy and the role MSP - is addressed within this chapter. A discursive analysis of political texts (2010-2016) reveals how the Scottish Government sought to rationalise and legitimise transition pathways and the role of MSP in line with their political ambitions. Discourses identified, therefore, represent vehicles or manifestations of government-held power (e.g. non-decision-making and ideological), and are indicative of the exertion of power from elsewhere (e.g. agenda setting lobbying, or global conventions) serving to secure a particular low carbon transition and legitimise the introduction of MSP. The analysis presented within this chapter reveals the political context within which the object of transitioning functioned in national and regional initiatives, and points to the implications of the placement of power within and surrounding participatory processes such as MSP.

As outlined in the introduction to this thesis (Chapter 1 & 3), devolution in Scotland was delivered in 1999 through the establishment of the Scottish parliament as a separate legislature. Devolution was a political resolution to the distinct nature of Scotland within the UK, recognising a need to do things differently (Paterson et al. 2001; Bromley et al. 2003; Leith & Soule, 2011). While several matters pertaining to the focus of this thesis remain reserved and are, therefore, determined by Westminster (e.g. the Crown Estate25) matters of relating to the environment (e.g. climate change policy) and planning and nature conservation at sea up to 200nm from Scottish Coast are devolved. Therefore, just as it was necessary to explore and understand the political context established, and dimensions and placement of power that manifest through the UK Government’s political texts (Chapter 4), so too is it necessary to consider the

25 Rights to manage the Crown Estate (which includes activities including energy, aggregates and cables across foreshore and in offshore areas) were devolved to Scotland as a consequence of the Scotland Act 2016, with all revenue remaining in the Scottish Consolidated Fund. However, at the time of carrying out this research rights to the Crown Estate were centralised in London.
functioning of the Scottish Government and understand their ambitions relating to the low carbon economy and the role of MSP as tool to achieve the transition.

This chapter illustrates how the SNP Government embed their political ideology (non-decision-making power) through the transition and MSP. Four discourses emerged from the political texts that framed the transition and MSP as capable of achieving the SNP’s socio-economic and constitutional goals (Figure 6.1). The socio-economic potential of the low carbon transition is lauded as both a need for and facilitator of Scottish independence. In turn, MSP was framed as a mechanism through which to realise greater sovereign responsibility for Scotland’s marine area, particularly relating to energy resources (i.e. renewables and hydrocarbons). These four discourses are interwoven within each other and complement the UK-wide rationalisation.

Table 6.1 Summary of discourses through which the Scottish government articulate their low carbon agenda and role of MSP

<table>
<thead>
<tr>
<th>Focus</th>
<th>Discourse</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition to a low</td>
<td>Solution to crises</td>
<td>Socio-economic: Facing significant and long-term socio-economic challenges, the low carbon transition is framed, through this discourse, as providing both macro- and micro economic benefits (i.e. GDP growth, jobs, and fuel poverty reduction).</td>
</tr>
<tr>
<td>carbon economy</td>
<td></td>
<td>Environmental: By recognising Scotland’s acute vulnerability to the consequences of climate change -owing to the reliance on natural resources- the transition is framed as a morally and economically correct response to environmental challenges. The fiscal potential of the hydrocarbon industry, and the cost of the transition, however, provide contradictory arguments to this.</td>
</tr>
<tr>
<td></td>
<td>Constitutional</td>
<td>Constitutional: Based on regaining competence and sovereignty over natural resources, the low carbon transition is both a foundation upon which an independent Scotland can be built, as well as a catalyst for independence whereby the benefits of the resources will be held by Scotland. The decentralisation of benefits is further reflected within the debate regarding the sovereignty of the Highland and Islands resources.</td>
</tr>
<tr>
<td></td>
<td>MSP</td>
<td>Safeguarding Scottish resources: The economic and constitutional opportunities of the low carbon transition are reflected within MSP in Scotland. This discourse reflects how the Scottish government view MSP to be a vehicle through which to decentralise decision-making and resource management from Westminster to Edinburgh and onto regions.</td>
</tr>
</tbody>
</table>
6.1 Political context of the transition to a low carbon Scottish economy

The transition to a low carbon economy is to be a panacea to a range of crises facing Scotland. Within the context of various global and national problems the Scottish Government frame their investment in the low carbon transition as providing significant opportunities:

Scotland can become a leader in the global low carbon market, and reduce our impact on the planet, if we seize new opportunities and capitalise on our vast comparative advantages (DRAE, 2010a).

The Scottish Government frame the low carbon transition as an encompassing mitigative measure through three concurrent discourses that are primarily focused on instilling a sense of opportunity and demonstrating tangible benefits. These discourses are indicative of the Scottish Governments agenda-setting power (non-decision-making) wherein the transition is rationalised and legitimised as being for the benefit for all. The three discourses that emerged through political texts include: rehabilitating Scotland’s socio-economic context, protecting Scotland’s natural resources, and the foundation of an independent Scotland.

6.1.1 Solution to socio-economic crisis: rehabilitating Scotland

The low carbon transition is framed as a solution to socio-economic crises including the 2007/2008 global economic recession, long-term economic restructuring, and the uncertain future of North Sea oil and gas. The new low-carbon Scottish economy, referred to as a green economy, is defined by a turn away from reliance on global financial markets. With the opportunity to do things differently, the low carbon transition presents Scotland with a pathway through which to rehabilitate both society and the economy, and so reassert their decision-making power. The government seeks to instil widespread confidence in their agenda through this discourse:

As the world moves shakily into the economic recovery phase, I see investment in the green economy as a key to that general world recovery. Current economic difficulties should be a spur and not a hindrance to getting this green economic revolution right (First Minster, 2010a).
The Climate Change (Scotland) Act 2009 has set the legislative framework to establish a favourable environment to support long-term investments to develop a low carbon economy and this will be underpinned with measures that will give businesses and consumers strong incentives and the confidence to invest in the technologies skills and behaviours that a transition to a low carbon economy requires (Scottish Government, 2010: p.15).

This discourse frames Scotland’s economic crisis as a consequence of global mismanagement and devolution (i.e. the absence of power from the national/Scottish level). Under the terms of devolution in the UK, austerity measures that stemmed from the UK Government - as a response to the 2007/2008 recession - were implemented across the devolved nations including Scotland. Through this discourse, these political-economic policies are maligned by the SNP as an injustice, hampering Scotland’s economic potential. The transition is subsequently framed relative to Scotland’s constitutional independence, and a source of economic freedom from the forces of the UK Government. Through this discourse, the Scottish Government rationalise the low carbon transition, along with their broader political agenda, as an opportunity to end the asymmetrical distribution of power (i.e. levels) and their subjection to ideological, political (i.e. reserved and devolved matters), and economic domination (i.e. centralisation of benefits in London: Crown Estate). Rather the low carbon transition represents an opportunity to exert their influence – including their decision-making and ideological power - and secure economic independence via the maximisation of Scotland’s natural and societal assets:

That is the issue which will transcend politics in Scotland - is this Parliament to become a message boy for cuts determined elsewhere or can we gain the economic powers to change our circumstances? (First Minster, 2010a).

If we assume that means that over the next 12 to 15 years there will be a withdrawal in real terms in total of around £400 billion of public investment in the United Kingdom - about £40 billion in Scotland - I can see few other industries capable of replacing that demand in the economy, other than [the renewable] sector and the offshore wind renewable sector in particular (First Minster, 2010d).

This discourse targets the better exploitation of Scotland’s vast natural and human resources. The objective of transitioning is embodied by the dual electrification of sectors and decarbonisation of Scotland’s energy production. Focusing support on the growth and innovation of the energy sector reflects a recognition that Scotland could
provide a global lead on renewables which in turn supports economic growth and greater independence:

*The large scale development of offshore wind represents the biggest opportunity for sustainable economic growth in Scotland for a generation. It is critical that Scotland exploits the opportunities being made available by the offshore wind industry. Harnessing just one third of our offshore renewable energy potential could meet Scotland’s electricity needs seven times over by 2050* (Scottish Government, 2010: p.47).

In addition to improving the national economy, this discourse stresses the micro-economic opportunities of the low-carbon economy creating empowerment across levels. In combination with technological innovation and decarbonisation of sectors, Scotland’s low carbon transition is characterised as contributing to reconstructing and upskilling the labour pool. In particular, the government recognises the significant transition required from the high-carbon oil and gas industry, but also the huge potential to transfer the skills and experience from the old offshore industry towards new North Sea developments (i.e. offshore wind). A broad concept running through this discourse is a ‘just transition’ that proposes how Scotland’s transition will be forward-looking and equitable, urging action to ensure both the economy and the working-class benefit from job opportunities and a reduction in fuel poverty. While the transition is framed as a fundamental shift in attention from short-term gain, toward a model of long-term sustainable prosperity, the central tenant remains GDP growth:

*We know more about the waters in the North Sea than virtually any offshore country does anywhere in the world and that is a tremendous expertise* (First Minster, 2010b).

*Scotland needs a workforce able to exploit the opportunities of the global low carbon economy: the right skills, in the right places, at the right time and in the right numbers* (First Minster, 2010d).

Through this discourse, the Scottish Government argues that the low carbon transition is a remedy to national and local economic concerns, a source of empowerment across levels. Constituting technological, political, and societal innovations - primarily relating to the energy sector - Scotland’s transition is framed through this discourse as one that simultaneously improves the national economy and the quality of life for the people of Scotland. Realising the growth potential of this new green industrial revolution is thus the ultimate goal for the Scottish Government.
6.1.2 Environmental crisis: protecting Scotland’s resources

Within the environmental crisis discourse, the low carbon transition is advanced as an inevitability. Reference to the destructive consequence of climate change is prominent throughout political texts, with this discourse stressing the global and national scale of the problem (i.e. extreme weather, resource depletion). There is an emphasis on Scotland’s legal and moral duty to act to mitigate and adapt to climate change, with the transition framed as the practical realisation of political commitments and GHG targets:

The Scottish Government takes the issue of climate change very seriously and has taken action to put Scotland on the transition to a low carbon and more resilient future (DEET, 2013b).

While the Scottish Government acknowledge that the climate crisis will disproportionately affect other countries, notably the global south, for Scotland, the threat to nature and the wider environment is of economic and social concern. The consequences of a changing climate are particularly alarming due to Scotland’s economic reliance on its natural resources, such as fishing and tourism. Expediting Scotland’s transition to a low carbon economy as a response to environmental threats is, therefore, a necessary step in securing long-term economic and social prosperity. This discourse reflects an ecological modernisation viewpoint whereby the Scottish Government contend that the economy will benefit from their support for environmental action:

Scotland’s rich and diverse environment is a national asset and a source of competitive advantage for Scotland. As a nation we trade on its quality, so its continuing health and improvement are vital to sustainable economic growth, and the effective use of sustainable raw materials and natural resources all the more important. Many of Scotland’s economic growth sectors such as tourism, agriculture and the food and drink sectors depending on our high quality air, land and water. It is important, therefore, that the Scottish Government and wider public sector take action to conserve and enhance Scotland’s environment, supporting these critical sectors in the transition to a low carbon economy and ensuring sustainable economic growth (Scottish Government, 2010: p.27).

Notions of social (climate) justice run throughout this discourse. Scotland’s reliance on its vast natural resources embodies not only economic priorities, as evidenced by the economic discourse above, but also socio-cultural dimensions of the natural
environment. That is to say, whilst remarking on the benefits afforded by the transition for industries that are reliant on functioning ecosystems (i.e. fishing, logging, and whiskey), the government points to the moral duty to protect the rights of the people of Scotland to a healthy environment. The government seeks to mobilise the concept of social justice to establish support of a broad range of actors behind their transition agenda:

_We are also pioneering a specific climate justice approach, which puts people and human rights at the heart of our action on climate change and in supporting fair and sustainable global development_ (First Minster, 2015a).

The callowness of the climate change aspects of Scotland’s transition is revealed through the discourse concerning the rebranding of North Sea oil and gas reserves as ‘clean and green’. Contrary to assertions of the transition’s role in mitigating the effects of climate change for the benefit of people and the planet, the Scottish Government attempt to greenwash its oil and gas economy and emphasise the financial opportunities stemming from continued and maximised hydrocarbon extraction. In part, continued hydrocarbon reliance is rationalised because of infrastructure restrictions, whereby the electricity grid is not capable of facilitating large quantities of renewable energy, the primary tool for decarbonising the Scottish economy. This discourse is indicative of the dominance of the hydrocarbon sector and its capacity to steer the political agenda. Focus is turned from economic profiteering and the detrimental consequence of maximising gas reserves towards apparent concern for society and the environment (an exertion of non-decision-making and ideological power). The financial imperative of licensing hydrocarbon fields, however, governs this line of articulation and stands in stark contrast to political declarations regarding the fault and consequence of climate change:

_A further, and major, opportunity lies in anticipating the changes that the low carbon transition will bring for the downstream petrochemical industry and related chemical and pharmaceutical sectors and their supply chains. Finding new ways to ensure that value can continue to be captured from remaining oil and gas reserves without creating emissions may seem a major challenge but it can develop into a major economic opportunity […] [by aligning] the industry’s positioning with Scotland’s ‘clean, green’ brand and to make products that will improve the reputation of the chemicals industry among the public_ (Scottish Government, 2010: p.50).
This discourse is focused on framing the low carbon transition as an environmental and human necessity. The Scottish Government seeks to quiesce environmental concerns and characterise itself as driven by matters of environmental and social justice, acting to protect the natural environment. The ecological modernisation underpinning of much of this discourse, however, reflects its deceptive intent. In reality this discourse provides a greenwashing of Scotland’s continued reliance on North Sea hydrocarbon stores.

6.1.3 The foundation of an independent Scotland

The low carbon economy is part of a constitutional transition for Scotland. Interwoven throughout, and indeed underpinning the other discourses, is the desire for Scottish independence. Through a dualistic independent Scotland discourse, the low carbon transition is framed as a key enabler of Scottish independence\(^{26}\), and independence is framed as a pre-requisite of Scotland’s transition. It is both capable of and necessary for reclaiming power at the national and sub-national level. In particular, when free from their current devolution settlement (downward forcing of decision-making power from Westminster), growth and innovation related to renewable energy developments and the retention of socio-economic benefits within Scotland will foster greater fiscal and social resilience. From the perspective of this discourse, the low-carbon transition is a resolution to Scotland’s enduring constitutional crisis:

> For Scotland to achieve its full economic potential, it must have greater access to the economic levers of an independent country. This would not only enable us to better support the Scottish economy in times of uncertainty through targeted policies which best reflect our distinct needs and challenges, but also allow us to put in place policies which help to deliver sustainable economic growth when conditions are more sustainable...There are three clear areas of opportunity for Scotland which give me cause for optimism. The growth of new markets and international trade, the importance of innovation and the development of our key sectors, and the movement toward a low carbon economy (FSG, 2010a).

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\(^{26}\) Scottish independence is the political movement for Scotland to become a sovereign state, independent from the United Kingdom including Westminster.
This discourse is principally aimed at establishing the low carbon transition as an opportunity to remedy the insufficient distribution of economic and social benefits accrued from Scotland’s natural resources. The Scottish Government draws attention to the centralisation of financial benefits and political remunerations (e.g. meeting renewable targets) gained from Scotland’s resources within London, framing Westminster as a thief, unjustly taking from the people of Scotland. Subsequently, the potential to decentralise the benefits of a low carbon transition across is employed as a rationale for supporting independence:

*We stand at the threshold of another energy revolution, in renewables, and we must ensure that the mistakes of the past, when the takings from North Sea Oil and Gas were siphoned off elsewhere are not repeated* (First Minster, 2010a).

*The only organisation that currently directly benefits from the use of resources on land, the sea, the waves and the winds is The Crown Estate. Now we’ve worked very well as a government with the Crown Estate and we intend to continue to do so. But it seems to me self-evident that the revenues from The Crown Estate should flow to the Scottish Government, to the Scottish Parliament, to the Scottish people as an endowment, as opposed to the Treasury* (First Minster, 2010c).

Beyond the economic just-ness of regaining sovereignty to Scotland’s natural assets, this discourse stresses the opportunity for community and social justice, embodied by the substantial wind, wave, and tidal resources concentrated around the highlands and islands. As supported within both solution discourses above, renewable energy is central to Scotland’s transition agenda. Whilst repeatedly referring to the economic value of these resources, the Scottish Government stresses that their dispersed nature requires a corresponding dispersion of benefits. The socio-economic (microeconomic) opportunities of the low carbon transition are intertwined with political opportunities and challenges. This discourse reflects the political ambition to ensuring that those greatest affected – Scotland and its peoples- are benefactors:

*Unlike the discovery of the New World of America, this New World of [renewable] energy will be gained not by force and conquest but by innovation and ingenuity* (First Minster, 2010c).

*The seas and the seabed around us are hugely important - both socially and economically - to our islands. By implementing the measures contained in Empowering Scotland's Island Communities [report] we can maximise the opportunities presented by fisheries*
and aquaculture, and realise the full potential of marine renewables, while protecting our pristine environment (First Minster, 2014b).

This discourse dominates the Government’s articulation of the transition in the run up to both the 2014 independence, and 2016 EU referendum. The UK Governments political ambitions (i.e. supportive of nuclear energy) and actions (i.e. programme of austerity) are framed as a limitation to Scotland’s low carbon transition. Therefore, the opportunities that stem from transition, founded on Scotland’s human and natural resources, and governed by the Scottish Government, are used to justify the need for a political departure from the UK Government. While the 2014 referendum returned a vote against Scottish independence27, and due to the EU referendum returning a vote to leave the EU28, the government stress the capabilities of an independent low-carbon Scotland to be financially, politically, and socially better off. More specifically, this is clear evidence of the SNPs independence agenda that is inherently linked to re-joining the EU following the Brexit referendum:

_I am disappointed that my colleagues and I were not able to persuade you […] in the months ahead, I want us to focus less on what we disagree on and much more on finding the common ground between us [including renewable energy] as we consider how to drive the prosperity and competitiveness of our country_ (First Minster, 2014c).

_Scotland voted overwhelmingly to stay in the EU and the Scottish Government has a democratic responsibility to protect Scotland’s position in Europe. We have a duty to provide as much reassurance and certainty as possible in these circumstances […] Recent UK Government decisions, actions and, sadly, inactions have resulted in considerable change and uncertainty for the energy industry in Scotland. The EU referendum result has added immeasurably to that uncertainty_ (Cabinet, 2016a).

Reflective of Scotland’s complex and conflict-ridden relationship with the UK Government, this discourse provides unambiguous support for constitutional reform

27 The Scottish independence vote (IndyRef) took place on Thursday 18th September 2014. The referendum question was, “Should Scotland be an independent country?” The “No” side won with 2,001,926 (55.3%) voting against independence and 1,617,989 (44.7%) voting in favour. The turnout of 84.6%.

28 The UK’s referendum on EU on membership took place on Thursday 23rd June 2016. The referendum question posed was “Should the United Kingdom remain a member of the European Union or leave the European Union?”. The UK voted to leave (52%: 17,410,072), opposed to remain (48%: 16,141,241). On a national basis: Scotland voted 62% to 38% remain in the EU.
and independence. The government mobilise the low carbon transition agenda around Scotland’s constitutional crisis, subsequently framing the transition as both a foundational programme upon which Scotland can be independent (i.e. energy security), but also indicative of the need for independence (i.e. sovereignty).

6.1.4 Reflecting on the Scottish Governments low-carbon economy discourses

Between 2010-2016 the Scottish low carbon transition is marked primarily by economic and ideological based discourses. The Scottish government seek to organise the country in a manner that disentangles and solves the interrelated and systemic socio-economic, environmental, and political challenges the country is confronted with. The opportunity arising from the sovereign control of resources underpins the transition and forms a central component of the government’s agenda. Hence, whilst the government seeks to rationalise the transition through discourses that reflect social and environmental justice ideals, the primary purpose is to bolster calls for independence through economic growth. Recognising the Scottish Governments desire to foster a sovereign energy-based transition, the second focus of this chapter questions the role of MSP in realising this.

6.2 The role of MSP

With a significant marine area, indeed about six times as much sea as land (Marine Atlas, 2011), the development and implementation of MSP in Scotland is potentially momentous, and the realisation of the low carbon transition is equally significant. To understand the government’s intention for MSP, and to fulfil the second objective of this thesis, the chapter moves to explain the safeguarding of Scotland’s resources discourse that emerged from political texts.

6.2.1 Safeguarding Scotland’s resources

For the Scottish Government, MSP marks the start of a new era of Scotland’s maritime relationship, providing a mechanism through which to manage and best exploit Scotland’s vast marine assets. Marine Scotland, and by extension MSP and subsequent
marine plans, are thus framed as guardians to these resources, capable of unlocking their potential for generations to come:

*Marine Scotland is the guardian of the marine vision of ‘clean, healthy, safe, productive, biologically diverse marine and coastal environments, managed to meet the long-term needs of people and nature* (Marine Scotland, 2011).

The government pursues this framing through a discourse of *safeguarding Scotland’s resources* that reflects the ideals of managing Scotland’s marine resources for the cultural, socio-economic, environmental, and political benefit of Scotland. MSP is framed as capable of redistributing the power to decide towards Scotland, thus in the best interest of Scotland’s people and natural environment. At the time of developing the statutory marine planning framework, and because of the Scottish Independence referendum, Lord Smith of Kelvin was commissioned to work with the Scottish Parliament to agree on new powers within Scotland’s devolution settlement. The Smith Commission (2014), as it is more commonly referred to, advocated for a more autonomous parliament, reforms to inter-governmental working, devolution from the Scottish Parliament, parliamentary and independent oversight, and greater public awareness. The significance of this report, in particular the autonomy of the Scottish Parliament and responsibility for managing the Crown Estate, are reflected throughout the political texts. As a consequence, the safeguarding Scotland’s resources discourse is principally aimed at articulating the government’s ambition to achieve sovereignty (greater decision-making power) over Scotland’s marine resources through MSP:

*Scotland’s seas are fundamental to our way of life. They are a vast and vital natural resource which provide energy, food and recreation. We must protect and enhance our marine environment so that it remains a prized asset for future generations. This government has worked hard to introduce marine planning and the National Marine Plan will help achieve the balance needed for sustainable growth. Scotland’s people should manage Scotland’s resources* (DEET, 2013c).

The opportunity and indeed need to decentralise decision-making from Westminster is likewise echoed at a regional scale. The Highlands and Islands areas are renowned for their natural beauty, representing a distinctive component of Scottish national identity. What’s more, they are home to, and provide access to, significant resources including renewable energy (e.g. tidal and wave around Orkney), and North Sea oil
and gas fields, particularly from the Shetland Islands. The socio-economic benefits of these resources have, however, often not been retained by the Highlands and Islands communities. In recognition of this injustice, and responding to increasing social pressures, the Scottish Government established a new ministerial working group to look at further autonomy and empowerment for island communities: the Lerwick Declaration (Scottish Government, 2014). The capacity for increased decision-making for islanders was yet again framed as possible within an independent Scotland. Whilst Scotland voted to remain part of the UK, the subsequent Smith Commission recommended devolution of decision-making from Scottish Parliament to local authorities, a further transfer of power to local/regional scale. Thus, guided by political ideology, Smith Commissions’ recommendations, and the principle of subsidiarity—whereby competency is retained at the most appropriate local level - the government frame their tiered approach to MSP as a mechanism through which the Highlands and Islands will benefit from their resources:

*The Scottish Government has committed to […] ensure the special needs of island communities have a stronger voice and representation [which includes the] delegation of statutory regional marine planning for the Island areas (to 12 nautical miles) to local Marine Planning Partnerships, with the Islands Councils playing a lead role […] We are determined to work with the islands communities to unleash that potential and to create a sustainable and prosperous future. By doing so, we will honour the principles of subsidiarity and local decision-making at the heart of the Lerwick Declaration. And even more importantly, we will help to build wealthier and fairer island communities, as part of a wealthier and fairer Scotland* (First Minster, 2014b).

Sovereignty and subsidiarity equally dominate the government’s articulation of MSP’s role in facilitating Scotland’s low carbon transition. Whilst acknowledging the varying global consequences of climate change, the government emphasises Scotland’s acute vulnerability to, among other effects, changing weather patterns and species distributional shifts on key industries including whiskey and fisheries. MSP is to be a vehicle through which Scotland can best, and indeed independently, utilise the marine area. In particular, this discourse reflects how the exploitation of renewable energy, as part of the low carbon transition, is as much if not more a matter of political opportunity and resource management, as it is a climate objective:
Reducing Scotland’s emissions can, in part, be achieved by harnessing Scotland’s renewable energy potential including wind, wave and tidal energy. The Scottish Government has set ambitious emissions targets and is supporting the development of renewable energy in Scottish waters [...] there may also be benefits beyond the generation of power and consequent reduction in CO2 emissions, for example, some developments could become refuges from other human activities such as fishing (Marine Scotland, 2011).

The safeguarding of Scotland’s resources discourse is an extension to the government’s ambitions for independence, providing a vision of what devolved sovereignty would mean in practice. MSP and its role in facilitating the transition are framed, both before and after the independence referendum, as a practical solution to the socio-economic, environmental, and constitutional crisis facing Scotland.

6.3 Conclusion

The SNP Government reflect their political ideology through opportunities arising from both the low carbon transition and MSP. Under their devolution settlement, the Scottish Government can shape various components of the low carbon transition and MSP in addition to the UK Government’s agenda. Analysis of political texts is evidence to this whereby the Scottish Government supplement the rationalisation of the transition and MSP as a solution to multiple crises, in two keyways. First, the socio-economic and environmental capacity of the transition is strongly aligned to Scotland’s reliance on natural resources The SNP Government thus emphasise both macro- and micro economic risks of not acting, and opportunities arising from the transition. Second, with the primary aim of regaining sovereignty over natural resources, the low carbon transition is both a foundation upon which an independent Scotland can be built, as well as a catalyst for independence whereby the benefits of the resources will be held within and felt by Scotland. The low carbon transition is, therefore, occupied by the SNP’s political ideology and commitments to not only decentralisation of power from Westminster to Holyrood, but also onto the Highlands and Islands. MSP is subsequently framed as a tool for realising this socio-economic and constitutional potential of the transition thus providing a pathway through which Scotland can be independent of the UK. These discourses reveal the exertion and consequence of both obvious (e.g. decision-making) and subvert power (e.g. non-decision-making, ideological) that subsequently established the setting within which national and
regional MSP initiatives operated and the object of transitioning functioned, whether to facilitate or obstruct knowledge-sharing. The realisation of the low carbon economy through Scottish MSP initiatives within this context is the subject of the next chapter.
Chapter 7 Stakeholder perspectives on national and regional MSP in Scotland

7.0 Introduction

This chapter addresses the third objective of this study, establishing Scottish stakeholders’ perspectives on how the transition to a low carbon economy functioned as an object and was eventually realised through MSP. This chapter employs the theoretical framework (Chapter 2) to analyse planning documents and interview transcripts to assess the Scottish National Marine Plan (SNMP) and Pentland Firth and Orkney Waters (PFOW) Pilot Marine Plan participatory processes. In seeking to understand whether the objective of transitioning enabled constructive or obstructive collaboration (functioning either as a boundary or pseudo-boundary object within MSP initiatives), this chapter first reflects on the communities and boundaries that defined the participatory process, and then considers how the object functioned.

Analysis of interviews reveals how notions of identity and ambitions for Scottish independence underpinned both national and regional processes and outcome. Whilst interviewees were generally content that they could share and assess their interests, the capacity to effect change through the transformation of knowledge was constrained. Stakeholders with political capital engaged with regulators and planners outside of the established MSP participatory process to form policy for their sector. Through exclusionary practices, regulators and selective stakeholders developed a joint understanding to overcome the negative consequences of MSP. Such exclusionary processes were indicative of a lack of broader constructive cooperation occurring across communities. A particular focus on the inclusion of energy-based knowledge was reflective of the Scottish Government’s ambition to utilise MSP to facilitate and rationalise Scottish independence. Regional MSP within the Pentland Firth and Orkney area was similarly affected by inequalities in political capital between communities. Ultimately, however, the path-dependency of the MSP and knowledge within it was such that the objective of transitioning functioned to create a pseudo-transformation of policies.
7.1 Distinguishing communities and their boundaries within Scottish MSP

Scotland’s marine area is home to a diverse range of both species and, and human interests that shape and effect it. MSP, in turn, works across these highly complex ecological, social, economic, and institutional boundaries with the aim of sustainably managing the increasing, and often conflicting, demands on the seas (NMP, 2015). At both the national and regional scale, MSP processes must be considered a novel and contested collaboration between communities that are motivated by different interests (e.g. tourism, energy, conservation) but who are ultimately dependent on the actions of others. For example, fishers access to marine space is dependent on alternative uses of the same area such as offshore wind arrays, which is itself dependent on support from the government. Yet it is wrong to make assumptions about the boundaries that exist within MSP and to do so would erroneously simplify how MSP functions in practice. This point is evidenced by the multifarious communities identified through the analysis of Scottish interviews. The distinction and self-identification of communities on the basis of interest in the marine environment, geography, and agency (decision and non-decision-making power) reveals fundamental inequalities (e.g. induced/resource related power) and the contested nature of MSP in Scotland. Consideration of these boundaries is a necessary point of introduction to exploring how the process enables the transition to a low carbon economy through the boundary object lens.

7.1.1 Boundaries of knowledge and interest

Several distinct communities, traversing both national and regional scales, were identified based on interviewees’ interest in, and knowledge of, the marine area. When reflecting on their motivation for engaging in MSP, interviewees identified as members of interest-based communities including fisheries, aquaculture, conservation, ports, and harbours. These interests, and the corresponding access to or conservation of marine space, was at stake within the participatory process. In this sense, knowledge was localised around stakeholder interests, and embedded and invested in their use of the marine area. Demarcation of and self-identification within these communities’
points to pragmatic boundary within the participatory process that necessitates the transformation of domain-specific knowledge:

You have Scottish Environment Link and others like RSPB representing the environmental NGO interests […] and then it’s the same with offshore wind, aquaculture, and people like us you know other local community groups, and whoever feels inclined to be involved (In_25S).

As the following quotes show, the participatory process had to account for conflict between different visions for how MSP should affect stakeholders interests in the Scottish marine area:

It was quite challenging to bring in all of the different sectoral interests into this new governance structure (In_42S).

Interviewees in both national and regional MSP processes noted that the scale of interest differed, with the economic capacity of industry to benefit Scotland as a nation habitually overshadowing the potential socio-economic benefits accrued by coastal communities. For example, socio-economic interests were distinguished based on national and local scales whereby aquaculture and energy industries were prioritised based on gross domestic product (GDP) benefit, over concerns for investment in coastal communities. Those with national scale interest were therefore seen as capable of exerting their influence (non-decision-making power) to ensure political agenda was reflective of their aspirations. This conflict of scale is a knowledge boundary in the sense that it reflects a significant divergence in the values attributed to marine space by decision-makers, and the inequalities evidencing the lack of reciprocal knowledge sharing required to build common ground:

It’s not about comparing one mathematical relationship with another. It’s a much more complicated use of the sea. When the sea is calculated as an economic value, well if that one little area to that one fisherman is worth £1,000 in a month they will say, oh well it’s just £1,000 to that one person, we’re going to put this multi-million pound development here. Our economic arguments are fairly weak when we come up against them (In_38S).

These interest-based communities and the boundaries caused by them are indicative of the problematic nature of knowledge within Scottish MSP. These were pragmatic knowledge boundaries in the sense that multiple communities were in conflict over their right to use or manage marine space. Their knowledge is embedded and localised
around the various problems faced by these interest-based communities, making it
difficult to apply within the participatory process. The boundaries, and the polarisation
of interview participants, indicate the requirement for the transformation of knowledge
within MSP to resolve differences and create mutual understanding to facilitate
effective collaboration. Yet this transformation, or incorporation of interests, was
complicated by other boundaries that related to socioeconomic disparities, and the
agency of interviewees. Communication across these knowledge boundaries is thus
difficult.

7.1.2 Boundaries of identity: place-based communities

Analysis of interviews reveals how stakeholders had geographic conceptualisations of
communities and identified the significance of this within the MSP process. This sense
of identity manifested for the most part through the distinction of three geographically
based communities. First, the metropolitan south: representing the area from Inverness
to the Scottish border, and England but more specifically London; second, the Highlands:
defined by interviewees as land north of Inverness; and third the Islands: themselves separated into the Western Isles, Orkney Islands, and the Shetlands were
distinguished based on their unique economic, environmental, social, and
constitutional characteristics (Figure 7.1). Knowledge of the marine environment was
thus localised around matters of identity, and indicative of scales of influence wherein
those in the metropolitan south were most powerful.

In its broadest sense, the distinction of place-based communities reflected matters of
Scottish national identity. Whilst Scotland’s devolution settlement is such that there
was a requirement for conformity between marine plans, it was clear from interview
transcripts that such legislative path-dependency created significant tensions:
pragmatic and identity boundary. Antagonism between the Scottish and English
systems was seen to be not only illogical but also problematic due to the clear need to
collaborate across the geopolitical borders:

*It seems as if, if England have done something, we have to do it
different, or give it a different name, it is pathetic. It seems like a
case of well let’s just call it something different, put a Scottish Flag
on it […] People just need to knock their heads together, but when
politics come into it, common sense goes out the window (In_37S).*
Figure 7.1 Place-based communities across Scotland
Scotland’s marine economy varies from coast to coast, the west dominated by aquaculture, and the north and east coast home to significant energy developments (e.g. North Sea gas; renewables) and sea fisheries (Figure 7.2).

Figure 7.2 Diversity of the marine economy around Scotland's coasts (Source: Marine Scotland, 2015b)
Socio-economic benefits accrued from these vast natural resources were, however, not distributed equally. Those in the metropolitan south disproportionately profited from the natural resources that came from the Highlands and Islands. The distinction of these place-based communities revealed systemic inequalities within the historically centralised decision-making processes:

*We have sat on Orkney and watched the gas being flared off at the oil terminal for 40 years. We pay the highest petrol and diesel up here and have the highest level of fuel poverty of Scotland, yet the pipelines come in here carrying the crude oil. It's never benefited us being the facilitator of these things* (In_38S).

As the following quote shows, the matter and consequence of identity were not restricted to marine governance, but MSP was one part of a larger independence movement:

*After the independence referendum the Western Isles, Orkney Isles and the Shetlands, we got together and began considering how we wanted to manage and make decisions about our own seas. There was a real push to move away from centralised decision making happening in Westminster or Holyrood, and a movement towards the island authorities being able to make more decisions for themselves* (In_42S).

The geographic demarcation of communities revealed that what was at stake, within both planning processes, related to more than the spatial demarcation or use and management of Scottish seas. Rather, the identity – national and regional - and ability of interviewees to localise marine benefits (exerting their decision and non-decision-making power) was also at stake. The distinction of intra-national scale power differentials (i.e. Edinburgh/metropolitan south within Scotland Vs elsewhere) highlights the constitutional and economic complexity of the asymmetrical distribution of powers within Scotland. The costs of MSP - including the transformation of knowledge and practice - were, therefore, understood to be both potentially beneficial (i.e. keeping revenue in Scotland, or the Islands) and negative (i.e. the dispersion of decision-making power, further centralisation of power within Edinburgh). Manifestation of these boundaries of identity raises questions of the capacity and willingness of interview participants to accept these costs. Are Scottish stakeholders accepting of the reorientation of responsibility and control (thick
ideological dominance) or merely resigned to the asymmetrical system (thin ideological dominance)?

7.1.3 Organisational boundaries: resource availability and political capital

Access to resources (induced power) and decision-makers (non-decision-making power) generated a significant organisational boundary within the MSP process that negatively the ability of stakeholders to transform knowledge. The uncertainty with and long drawn-out nature of the planning process - from the inception of MSP in Scotland through to the delivery of the plans - was commonly cited as negatively separating stakeholders on the basis of their capacity to engage. The distinction of these communities, identified as resource limited or resource rich, exposed MSP as a process of privilege, belonging to those with the greatest resource power. Stakeholders with the greatest access to resource were able to maintain their engagement throughout the length of the process, and will most likely continue to dominate future planning processes:

*We are lucky here we can take a national view on things like this and while we may not be using the plan itself, well most fisheries groups or organisations there are 3 or 4 people in them. So it is firefighting, its putting out the things you can, and aiming your time at making sure the worst things don’t happen (In_31S).*

For interviewees, the consequence of a resource depleted national and local government was particularly problematic. The systemic under-resourcing of the public sector, tracing back to austerity measures brought in following the 2007/2008 recession, were perceived as negatively influencing MSP. As such, interview participants frequently described the national and regional processes as a fad that no longer has sufficient political buy-in. In particular, interviewees noted that those carrying out the MSP process (i.e. Marine Scotland and local councils) were unprepared to cope with the magnitude of the task asked of them. The exertion of decision-making power is, therefore, inherently linked to the resource capacity (power) of stakeholders. Those responsible for marine planning were not capable of facilitating the creation of a common understanding of the relevant marine areas:
You're asking people who have never been trained in these things, to do the job that was out of their comfort zone, and with limited resources [...] beyond it being the wrong people for the wrong job, they are not being properly resourced either (In_50S).

Those who had engaged in both Scottish and English MSP processes drew a comparison on the issue of resource availability. Primarily, the regionalised nature of MSP in Scotland was noted as particularly resource intensive and concerning. Emphasis placed on the lack of resources within Marine Scotland was said to be reflective of a lack of desire from the government to develop MSP as a process to transform (knowledge of) the use and management of the marine area:

*I think there's a really interesting contrast there with the Scottish process which has these marine planning partnerships. I think that's a different concept than how the MMO has a central organisation with regional offices [...] I don't necessarily think Marine Scotland were as well-resourced as the English ones, and actually both were not fantastically resourced. I mean if you can judge a meeting like snacks it was bad coffee or tap water only (In_32S).*

*I can’t see [regional marine plans] happening for the bulk of Scotland. We have Shetland, we will have Clyde, and Orkney will get up and running, but the rest will never happen because the money has gone out of it, the Scottish Government interest has completely gone out of it (In_37S).*

The scarcity of resources within government was most obvious at the regional scale whereby, despite interviewees’ interest, already under-resourced and time-limited local-government officials described an inability to sustain their involvement in regional marine planning to any great effect. The absence of sufficient resources created and will most likely continue to limit the capacity of stakeholders to overcome the pragmatic boundaries within MSP in Scotland:

*All sorts were promised when it was a nice rich buoyant economy, and the of course it isn’t now, the money is gone, the Scottish Government’s interest is gone. I don’t see how the regional side is never going to happen. I mean we should be really fully involved in the process, we should be taking this forward, we should be cultivating it and growing it and being involved more, but how much we can get involved is becoming less and less...we just don’t have the capacity or resources. If you think we have something like 4,900km of coastline and there is one of me, that’s not clever (In_37S).*
Some stakeholders were distinguished as being politically persuasive. These stakeholders were particularly capable of translating their knowledge, due to their success at exerting influence and controlling the political agenda (non-decision-making power):

Undoubtedly there are some significant users of the marine environment that have influence over it, you know so fisheries, aquaculture […] while there are other significant economic drivers, they have less political recognition like recreation it is a very large economic driver but doesn’t have the same political influence as say the fishing industry or the aquaculture industries have (In_14S).

The distinction of this politically dominant community resonated with interviewees’ concerns regarding resource capacity, whereby those who were resource rich were seen to have significant lobbying power, and so were capable of determining the outcome of the MSP process. Exertion of their dominant agenda-setting power enabled such stakeholders to manipulate the government’s decision-making power to their advantage. This community was, therefore, seen as having the greatest ability to determine legislation and policy. However, there was a distinction made between those using their political force for environmental and social interests that were seen as a political adversary, holding government to account (e.g. RSPB) versus economic interests, whose demands were seen by some to be illegitimately indulged by decision-makers (e.g. renewable energy, aquaculture). The significance of the political favouritism afforded to economically advantaged members was typified by the inclusion of a growth target for aquaculture within the marine plan that was created by the aquaculture industry rather than by the government. A point made by a number of interviewees:

The other main one being the inclusion of the aquaculture industries own growth targets and objectives for aquaculture development […] it shows that it all seems to have more to do with economic issues, political will and the fishing lobby (In_30S).

And confirmed by government representatives:

So the aquaculture target, well there is a target to double the growth of the industry and that's actually a reflection of an industry target, as opposed to a government target (In_26S).

The existence and ability of this community to control the outcome of the planning process expose the consequence of inequalities, both resource and agenda-setting, that
underpinned national and regional MSP. Moreover, they evidence a significant pragmatic barrier to the transformation of Scottish marine governance. The capacity to create new knowledge and resolve the negative consequences of marine planning (e.g. privatisation of space) was thought to be greater outside of the MSP process:

*We were involved right from the start with the bill going through Parliament, we actually had quite a bit of influence through the legislative process and getting the wording in there that we want or we think is a benefit. Maybe it’s the case that there is more opportunity at that stage here than there is in this quite bureaucratic process of producing this plan (In_36S).*

Organisational boundaries came to prominence with regard to the economic and political capital of stakeholders. Scottish MSP was not an equal process of collaboration. The ability to influence the marine plan, and so resolve the negative consequences of MSP was reserved for those with the greatest capital. The significance of this boundary is evidenced further by interviewees perceived capacity to most effectively influence marine plans through processes that were external to MSP. Knowledge was inherently invested in these external practices, and it was difficult to effect change. Therefore, these processes, and their influence on them, were most accessible to those with the greatest capital. Collaboration across these boundaries was thus problematic due to the inequalities of power between communities.

### 7.1.4 Summary of the communities

Interest, identity, political capital, and resource-based communities reveal the pragmatic knowledge and other organisational boundaries that polarised stakeholders within the participatory processes, and across which the principle of transitioning to a low carbon economy had to function. The cross-boundary challenge was to resolve the negative consequences of sharing and assessing knowledge that was localised, embedded, and invested-in-practice within these communities and at stake between the communities. The salience of these boundaries emerged through the exploration of how the object of transitioning functioned between communities.
7.2 The transition to a low carbon economy between communities

To understand how the transition functioned as a boundary or pseudo-boundary object to enable constructive or obstructive collaboration, it is necessary to first consider its features: interpretation, need, and dynamism. Analysis of interviews did not begin with the assumption that interview participants engaged in either the national or regional processes with the specific aim of achieving the low carbon transition through MSP. Regardless of their (dis)interest, interviewees were acutely aware of the significance of the low carbon transition, namely the clear need to mitigate against the causes of climate change and in doing so secure energy independence. Despite this common need, interviewees held distinct, and at times conflicting, interpretations of the transition to a low carbon economy. For example, while some interviewees saw the low carbon transition as a morally required response to climate change (arisen out of a need for action), or reflective of Scotland’s international commitments, others emphasised the economic longevity or independence that could be secured. The transition to a low carbon economy thus represented both tangible changes such as electrification of heat and transport systems, protection of blue carbon ecosystems (e.g. seagrass beds), adapting to shifting fisheries; and intangible notions of independence.

The low-carbon transition was a recognisable objective between the heterogeneous communities:

The problem with things like these high-level policies [such as the transition] is they are very often drafted in such a way that they can in different things to different sectors and different points of view (In_45S).

As a common language between interview participants, the principle of transitioning was considered to be political jargon. Each participant identified within the principle various aspects that related to their interests and use of marine space either positively (e.g. climate change mitigation), or negatively (e.g. displacement of activities). Yet, such was the abstract nature of what the transition could be, and capacity to interpret it in a way that was suitable to the user, that concerns were voiced regarding its misappropriation and solecistic use by powerful actors. For example, the principle of transitioning was criticised as a jargonistic concept, solecistically manipulated by the government to greenwash and rationalise their unsustainable energy agenda,
particularly the continued extraction of North sea hydrocarbon reserves alongside the significant expansion of offshore energy developments.

The low carbon transition within the national marine plan was, therefore, dependent on the political ambition:

*The Scottish government have this low carbon ambition, and renewable energy objectives to promote that, but at the same time there are plans to maximize oil and gas, the resource use of the North Sea, well those two objectives just aren’t compatible. But it seems, the government, no matter how many times it’s raised, say yeah whatever, we can have both* (In_25S).

As the following quote indicates, the significance of political ambition in determining how the transition was to be realised was such that interviewees widely understood the objective to be exclusively focused on the expansion of offshore wind developments:

*The only low carbon economy stuff was offshore wind related, that’s the only sort of game in town* (In_24S).

The low carbon transition was considered a diverse and contested object(ive) that predominantly reflected government ambitions (interpretative flexibility, dynamic). Whilst various visions (interpretations) of the low carbon transition were described through interviews, the general perspective was that as an object(ive) it was being used to further an unsustainable energy agenda (i.e. maximising domestic hydrocarbon extraction) that was itself driven by the SNPs independence agenda (arisen need). To understand how the low carbon object functioned within Scottish MSP processes, and explore whether it facilitated the transformation of knowledge, the following sections examine stakeholder perspectives of the participatory processes. Due to the hierarchical nature of MSP in Scotland, the following analysis begins with stakeholder reflections on the SNMP stakeholder engagement and then moves to consider the regional PFOW process.

### 7.3 Working across boundaries: the national planning process

Analysis of interview transcripts revealed how the objective of transitioning functioned between communities within the national planning process. Interview participants explained their (in)ability to share, assess and learn within the
participatory process by first considering the purpose of the low carbon objective within the planning process and then reflecting on the perceived influences that created political and practical mismatches within the engagement process. Whilst outwardly the transition was rationalised and legitimised as necessary due to the effects of climate change, the realisation of the low carbon economy was indicative of government control. That is, contradictory elements of the transition in Scotland put into question the true interpretative flexibility and dynamism of the object within MSP. The following sections discuss these matters in more detail, reflecting on how they are linked and how the problematic nature of knowledge entrenched the boundaries between communities.

7.3.1 Low-carbon policies within the SNMP

Analysis of transcripts revealed how interviewees separated their perspectives on the SNMP and the transition: there were the policies within the plan, and then the process through which the plans were developed. A retrospective approach to how the SNMP facilitated the transition, thus how the object(ive) of transitioning functioned, emerged from the analysis of transcripts with interviewees explaining the success or failure of the national MSP process on the basis of the policies that materialised within the SNMP. As the following quote indicates, whilst interviewees were generally pleased with the participatory process there was a limited capability to transform policy:

We thought it was quite consultative, there was regular consultation sort of formally and informally and there was quite a lot of openness from the Scottish Government to take on ideas to discuss their ideas with other stakeholders not just ourselves […] It felt like more of a collaborative process for stakeholders […] but at the end of the day it was still consultation on things that were already drafted by the central government (In_30S).

Not everyone had such a positive perspective of the SNMP process. In addition to being inconsequential, engagement in the participatory process was resource intensive, further frustrating the ability of interviewees to adequately represent what was at stake for them:

What didn’t work well is that it took a very very long time. From the first discussions about the national implant to it coming out with the 2015 plan, it just took a long time (In_46S).
The consequence of these failings was, for interviewees, evidenced in the policies of the SNMP. The national plan was criticised for being a carbon contradiction due to the inconsistent objectives of fostering climate change mitigation and adaptation, and the maximisation of oil and gas reserves. Collectively political rhetoric (i.e. progressive governmentalities), and plan policies were said to serve the purpose of disguising continuation of neoliberal hegemony. Regardless of interviewees (dis)interest in the low carbon transition, it was widely understood that the principle arose within Scottish MSP from the legal duty to mitigate and adapt to climate change across all marine users:

[The low carbon transition] is one of the two main mandates of the Marines Scotland Act. So there is the need to mitigate and adapt to climate change, along with protecting and enhancing the environment (In_30S).

However, the low carbon objective was superfluous due to the plans support for the prolonged and maximised exploration and production of oil and gas reserves. The inclusion of such inherently contradictory policies was indicative of the failure of the national planning process to facilitate transformative change and reflected the purposeful greenwashing of the SNMP:

One of the bugbears we have with the National Marine plan is that it is contradictory in terms of transition to a low carbon economy. One of the general policies is mitigate and adapt to climate change, which applies at the outset to all projects and developments [but then] we have an oil and gas chapter for which the objective is to maximize exploration and recovery of oil and gas, which is contradictory to the overall ambition to mitigate that climate change and to transition to a low carbon economy (In_30S).

As the following quote shows, Government representatives did not agree with the notion that oil and gas policies were contradictory to the low carbon transition. Rather they argued that the plan reflected the sequential development of Scotland’s low carbon economy from fossil fuel-based to renewable-based energy systems:

Scotland's quite an obvious example [of the transition], you've got large scale oil and gas sector which will need to move to large scale decommissioning sector, which you would hope would one need to move to a large scale offshore renewable sector. These things are sequential to a certain extent. And it would be easy if they were just sequential, but there's a multitude of moving parts that are happening alongside each other […] we don't have the more centre
right parties that you find to be more in favour of nuclear or clean coal. Most of the parties north of the border are pretty well aligned, so the predominant political push is for wind as part of the low carbon economy and that's quite well stated with this administration and the previous ones (In_26S).

Key documents evidenced the Scottish government’s ambition to maintain oil and gas extraction:

*Oil and gas are set to remain a vital source of energy while we move towards a future based upon renewable energy and it is sensible to secure reserves domestically as far as possible for as long as they may be needed* (Marine Scotland, 2015b: p.66).

The diametrically opposed interpretations of low carbon policy - the government’s justification of maximising indigenous gas supplies versus broader stakeholder perspective of climate action through reducing reliance on fossil fuels - reflect the consequences of boundaries and the placement of power between communities. Determination of the transition and broader control of marine space were at stake within the SNMP process. Hence, at the intersection of these multiple interests the most powerful – decision, non-decision, and ideological dominance - dictated the outcome subsequently obfuscating the principle of the low carbon transition. More specifically, the obstructive nature of the low carbon objective (i.e. purposeful use) and problematic nature of knowledge was substantiated through the following themes of de-politicised engagement and the external context.

### 7.3.2 Stakeholder engagement: a process controlled by government

Although a legislative requirement, it was clear that the SNMP’s stakeholder engagement was tokenistic rather than transformative. As one eNGO representative remarked, collaboration, or the capacity to translate and transform knowledge, around the low carbon transition was managed. Despite the engagement process being viewed positively with an opportunity to translate concerns and interest, the dominant role and agency (decision-making power) of the Scottish Government’s ambition created a clear limitation. The development of the SNMP was not an equal partnership, rather it was driven by ambitions delivered through Marine Scotland:

*It’s a strange one, because the process was completely fine, we were able to provide our views and our thoughts […] but [Marine
Scotland] end up doing effectively what they want to do, and all they want to do is get some sort of plan there because they need to tick that box, you know it’s a requirement to have a plan (In_36S).

Beyond criticising the SNMP process for purposefully employing the objective of transitioning to greenwash hydrocarbon exploitation, as described above, the low carbon transition appears to have provided political cover for a range of other objectives such as independence. Specifically, the expansion of offshore wind and continued extraction of indigenous gas sources was understood to be a key component of the SNP’s ambitions for Scottish independence. As a civil servant who remarked, the independence agenda was discernible in the purpose and outcome of Scottish MSP:

*With an SNP government, well their ultimate political aim for Scotland is independence. I think there is an element of future-proofing for a future political set up, or a future political system where Scotland is no longer part of the UK. [Scottish Independence] was obviously one of the driving factors behind marine planning (In_48S).*

The political capture or Scottish Governments control (decision-making power) of the of the SNMP process and policy setting was clear. The role of the state was well understood due to Marine Scotland being a government directorate:

*Those in Marine Scotland, as civil servants, well they're paid to implement government policy. Their job is to fulfil the will of the government, they are politically driven. They have to be chameleons regardless of their own political point of view (In_50S).*

Engagement within stakeholder workshops was, therefore, ineffective. As a result of the political control of the SNMP process, the objective of transitioning functioned to provide a pseudo-transformation of the government agenda, and those who could exert their influence over the government. Therefore, whilst stakeholders felt the process allowed for the translation of interests, it was ineffectual at altering knowledge (policies) relating to the transition. Because knowledge (and control) of the transition was at stake, and given the inequalities and economic-imperative of controlling such decisions, how MSP was to facilitate the transition remained at the behest of the government. This was indicative of the path-dependent and invested nature of knowledge, and highlights the significance of the location of the aspects of power. As invited spaces (Gaventa 2003, 2006) stakeholder workshops were, to a majority of interviewees, a futile process that failed to resolve the negative consequences of MSP:
[The principle of transitioning] was there when they were starting and being clear to everybody who's engaging, and that this is what we're trying to work towards, well that's the hook for people getting engaged, showing to them that they are motivated to make the changes that people trying to get out of it [...] But I'm hugely sceptical of the bureaucracy in it, it's just a game. The Government said ok we're going to do this, so they've been lobbied by us or industry or anybody else to have a marine plan. They set up a whole process of consultation and set up all of these meetings and workshops, and it's just the process doesn't actually seem to change the outcomes (In_36S).

It was widely acknowledged, however, that some stakeholders did have the capacity to influence the SNMP. Interviewees described a tiered system of access to decision-makers across the Scottish government whereby those with economic significance or political capital were more capable of affecting change. Whilst many were invited to spaces of broad stakeholder engagement, those who could exert their non-decision-making power were engaged in closed spaces wherein decisions were made. The control of knowledge relating to the transition – and thus policy-reflected organisational boundaries within the SNMP process, namely interviewees political capital:

*It comes down to political will. The fossil fuel economy provides quite a big income for Scotland so this puts the government in a difficult position when they're looking to phase out such a high-income industry, and it's not something you can just do overnight [...] the same could be said of the fishing industry, it's a lucrative industry and it's a very loud lobby (In_30S).*

*Our Government doesn’t like to go head-to-head with the fishing industry because they're powerful and noisy. Well it is also aquaculture, and renewables, there are lots of different sectors involved in these things and some are more able to get the point across than others (In_45S).*

The advantageous consequence of this political capital (non-decision-making power) in overcoming the pragmatic boundaries within MSP is inherently tied to broader legislative processes. These other government-led processes are themselves underpinned, and for some undermined, by an exertion of hidden agenda-setting power (i.e. lobbying). Again, the distinction was made by stakeholders between legitimate versus illegitimate lobbying, such division was relative, but for the most part economic interests were marked as illegitimate. The significance of this external forcing is
typified by two eNGO representatives, whereby the capacity to influence the legislative landscape was important:

*I wonder whether there is more opportunity at that [legislative] stage than there is in this quite bureaucratic process of producing one of these marine plans. I mean of course, we got involved with the development of the plans, in the workshops etc., but sometimes somethings just come together through working with MP's and [Members of the Scottish Parliament], we can get them all corralled, and wanting the same thing, you can get quite significant gains from that in the bills and the amendments (In_36S).

Any system where conservation measures are implemented the legislation, it is deeply rooted in the politics, and that’s unavoidable. So really it is down to influencing it at all levels, particularly the political level and trying to get some political will for being more ambitious (In_30S).

An additional cause for bolstered engagement (invitation) of specific stakeholders was the lack of common understanding. Due to the novelty of MSP, shared knowledge was absent, yet as discussed, workshops failed to facilitate the transformation of knowledge between communities. Through supplementary meetings, a select few participants in the planning process were invited to transform domain-specific knowledge through the policy development process. The consequences of this uniquely privileged access to closed spaces were exemplified by a representative of the cabling industry:

*We definitely had more access than just about any other sector that I'm aware of […] We had a meeting in Scotland five days before it went to Parliament, I was there in the meeting actually writing policy on the fly. It would have been nice to have a bit longer however end result, because of that privileged access, we have a set of policies that we can all live with (In_15ES).*

Frustration at this variable access to decision-making was most obvious in discussions surrounding the inclusion of growth targets for the aquaculture sector. Whilst such aquaculture targets were not explicitly linked to the low carbon transition, for interviewees they reflected larger issues, namely the de-politicised nature of Scottish MSP:

*There is the 2020 target that was an industry target, but as soon as the government placed it into the national marine plan, to all intents and purposes it becomes a government target (In_45S).*
Government representatives, however, fervently defended the inclusion of such growth targets within the plan, arguing that it was publicly known to be an industry, not government ambition:

So if you look at the aquaculture target, that is a target to double the growth of the industry and that's actually a reflection of an industry target, it's not a government target, and it has been quite publicly stated that it is an industry target (In_26S).

The de-politicised nature of the participatory process was reflective of governance by the government: whereby rather than providing a collaborative and transformative management process, MSP was controlled by the government. It was widely understood that because Marine Scotland was a government directorate, the SNMP process was focused on delivering the SNP’s political agenda. The formation of Marine Scotland, and the implementation of MSP was thus indicative of revitalised centralisation of power in all its forms within government, an insincere transfer of power across scales. The direction of workshops and marine plan policies were limited by the government, with an invitation to participate serving to legitimise this dictation. The choreographed and tiered nature of the participatory process was, therefore, not unsurprising to stakeholders due to the knowledge and power invested in such government-led engagement, but equally worrying. For the most part then, Scottish stakeholders were resigned to the entrenchment of inequalities caused by MSP (thin ideological dominance). The political capture of both the low carbon transition and MSP processes reflect the path-dependent nature of knowledge that was explained through themes of context.

7.2.3 The external context of the SNMPs transition

Interviewees attributed the problems faced within the SNMP process to a number of interconnected contexts including the industrial and institutional legacy, and political context. The Scottish marine area was known to be densely populated with both static (e.g. energy, cables) and mobile (e.g. fisheries) industries. Therefore, the space with which to plan was limited. Moreover, the objective of transitioning did not exist within an institutional void and as such, the inability to transform knowledge and resolve negative consequences of the low carbon economy was explained by contextual
pressures. Within the SNMP process the low carbon transition was thus a product of path dependent knowledge and the historic exertion and location of power:

MSP isn't happening in a vacuum it's not like everything stopped until the marine plans come into place, everything is trundling on with whatever sort of legislation we have (In_24S).

The development of the national plan was challenging due to the legislative landscape. In addition to the influence of the SNP’s independence ambitions, the low carbon transition was reflective of higher-level government strategy including that established by Westminster (i.e. reserved matters: oil and gas) and by Holyrood including renewable energy targets. The location of decision-making power – past and present – is, therefore, fundamental. The path dependency of policy development and power created mismatches for effectively managing knowledge across the boundaries of communities:

It wasn't a bottom-up process of developing a plan, it wasn't like we've got to have a national marine plan what are your ideas from the outset. There was a bit of that, but at the end of the day, it was still consultation on things that were already drafted by the central government (In_30S).

It was clear that the transition and knowledge of it were invested in practice (in policy), and that the national plan process did little more than collate decisions made elsewhere:

The Crown Estate set out areas that they are willing to lease the seabed in, and that’s what drives [expansion of the renewable energy industry], so it’s not actually marine planning that's driving a lot of these decisions but it should be (In_45S).

The drive towards the low carbon economy, well, that is well on the road and that will happen and despite marine spatial planning that's going to happen (In_33S).

The nature of the transition as being invested-in-policy is evidenced within the national plan:

This Plan does not replace or remove existing regulatory regimes or legislative requirements. Rather it provides a consistent framework for their continued operation (Marine Scotland, 2015b: p.12).

Moreover, given the limitations of the first SNMP (e.g. political context, organisational boundaries), it was not anticipated that future national planning
processes would provide any greater capacity to transform marine governance. As a fisheries representative remarked, the capacity to iteratively reflect on and improve both the process and outcome of MSP was limited due to the political sensitivity of pointing out mistakes:

*On the Government side of things, there doesn’t seem to be a lot of value or benefit put on pointing out mistakes* (In_50S).

The consequence of industrial and political settings highlights the significance of the context within which the transition exists and the participatory process took place. These contextual issues are indicative of the exertion (past and present) of dominance and path-dependency of knowledge within the SNMP process and the interconnected organisational boundaries with regard to political capital. The capacity to transform knowledge within the SNMP process was inherently restricted.

### 7.2.4 Summary of collaboration in the national planning process

Whilst the national participatory process allowed for the translation of concerns and interests, organisational boundaries and external influences obfuscated how the object of transitioning functioned. The continuation of oil and gas extraction, along with an expansion of offshore wind were key components of the SNPs independence agenda, within which the low carbon economy was framed. As such, it was clear that the low carbon transition provided a new phrasing of the SNP’s wider political agenda, and was reflective of the consequences of the exertion and placement of power. Organisational boundaries - economic and political capital - facilitated the obstructive control of knowledge between communities, with invited spaces of participation serving to legitimise decision-making that was at the behest of hidden power. Consequently, governance of the marine area was largely unchanged, with the object of transitioning functioning to foster buy-in/legitimacy and the pseudo-transformation of knowledge. It is within this constrained national context that Scotland’s regional plans will be sequentially developed. The attention of this chapter now turns to the regional MSP process in the PFOW area.
7.4 Working across boundaries: the PFOW pilot process

Criticisms of the political and economic inertia driving the national plan were reiterated by interviewees who engaged in the PFOW pilot process. Analysis of interview transcripts revealed regionalised concerns identified by those within the national participatory process including: policies in the plan, the plan development process, and the future of regional marine planning. It is worth remembering that the purpose of the PFOW pilot was to test the planning policy framework in advance of Scotland’s statutory regional planning process. In seeking to test the partnership approach to MSP, the pilot process produced a plan that is a matter of material consideration in licencing and planning consents. As such the analysis here of the constructive or obstructive collaboration that occurred around the object of transitioning provides valuable insights for future regional plans.

7.4.1 Policies in the plan: re-applying political ambition

Similar to the national planning process, it is beneficial to understand the policies within the plan relating to the low carbon transition to examine and understand the process through which they came to be. As described above, interviewees held distinct interpretations of how the low carbon transition was to be achieved and the role of MSP in facilitating it. In general, the PFOW area was recognised for being home to strategic renewable energy resources including tidal and wave. It was clear that the development of these energy sources was a key component of the PFOW planning process:

The low carbon economy, and development of renewable energy specifically, was identified as a strategic priority and objective within the plan […] one of the key problems being faced is the need to decarbonise the production of electricity and therefore the thrust is, well this plan needs to support the development of the substantial renewable energy resources we have here (In_42S).

29 The plan will be used by the Marine Scotland Licensing Operations Team (MS-LOT) as a material consideration in the determination of marine licensing and consent applications; and planning guidance for both Highland and Orkney Islands Councils.
When reflecting on how the plan achieves the objectives of transitioning and climate change action, interviewees criticised the inclusion of policies supporting the oil and gas industry as contradictory:

*So the oil and gas policies, yes that is one the ones I always think sticks out as a little bit odd […] I was responsible for drafting that policy, and it was a particularly difficult one to draft […] It does seem like there's a contradiction (In_51S).*

The inclusion of such policies was, however, accepted by many to be a necessary contradiction. A contradiction because sustained hydrocarbon exploitation proliferates the effects of climate change but was required due to the socio-economic dependence on the industry, particularly in Orkney, and the obligation to conform to high-level objectives established within both the UKMPS and the SNMP. The location and effect of decision-making (power) regarding oil and gas policies are, therefore, rationalised and legitimised as a socio-economic necessity:

*In Orkney it is a priority because so much of their livelihoods depend on the [oil and gas] industry… and in terms of marine spatial planning you can’t just ignore it, it’s a relatively big industry that is already present in the area. To plan the area around Orkney, well you have to take into account, you can’t just ignore it, it has to be in there, and if you’re going to have a balanced approach of sustainable development that does have to be taken into account possibly in a slightly different way than it would in other areas (In_51S).*

Challenges in realising low carbon policies within the PFOW plan points to the negative consequence of boundaries within the pilot and between regional and national MSP processes. The reliance on marine-based jobs highlights the significance of access to the seas in the PFOW area that was, to an extent, at stake within the pilot process. The problematic nature of knowledge, namely path dependency and the investment in practice, helps to explain the challenges in overcoming the pragmatic and organisational boundaries between communities. These points are explained further through thematic discussions of the problems with the participatory process, and the movement towards statutory regional planning.
The PFOW process constituted four spheres of engagement that were reflective of organisational boundaries, namely political and economic capital. First, a core (closed) working group of three representatives from the Orkney Islands Council, the Highland Council, and Marine Scotland lead the development and deployment of the process. Second, an advisory group (closed-invite) – including the Harbour authority for Orkney, Harbour authority for Scrabster, Highlands and Islands Enterprise, SNH, SEPA, Historic Environment Scotland, and the Royal Yachting Association- helped to steer the process. The third space was formed of meetings between the core and advisory groups with additional sectoral interests (e.g. fisheries, energy) (closed-invited). The fourth and final space constituted invited workshops with the general public that were held in Thurso and Kirkwall. Engagement within these spaces was controlled, in other words inclusion in the core, advisory, and joint meetings was invitation-only. As the following quote from a representative within the core group shows, the decision to employ this structure of engagement, whereby stakeholders were selectively included and excluded at different stages, was rationalised as helping to reduce the potential for conflict and help streamline the new planning process which, the core group were themselves unsure about:

We were very cautious of the potential for conflict and the issue of how we are going to deliver something if it's going to be a complete free for all for everyone to get involved […] we felt at that advisory stage that was something that may really grind this project to a halt […] So we took the decision to keep it quite tight in terms of the steering of the process and then to do quite detailed stakeholder engagement individually with all the sectors there and have meetings with them […] We had concerns about how to keep it from becoming completely unwieldy at that stage when we were a stage in the development where we weren't even 100% clear what our own aspirations were and what the whole scope of it was (In_42S).

Interviewees within the advisory group praised the work of the core team. Whilst acknowledging that faced with the seemingly impossible task of integrating at times conflicting marine uses, they worked well, providing opportunities for constructive collaboration:

It was clear that this small team got on really well […] they clearly had worked hard which was really good. I liked the fact that they got the key consultees in, not just at the formal stages, but trying to
work collaboratively with them as they went along. They're to be commended for that, because it is very time consuming and it's hard work, you know the bigger the group involved the more difficult it is to control (In_49S).

Workshops were commended for facilitating the creation of common understanding between communities, particularly in relation to the consenting and licensing process for renewable energy developments:

That was one of the good things that came out of the workshops, people hadn't realized how much work goes into deciding where to put these technologies. I think for some people they found that quite reassuring that it wasn’t just a case of oh you go and put something there (In_51S).

The negative consequence of this selective inclusion or invitation was equally clear. For example, whilst there was broad recognition that the process would unlikely be faultless, as the following quote shows, those who were unable to engage were frustrated. This failure was explained by the lack of a planning partnership and the organisational boundary caused by the determination of statutory and non-statutory consultees:

We were invited to take part in the Pilot, but for us was a bit of a sticky exercise […] I felt that we were very much kind of outside the core of involvement in it. There were issues that I had in regard to the, well the ethics of it really because, it was a joint project between Highland Council and Orkney Islands Council. So Pentland Firth area, ok, that was looking at different authorities working together, but it completely leap-frogged procedural things like having a marine planning partnership and there still to this day does not exist a marine planning partnership in Orkney. That is one of the precursors to having a firm bed on which to build your marine planning, so that step was missed out, and as an industry we were excluded from the steering group which included the Harbours people and others, but not us. That remains unresolved in my mind. As far as we’re concerned we’re still no better off because we’re not statutory consultees (In_38S).

Concerns that matters and knowledge relating to the excluded stakeholders were not dealt with appropriately in the plan were refuted by the core group. Members of the advisory group were “drawn from organisations with knowledge of the protection and enhancement of the Pentland Firth and Orkney Waters and from those whose members use the area for commercial and recreational purposes” (Marine Scotland, 2013: 13). Thus, the inclusion of the Highlands and Islands Enterprise, a government body,
captured the interests and knowledge of various marine sectors. As the quote from a member of the core group evidences, the pilot process seemingly overcame the pragmatic knowledge boundaries:

_Just because those sectoral interests weren't represented on the advisory group doesn't mean that we didn't reconcile the conflicts and issues. The policy and legal conundrums that came out of that we're still reconciled through the process, and we've documented that_ (In_42S).

Reflecting on the limited membership of the advisory group, however, it was acknowledged that whilst it may have helped streamline the pilot process, it would not be suitable for future statutory plans. The inclusion of additional actors in the steering process of the future Orkney Islands and North Coast statutory plans was understood to be both a legal requirement, and more straightforward due to the ability to create common knowledge and better overcome the pragmatic differences:

_The advisory group that we set up should have been more diverse in its stakeholder representation [...] including them could have been beneficial because dialogue is good. When you've got conflict then bringing the different interests together, bringing people into the same room and having to work together to develop something together and deliver something builds relationships and reduces conflict [...] The lesson that we learnt from that was that, where that enabled us to deliver a pilot project it is definitely not appropriate for delivering a statutory plan [...] we'll be looking to invite those key interests to be represented on the advisory group for the statutory plan_ (In_42S).

Whether viewing the PFOW process, as constructive or obstructive, interviewees agreed that several external pressures principally determined how transformative the plan could be, and in turn how the objective of transitioning could function to transform knowledge and be realised.

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30 The Scottish Marine Regions Order (2015) divided the inshore area into eleven regions. Here, the PFOW area is divided into the North Coast and Orkney Islands marine regions. Map can be found: [https://www2.gov.scot/Resource/0052/00527474.pdf](https://www2.gov.scot/Resource/0052/00527474.pdf) (accessed 29th June 2020).

31 Schedule 1 of the Marine (Scotland) Act 2010 requires interested persons (as determined by Scottish Ministers) and general public to be consulted.
7.4.3 The problems and boundaries caused by context

Within the PFOW area, the low carbon transition did not exist within a policy vacuum. External pressures came to prominence with regard to the institutional, organisational boundaries (economic and political capital and agency: decision and non-decision-making power), and boundaries of identity and trust that underpinned the PFOW participatory process.

The PFOW process was obliged to conform to the UKMPS and SNMP, as required by the Marine (Scotland) Act\textsuperscript{32}. Whilst the regional marine planning process was “to take account of local circumstances and smaller ecosystem units” (SNMP, 20016: p.4), policies within them were to be in accordance with national plans and policy statements. This top-down institutional forcing is indicative of the historic exertion and location of power, and the path-dependent and invested nature of knowledge. The costs of altering this knowledge (i.e. the development of new/progressive policies) was too great for the most powerful actors who stand to benefit most from preventing transformation. That the PFOW process was unable to overcome these institutional boundaries and power inequalities (both in terms of dimension and locations) evidences the significance of political capital in controlling the principles and outcomes of marine planning:

\textit{The [Marine (Scotland)] Act doesn't say that we that we can ignore those high-level policies and develop our own areas or policies that are appropriate (In_42S).}

\textit{Those renewable sites had already been granted, before any marine planning document was written, so it was it was hard, the door had been bolted after the horses had escaped (In_38S).}

Boundaries of identity manifested in an obvious way owing to this top-down application of policy direction. As described above, interviewees organised around their national and regional identity, for the PFOW area this was further defined by being from the Highlands and Islands. Beyond matters of national independence, the difference in regional identity was evidenced in the widespread contempt for decision makers, and power held by Westminster and Edinburgh. As the following quote

\textsuperscript{32} Part 3, Clause 6, see also Schedule 1, para 8(3).
reveals, whilst lauded for enabling decisions to be made at the most appropriate level, the path-dependency of policy-making and institutional forcing on the PFOW process was such that the forced re-application of policies that were nationally rather than regionally beneficial:

_The other issues is that energy, in a national sense, is a big ticket thing. Any country that's dependent on oil imports, is vulnerable to the oil producing nations, or Russia turning off the gas taps or whatever. So getting security of energy is massive [...] The push for independence probably would be behind the Scottish Governments view to making sure they could develop energy security for the country [...] clearly behind a lot of this is that Scotland needs to have its own energy source as well. So that would have had a major impact on the decisions that lead up to deciding what the purpose, or the aim of PFOW marine planning was to be (In_38S)._

The significance of this boundary of identity was typified by the repeated reference of the contempt for the centralisation of benefits from energy developments and low carbon innovation within the PFOW area. Whilst the PFOW area was known to be uniquely energy rich, hostility towards the presumption of use for the benefit of Scotland as a nation rather than the regionalisation of benefits to the local population was widespread. Bias towards national-scale economic returns was typified by Microsoft’s ‘Project Natick’, the deployment of an underwater data centre in the PFOW plan area. Whilst this innovative project is part of the larger picture of the low carbon transition (i.e. reduction of energy used for cooling), the evaluation of the carbon saving potential was said to favour national rather than local issues. The location of influence (power) and benefit was, therefore, understood to be firmly held at the national scale. Beyond the economic consequence of such projects on fishermen, this project revealed the antagonistic boundary of (lack of) trust between PFOW stakeholders and the Scottish Government that pre-dated and was proliferated by the inability of the PFOW process to overcome the political capital – organisational boundaries- of such national headline-projects:

_Microsoft has sunk their data centre, that is a whole test site for European Marine Energy Centre (EMEC) and that used to be a major passage for fishing boats accessing that stretch of coast because it is relatively sheltered. But then EMEC put their site there and then all of a sudden fisherman had to go further out and battle stronger currents, so although it helps the transition in terms of testing that new technology, it has a negative effect on the fishing industry by increasing their fuel usage and so they are therefore less_
economically sustainable because they have to go further out of their way wasting time and fuel and they already live on small profit margins. Although it fits in with the big goals of low carbon it is having quite an adverse impact locally on the industry, but how they compare those well that’s another thing. I think they have applied to extend that site, and again we didn’t hear about it until really the last moment (In_39S).

The hostility caused by such historic decisions was further evidenced by interviewees’ contempt towards Westminster. In 2009, the Crown Estate Commissioners (CEC) invited developers to bid for seabed leases in the PFOW area, nine bids for eleven sites (six wave and five tidal, 1.6 GW of installed capacity) were subsequently successful (subject to licence). Interviewees - predominantly representatives of the fishing industry - condemned the lack of consultation related to this process and argued that it entrenched the unequal distribution of benefits from the north coast’s energy resources. The privatisation of space embodied the organisational boundaries that underpinned the PFOW process. Due to the inequalities in political capital (non-decision-making power), certain types of knowledge, such as economic value, were understood by interviewees to be accepted more readily within decision-making processes. This in turn limited the capacity of communities to transform their knowledge and so overcome the pragmatic (knowledge) boundaries within the PFOW process. As the following quote shows, organisational and identity boundaries entrenched the pragmatic differences and distrust between communities:

Unbeknown to us, and to be fair unbeknown to Orkney Islands Council, companies were in negotiation with the Crown Estates on search areas around Orkney. The first we knew about it was that it was published in the press that the Crown Estates had leased options for seabed all around Orkney and all of that happened with no consultation the fishing industry. So that was a big shock. We’re still in the same position. We’re invited to comment so we will do that, but because the data and evidence and the ability for us to justify our activities and its value to not just the economy but the social fabric of the islands is very hard to do […] The more that you have private companies making money off of energy whether it be oil whether it be renewables, the more they will create in order to make more money, it is money for individuals that own these devices. None

of them are going to be for the benefit of the community at large (In_38S).

Identity, and boundaries thereof, were further distinguished between Orcadians and those in the Highlands area regarding decisions made before the PFOW process. Whereas Orcadians primarily voiced contempt towards the Crown Estate, whilst complementing the work of the Orkney Island Council, those who identified as representing the Highlands, focused their disdain on the negative consequences of centralised decision-making of their council based in Inverness. Therefore, whilst historic governance practices left a spatial mark on the pilot (i.e. space already licenced) they also generated scepticism and distrust towards decision-makers and those with the greatest resources and influence:

*In Orkney, they were quite disillusioned because of the way the Crown Estate had come in and designated areas for new renewable development without any consultation, in Thurso, I think there was a very strong feeling that their views were never taken into account, but it was always in the bigger cities, further away would get all the benefit of any development that would happen in that area (In_51S).*

*The idea was that [the PFOW pilot was] looking at Orkney, with the Islands Council solely concerned with here and it's just up the road, and they're absolutely engaged. Whereas our council is in Inverness, it's is two hundred miles away and they don't care about us. People on the North Coast of Scotland feel left out (In_43S).*

The identification of external pressures reveals how the PFOW process was unable to resolve the negative consequences of multi-community collaboration and overcome the pragmatic boundaries between communities. Inequalities caused and organisational (economic and political capital and agency: decision and non-decision-making power) and identity boundaries came to the fore, with the historic institutional context and path-dependent nature of knowledge exacerbating these issues. Many stakeholders from the PFOW area were, therefore, resigned to accepting that rather than provide the opportunity for transformative governance that MSP would simply secure ambitions held by the government, both at the UK and Scottish national scale (i.e. subject to thin ideological dominance). Analysis of interviews reveals how there was a significant lack of trust between stakeholders, with many seeing MSP as an inconsequential process.
7.4.4 Iteration: towards statutory regional planning

Interviewees were not optimistic about the future of Scotland’s regional MSP. As stated, the PFOW plan area is to be split into the statutory Orkney Islands and North Coast regional plans. Whilst recognising that the obstacles faced in the pilot process would likely persist, interview participants, praised the efforts of OIC and were hopeful for Orkney’s forthcoming statutory plan. On the other hand, representatives from the Highlands did not see the North Coast plan as coming to fruition due to the lack of resources committed by the Highlands Council. There was, therefore, a recognition that future stakeholder engagement in the North Coast area would be extremely challenging, and an assumption that the pilot plan - whilst not sufficiently regionally tailored - would be re-applied in future for the North Coast area. The induced demands of MSP are such that even those with the legislative power to take forward regional plans could not see the potential for reflexivity and iterations of the marine plans. As the following quote shows future iterations of regional marine plans, and the low carbon transition within them, are inherently limited by the organisational boundaries of decision-makers with regard to economic capital:

*Some people [on Orkney] are keen to take it forward which is fine, but from a highland council point of view, we are not getting any funding for doing marine planning. We’re struggling enough as it is to do the statutory stuff, the day job stuff […] until such time as it is appropriately funded, our involvement in marine planning is going to be limited. The thing is, you build up volunteers that are keen to do something, but you have got nothing for them to do [because there aren’t the resources], so they will say, well I asked you about this three years ago and nothing has happened so why should I get involved again (In_37S).*

Moreover, the institutional barrier of centralised decision-making (power) and path-dependency of knowledge further limits future regional plans, as evidenced by an academic who remarked that:

*The question remains whether regional marine planning will be truly devolved in the way the law says it will be, but then if it’s under resourced, it’s almost like we’ll never know if it could have been that (In_32ES).*

The institutional and organisational boundaries that underpinned MSP in the PFOW were inescapable. Beyond constraining the pilot process, limiting it to re-applying
nationally determined policies, the legislative and spatial legacy, and scarcity of resources were understood by interviewees to indefinitely reduce the transformative potential of regional MSP. Thus, whilst lauded for facilitating the redistribution of decision-making (power) down to the regional scale, the PFOW pilot did not exist within or create the right setting within which to transform knowledge.

7.5 Conclusion

This chapter presented the analysis of interview transcripts, evidencing how stakeholders and decision-makers managed knowledge across the boundaries within both the SNMP and PFOW marine planning processes. In doing so, this chapter addresses the third research objective by establishing Scottish stakeholder perspectives of the national and regional planning processes. By applying the novel framework developed within Chapter 3 to this rich data, this chapter examined the capacity for the object of transitioning to overcome the pragmatic knowledge, organisational, institutional and identity boundaries and inequalities and facilitate or obstruct knowledge transformation.

Analysis of transcripts revealed how Scottish stakeholders identified and organised within communities based on knowledge, economic and political capital and agency (decision and non-decision-making power), and identity. Noticeably, there was significant antagonism and distrust between interviewees on the basis of identity, both between devolved nations and across Scottish regions. Their community-bound knowledge and determination of the use of the marine space were at stake, necessitating the creation of common understanding to overcome the problematic nature of knowledge (pragmatic boundaries) within the MSP initiatives. However, both national and regional MSP processes appear to have failed to overcome the boundaries and inequalities between these communities.

National and regional Scottish MSP processes constituted various spaces of engagement within which, the objective of transitioning functioned differently across communities. Analysis of transcripts revealed that whilst interviewees were generally content with their ability to translate concerns within the national participatory process, the opportunity to effect change (i.e. transform knowledge) was limited. Political ambition and institutional context constrained the transformative potential of
the national process. Despite the inclusion of the transitioning objective, its purpose was understood to be obscured, solely facilitating the translation of energy matters. The ideological dominance of the energy industry was well known. This focus was understood by interviewees as being motivated by political ambition for independence. Furthermore, given the path-dependent nature of MSP and knowledge, the national planning process created a pseudo-transformation of decisions made regarding energy elsewhere. It followed then that due to the requirement to conform with national strategy and marine plan (i.e. the path-dependent nature of knowledge), the transformative capacity of the PFOW process was absent. Whilst the exclusion of marine interests, and subsequent limitations to the sharing and assessment of knowledge caused significant tension, the selective inclusion of stakeholders was inconsequential.

Matters of Scottish independence and decentralised decision-making dominated interviewee discussions with MSP was framed as an opportunity for Scotland to decentralise power across scales, control decision-making and retain benefits of their resources. Despite these egalitarian promises, the context within which MSP was developed and implemented was such that the problematic nature of knowledge led to the entrenchment of inequalities. Ultimately, within the marine plans the low carbon transition was determined by, and reflective of, the SNP government’s agenda set outside of the MSP process. Participatory opportunities thus appear to have served to legitimise the political intentions despite elements being contradictory such as the prioritisation of continued hydrocarbon exploitation. By fostering engagement through progressive rhetoric, but inhibited by the setting and exertion of power, at both national and regional scales, the object of transitioning was obstructive, creating a pseudo-transformation of policy and knowledge.
Chapter 8 Discussion

8.0 Introduction

The purpose of this chapter is to compare the English and Scottish MSP initiatives and reveal how different political discourses have shaped the low carbon transition within UK MSP (Objective 4). By considering key discourses, relationships and themes that emerged from the examination of English and Scottish MSP initiatives this chapter first compares and discusses the evidence (discourse analysis and semi-structured interviews); and, second considers the extent to which the theoretical framework (Chapter 2) uncovers and explains forms of inequality that disrupt the exchange and transformation of knowledge of the low carbon transition within MSP (how the object functioned).

This chapter is organised into three parts. To open, in Section 8.1, the focus is on how the low carbon transition was articulated and functioned within MSP initiatives. The pragmatic differences and inequalities embedded within the participatory processes are explored here, reflecting that MSP did not provide an equitable policy arena within which stakeholders could effectively share and transform understanding (knowledge) of the low carbon transition. MSP is, therefore, understood to constitute spaces of engagement that are closed or formed through tokenistic invitation, controlled by institutional resistance, and within which the object of transitioning functioned.

Section 8.2 then comparatively evaluates the nature of multi-community collaboration within the English and Scottish MSP initiatives, revealing the determinant role of constitutional fragmentation and placement of power within the UK. Finally, this chapter concludes, in section 8.3, with an evaluation of the value of the framework for distinguishing between boundary and pseudo-boundary objects (Chapter 2) to provide a theoretically formulated explanation of cross-community work. In doing so this chapter discusses how the low carbon transition functioned as an object – boundary or pseudo-boundary – within the English and Scottish MSP policy arena.
8.1 Problematic knowledge and the boundaries that separate marine stakeholders

An evaluation of MSP offers insights into the negative consequence of differences and inequalities in multi-community collaboration and knowledge sharing. The participatory process, wherein stakeholder understandings and interests in the English and Scottish marine space were at stake, was traced from general engagement events (invited spaces) through to closed-door discussions (closed spaces). The latter of these, whilst including stakeholders outside of government, was closed to those with insufficient capacity to determine political agendas and processes, whether hidden or visible (i.e. lobbying power or legal mandate e.g. hierarchical subservience to national energy policies). Through the distinction and reification of communities of interest (pragmatic knowledge), organisation (induced/economic resource and political agency), and identity, a complex network of stakeholder relationships, inequalities, and politics at play (i.e. influence over government) was evidenced. These inequalities were further conditioned by institutional resistance, which typified the significance of centralised decision-making power held by the government. The novel MSP process thus led to the galvanisation and manifestation of these differences and dependencies, within which stakeholders and decision-makers had to confront competing understandings, interests (e.g. spatial conflict, ideological differences) and systemic inequalities.

Both the English and Scottish MSP cases evidence the pseudo-transformation of knowledge and marine governance. Participatory processes did not, and arguably could not, sufficiently resolve the tangible (pragmatic knowledge, and organisational) and tacit (regional and national identity) differences and dependencies between stakeholders. This discrepancy is most apparent at the Scottish regional scale. The PFOW process was limited by the asymmetrical and hierarchical legislative and policy frameworks that stemmed from the UK Government (e.g. national energy strategy, UKMPS) and Scottish Government (e.g. SNMP). This complex institutional framework, wherein the PFOW process was to be subservient to the SNMP, the UKMPS, and other national policy statements, meant that regardless of how good
collaborative efforts were\textsuperscript{34}, the PFOW process could not resolve the consequences of collaboration. That is to say, the PFOW processes could not overcome the negative effects of problematic knowledge and the absence of decision-making capacity within the regional scale. Furthermore, the historic industrialisation of the PFOW area (past exertion of decision and political/agenda dominance), such as the licencing for Microsoft’s sunken data center (see p.172), created an additional downward institutional forcing on the participatory process. Decisions had to fit within what already existed (path-dependency). The PFOW process, therefore, could not facilitate substantiative decision-making (the transformation of knowledge). The institutional landscape, and connected industrialisation of the marine area, ultimately inhibited the articulation of multi-community knowledge within UK MSP initiatives and in doing so fails to transform governance practices towards more sustainable practices.

Evidence of the inequalities within, and institutional resistance to transformative governance, is, therefore, the first significant contribution to the knowledge of MSP within this thesis. MSP was lauded through transformative and progressive discourses by the governments (Chapter 4, 6), but was profoundly restricted in its legislative mandate, thus failing to fulfil its radical potential in practice. This research contributes to the growing body of literature wherein MSP is acknowledged as being devoid of politics, or implemented through post-political processes (Ritchie, 2014; Flannery et al. 2018; Clarke & Flannery, 2019; Tafon et al. 2019; Flannery & McAteer, 2020), and is critiqued for failing to reform unsustainable marine management (Ritchie & Ellis, 2010; Jones et al. 2016; Smit & Jentoft, 2017; Saunders et al. 2019a, b; Gissi et al. 2019). The specifics of how the objective of transitioning functioned obstructively are discussed in the following sections through consideration of problematic knowledge and the boundaries within English and Scottish MSP initiatives.

\textsuperscript{34}The PFOW Pilot process won the Royal Town and Planning Institute’s (RTPI) Planning Excellence 2017 award, yet as evidenced in this research did not facilitate the articulation of competing interests or mark a shift towards sustainable management.
8.1.1 Across pragmatic knowledge boundaries: differences in understanding and interest

MSP necessitates knowledge sharing and learning on a multi-sectoral and multi-level scale which are inherently demarcated by differences in understanding and interests. Defined as the political boundary that arises when the novelty of a knowledge-sharing process produces conflicting interests for communities, pragmatic knowledge boundaries require the greatest effort from those involved to resolve differences (Carlile, 2002, 2004). The existence of pragmatic boundaries necessitates the transformation of knowledge including the creation of potentially new knowledge, practices, or organisational change. MSP across England and Scotland constitutes clear pragmatic knowledge boundaries wherein articulation of marine problems and solutions, including the transition to a low carbon economy, was at stake. For example, fisheries representative noted their concern that realisation of the low carbon transition through MSP would create further spatial squeeze, leading to loss of fishing ground (p.116). The cross-boundary challenge within the MSP participatory processes was that not only is communication is difficult, but that stakeholders and decision-makers must be willing and able to transform knowledge and practice (i.e. exert or be subject to power or diminished capacity for action).

The novelty of MSP is, therefore, on its own an insufficient explanation of the obstruction to knowledge-sharing. For example, several representatives from the Scottish initiative spoke favourably of their ability to articulate their interests within the participatory process. Yet, they were unable to identify the effectiveness of such engagement (or translation of knowledge) in realising the potential of MSP to foster sustainable marine governance and the low carbon transition. Comparably, the widely held understanding of MSP as a data gathering process is indicative of the tokenistic nature of the participatory processes. This technocratic managerial approach was particularly dominant within the East of England initiative, and reflective of previous research into the area by Clarke and Flannery (2019). Data gathering is, per se, not a negative outcome, indeed there remain significant gaps in our understanding of marine ecosystems and the human components of such. Yet, one must question the purpose and consequence of this mass translation of information from fragmented stakeholders and governance systems into centralised planning systems. Is it to fill data gaps, as
proponents of MSP would argue (Defra, 2011)? Does it seek to foster stakeholder ownership of marine plans (Nursey-Bray et al. 2018)? Or does it facilitate systematic data mining of the marine area with the purpose of aiding the promotion of government, or economic interests (i.e. indicative of hidden power)? The latter of which could be argued on the basis of the invitation to tokenistic collaborative efforts, the effect of external decision-making (e.g. Crown Estate leasing rounds: p.154, 162), or the consequence of where power is found that have been identified through this research.

The articulation of competing interests must, therefore, be understood as being difficult not just because of the conflict caused by the collaboration of invested and embedded knowledge, but also due to the conditions within which it was being presented. The cost of cross-stakeholder learning within MSP (i.e. transforming knowledge of the object of transitioning) was such that those who could, sought to manage the realisation of the low carbon economy whether through the exertion of visible or hidden control. Such as through legislative framework and discourses or lobbying. The failure of the low carbon object to overcome pragmatic differences – and in doing so create a pseudo-transformation of knowledge - is explained by the organisational boundaries that preceded and were entrenched by the English and Scottish initiatives.

8.1.2 Across organisational boundaries: economic and political inequalities

In addition to the challenges caused by competing interests, stakeholders were inhibited, or privileged within the MSP initiatives, by their access to resources (induced power: human and money) and to politicians (non-decision-making power: political capital). Access to economic and political capital was understood by interviewees to be reflective of one’s ability to articulate their interests and be seen to benefit from MSP. This is typified by the subsea cable representative who in both the English and National Scottish initiatives was, within the framework of extant national policy, able to write policies deemed acceptable to the sector. The capacity to exert their agenda-setting power within closed participatory space amplified and entrenched the challenges of multi-community collaboration within MSP.
Articulation of the low carbon transition within MSP necessitated the investment of resources. Across English and Scottish initiatives, concern for resource use, or lack of resource availability, a stakeholder’s induced power, was clear. This can be seen in interviewee’s concern that should they not be able to attend meetings their interests would not be considered (p.159). Likewise, owing to the tokenistic nature of engagement, wherein little more than the articulation of government ambition was achieved within the invited spaces, frustrations caused by MSP’s resource intensity were echoed by those capable of engaging, such as the energy developer involved in the East of England (p.108). Findings from each of the MSP initiatives evidence that the most obvious subversion of knowledge-sharing, or exertion of power, was not hidden or hard to identify. Rather, it played out in the exclusion – intentional or otherwise - of stakeholders. This economic polarisation of stakeholders within MSP initiatives is, however, suggestive of wider systemic and institutional matters: the functioning of government (Politics: decision-making power) and access to it (politics: non-decision-making power).

The accumulation of political influence was correlated with authority within MSP initiatives. Differences in political capital (non-decision-making power) – the institutional polarisation of stakeholders - broadly manifested within English and Scottish MSP through three effects:

1. access to closed spaces: these circumscribed stakeholder engagement opportunities such as one-to-one meetings in the case of the EMP and SNMP, or within the advisory group in the PFOW pilot;
2. the exertion of (non-)decision making power: substantiative creation of common-knowledge and writing of policies, as noted by the cabling representative (p.123); and
3. access to places of power: knowledge-sharing potential within external decision-making processes, such as the energy developers reflection on inputting into the various Crown Estate licencing rounds (p.116).

These inequalities reveal how the path-dependent nature of knowledge, policy, and decision-making had a negative effect within MSP initiatives. In the case of English and Scottish MSP, such path dependency is indicative of the consequence of the aspects of power (i.e. dimensions, spaces, levels), and manifested through institutional
resistance to transformation and policy layering, which is, in itself, reflective of the asymmetrical distribution of legal (decision-making) powers, and functioning of government such as illegitimate lobbying.

8.1.3 Institutional resistance and policy layering within MSP

For MSP in England and Scotland, the institutional context which constitutes, among other things, the functioning of government, the effect of lobbying (hidden agenda setting), and legal and policy landscape (decision-making power), is a key determinant to the transformative capacity of MSP. Rather than provide for an egalitarian participatory process wherein communities could collaborate and learn, MSP was designed and established within the Marine Acts to facilitate the realisation of government ambition. Stakeholders were invited into the planning process to legitimise these policy intentions that were limited in scope and concerted around economic maximisation (Chapter 4, 6). The hierarchical subservience of marine plans to national policy statements (e.g. energy) is evidence to this. By creating MSP as another, but lower, rung on the legislative and policy hierarchy, both the UK and Scottish Governments limited the potential for change and articulation of competing interests. Decision-makers removed the capacity for action from broader participatory processes, retaining power within centralised systems. The deliberative design of MSP, defined in law and realised through stakeholder engagement, therefore, sought to control learning and transformation of knowledge (and practice). Tokenistic invitation to engage that sought transferal of stakeholder knowledge (i.e. data collection) and functioned to legitimise the translation of government ambition further entrenched the neoliberal hegemony and retain a capacity for action within established institutions.

The low carbon object(ive) was equally understood as functioning to rationalise ambition for the expansion of renewable energy, whilst obfuscating economic motivations around maximisation of indigenous oil and gas reserves. In the East of England case, for example, interviewees were resigned to accepting that MSP was developed to make space for the expansion of offshore wind as a key element of the transition, as was detailed within political discourses (Chapter 4). The socio-environmental potential of MSP and the renewable industry (e.g. jobs, carbon
reductions) served to legitimise and maintain the exercise of power by both government (decision-making) and economic interests (non-decision-making). Contradictory elements – such as maximised hydrocarbon extraction – were secured by political interference in the MSP process (p.125) that reflected the subservience to other policy statements (asymmetrical levels of power), susceptibility of MSP to external control/forces, and the futility of the participatory workshop. Therefore, whilst invited into participatory processes, capacity for action (i.e. knowledge transformation and decision-making) was absent from the MSP policy arena. Government or institutional resistance to decentralised decision-making was such that MSP was designed, and the low carbon object functioned to create a pseudo-transformation of knowledge and practice.

A less tangible, but no less significant tension inherently linked to matters of economic and political inequality was regional and national identity. The distribution of legal (decision-making) powers within the UK’s system of devolution is one that continues to be a source of conflict across nearly all matters of politics, and social, economic, and environmental policy. Such feelings and understandings of identity were expressed within both English and Scottish initiatives; however, they were particularly visible within the case of Scottish MSP. Notions (or boundaries) of identity reflected long-standing tensions caused by the centralisation of benefits to Westminster (e.g. places of power: Crown Estate). Furthermore, whilst Scottish regional marine planning was lauded for decentralising benefits and decision-making to local communities, i.e. transferral of power from national to a local level, particularly to the Highlands and Islands, this was not the reality lived by interviewees. A significant lack of trust surrounded stakeholder perspectives, reflecting historic and continued exertion of dominance (aspects of power), the inability of the participatory process to create meaningful change, and resource limitations (p.150). An understanding of stakeholder identity thus raises questions about the equitability of the implementation of marine plans, and more broadly the conditions within which MSP was developed. Control, or the decentralisation and democratization, of decision-making around the low carbon transition was at risk within the MSP initiatives, and the findings of this research suggest that this was understood and secured within the legal framework for MSP in the UK.
Due to these inequalities and institutional limitations, MSP within Scotland and England is indicative of policy layering. MSP in the UK is underpinned by a complex, hierarchical legal and policy landscape (Boyes & Elliott, 2014, 2016). This ‘policy layering’ refers to instances whereby when transforming governance, new elements or functions are assigned to existing institutions (Van Der Heijden, 2011; Kelly et al. 2018). Whilst the addition of new policies, rules, or communities, can lead to the gradual change in status or structure of institutions (Van Der Heijden, 2011), in the case of English and Scottish MSP this layering had a negative impact.

This inhibitory impact of policy layering is true of all spaces of engagement in the English and Scottish MSP initiatives. Whilst the active exclusion of communities inhibited knowledge-sharing (p.162), the inclusion of understanding within privileged participatory processes (p.120) was unable to effect change. The capacity to transform or effectively articulate understanding and interests is best served through engagement in external processes such as lobbying of government (p.160), and leasing rounds (p.163, p.170). This finding is evidence to the systemic inequalities in economic and political capital that underpin, not only MSP, but more broadly decision-making from creation of law to national policy across the UK. The political capital or agenda-setting capacity of stakeholders through which they could influence external processes was, directly correlated to the ability to transform knowledge. The ability to exert non-decision-making power within the right external space or place enabled particular stakeholders the capacity to control subsequent decision-making regarding the low carbon object within MSP. Therefore, rather than fulfil the radical collaborative potential of MSP, the layering or addition of an ineffectual governance process, new powerless decision-makers (e.g. MMO), and re-application of policies determined elsewhere, led to the pseudo-transformation of knowledge and governance of the marine area.

8.2 Comparing the English and Scottish MSP initiatives

This section makes sense of the cases and comparatively evaluates English and Scottish evidence (Chapter 4-7). Whilst this chapter has so far considered the nuanced understanding of the consequences of inequality within MSP, there is a need to discuss how different discourses and ambitions shaped the low carbon transition, and how the
object subsequently functioned within the UK MSP initiatives (Objective 4). A series of research objectives (Chapter 1) have been used to guide this study and provide a useful structure upon which to comparatively evaluate English and Scottish initiatives. Subsequently, the following sections evidence the second significant original contribution to knowledge within this research: the comparative analysis of English and Scottish MSP revealing the consequence of constitutional fragmentation in the UK. This contribution is comprised of four key sub-findings on comparative thinking that are described in the following paragraphs.

The second objective of this thesis - to understand government rationale for the low carbon transition and the role of MSP - is fulfilled within Chapter 4 and 6. The focus on government rationale, was borne out of the need to understand the Political (functioning of government, competing narratives: decision-making power) and political (external influence of government: non-decision-making power) conditions within which the low carbon transition is realised through MSP. Analysis of political texts produced by the UK Government revealed how the framing of the low carbon transition (object) moved from an economic necessity to a moral duty (on the basis of climate actions), and onto a (geo)political necessity. Whilst a broadly similar shift in framing was utilised by the Scottish Government, the low carbon transition was vociferously endorsed as both necessitating and facilitating constitutional reform i.e. Scottish independence (p.128). Chapter 4 and 6, therefore, present a manifestation of the complex constitutional framework (legal and political) and cultural identities that both distinguish and bind the UK’s Devolved Administrations. Stemming from this evidence are two significant findings on comparative thinking including: first, the transition to a low carbon economy is a political concept reflective of the functioning of government (e.g. leadership and political ideology); and second, the emergence, and rationalisation of MSP as a tool for climate mitigation within the UK bears the hallmarks of devolution (i.e. constitutional fragmentation).

The third objective of this thesis – to establish stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within English and Scottish marine plans – is explored in Chapters 5 and 7. Extensive stakeholder interviews, when analysed through the theoretical framework (Chapter 2), revealed a complex network of engagement spaces that reflected power inequalities within which
the objective of transitioning functioned differently as a boundary and pseudo-boundary object. Subsequently, a range of perceptions and emotions were articulated by marine stakeholders. For example, in England, only those who were able to access the third and fourth spaces of engagement – one-to-one meetings, and closed-door government intervention (Chapter 5) – were capable of effecting policy change. Notwithstanding this privileged access, however, the institutional framework within which the participatory process was set (e.g. national policy statements, UKMPS) annulled collaborative efforts and restricted the remit of shared knowledge within MSP. English and Scottish initiatives are therefore indicative of the path-dependent nature of knowledge, connected to which is the historic and continued privilege of stakeholders and understandings that exert or exist within places of power.

In practice, the path-dependency of MSP is such that stakeholders understood there was limited to no capacity for reflexivity within future initiatives. For English stakeholders, inequalities and institutional resistance were such that there appeared to be little impetus to engage in future iterations of the marine plans. In Scotland, however, whilst interviewees recognised the futility of the participatory process in terms of both general workshops and private meetings, stakeholders were generally positive about opportunities to engage, more so at the national scale. At the regional scale issues of resource limitation, active exclusion from the PFOW pilot process (e.g. fisheries representatives: p.166), and historic top-down decision making (e.g. renewable energy licensing: p.172) created significant tension and distrust that were projected onto future planning iterations (p.174). The UK Government’s ambitions for the low carbon transition within MSP across the four Devolved Administrations can, therefore, be read as progress aligned with the status quo. In this way, stakeholders across MSP initiatives were subject to thin ideological dominance, with only a few privileged stakeholders appearing to believe in the capacity of MSP to create benefit in which ever form (e.g. shipping representative p.163).

The absence of capacity for action – the empty participatory processes - evoke concern that MSP in the UK has been overwhelmed by post-political environment consensus wherein paces of contest or struggle (the participatory process), are over-run by unchallenged frameworks of free-market economics, technocratic management, and consensual procedures (Wilson & Swyngedouw, 2014). This research illustrates how
the historic top-down approach to marine governance was not unchallenged, with both planning authorities (e.g. MMO) and stakeholders trying to articulate understandings and ambitions. Rather, the politics of MSP was unchallengeable due to the functioning of government, and the outcomes of such initiatives being defined in advance (e.g. renewable energy licensed through Crown Estate Rounds). The third significant finding on comparative thinking is, therefore, that: MSP processes in England and Scotland are devoid of politics and indicative of institutional resistance to decentralised decision-making. The capacity to determine or create change thus remains within privileged places (e.g. national energy strategy) and spaces (e.g. closed-door decision-making).

When evidence of the effect of political ambition (discourse), and the political void of MSP are considered collectively, the fourth comparative finding becomes clear: that implementation of the low carbon transition within MSP is symptomatic of constitutional fragmentation within the UK. Muinzer and Ellis (2017) provide a clear understanding of this asymmetric scaling of the distribution of legal powers within the context of the UK’s ‘Energy Constitution’. This study has, however, extended and evidenced the consequences of the preservation of powers within Westminster onto the marine area. This institutional resistance is true of both the low carbon transition, and more broadly the MSP process. For example, the UK’s legal framework for MSP grants the Scottish Government the power to implement MSP, as is seen in the MS Act 2010. Yet such powers are constrained by the MCA Act 2009 and all other statutes and national policy statements to which Scotland is subservient. This finding is particularly remarkable when reflecting on the differently tiered systems of MSP adopted by the two countries (England: single-tier, Scotland: two-tier (p.57)). The requirement to be compliant with decisions higher up on the policy and legislative ladder (Chapter 3), therefore begs the question of what additional value of regional planning there is given the capacity for action has been removed from invited spaces at local levels. Inequalities and exertion of power/control that pre-dated MSP fundamentally limited the articulation of understandings and interests from national to regional scale.

In summary, and to reflect on the fulfillment of the fourth objective, the articulation of competing interests and development of shared understanding, relating to the low
carbon transition, was a controlled process with negligible capacity for action. English and Scotland MSP initiatives were profoundly determined by economic and political inequalities (induced and non-decision-making power), functioning of government (role of lobbying), and institutional resistance to decentralising and redistributing the capacity for action/power (from both Westminster and the Scottish Government). UK MSP initiatives thus appear to foster a pseudo-transformation of marine governance wherein ambition for sustainability (e.g. the low carbon transition) is undermined by neoliberal path-dependency (e.g. maximisation of oil and gas reserves for economic benefit: HM Government, 2011). Discourses of socio-environmental responsibility, and invitation to engage in the new marine governance institutions thus served to rationalise and legitimise political ambition despite elements being contradictory. Indeed, even for those with the greatest economic and political capital, such as those granted private (closed) meetings, or government departments (e.g. Marine Scotland), there is no clear evidence of knowledge-transformation.

By undertaking this research, I have developed and observed the value of boundary theory, namely the framework for distinguishing between boundary and pseudo-boundary object. Application of the theoretical framework has provided a nuanced understanding of the knowledge-sharing capabilities around the low carbon object, or lack thereof, of stakeholders within MSP initiatives. In particular, I have revealed the negative consequence of inequalities and the aspects of power within and external to MSP and the connected problematic nature of knowledge. It is to the contribution of this theoretical framework which the following sections turn.

8.3 Reflecting on the components of the theoretical framework

There are two significant points of discussion with regard to the theoretical framework: first, the value of the framework in distinguishing and explaining inequalities within and external to MSPs multi-community collaborative processes; and second, the clarification of function as a determinant of boundary object theory. These two contributions are discussed below.
8.3.1 Use of the framework: evaluating UK MSP initiatives

The framework for distinguishing between boundary and pseudo-boundary objects provided a valuable theoretical lens through which multi-community collaborative efforts around the low carbon transition were evaluated and found wanting (Objective 1). In Chapter 2 the framework for distinguishing facilitative or inhibitory boundaries and objects (conceptual, or otherwise) was founded on three assumptions: first, Star and Griesemer’s (1989) framework provided an engaged counterpoint to consensus-based perspectives on collaboration; second the pluralist turn, whilst seeking to expose the consequences of different forms of coercion and exertion of power, created a conceptual overstretching of boundary objects; and, third whilst many have revisited Star and Griesemer’s (1989) framework, Carlile’s (2002, 2004) pragmatic approach provides an expedient analytic refocusing on how boundary objects function to manage knowledge across boundaries. Chapter 2 subsequently introduced an alternative typology of boundary objects: pseudo-boundary objects that operate in situations of obstructive collaboration. This novel framework clarifies the way in which power inequalities – whether it be the dimensions or placement of power - may corrupt the sharing of knowledge, while helping identify those issues in which the function of boundary objects can be protected and nurtured.

Reflecting on the fundamental components of the theoretical framework – the hierarchical knowledge boundaries, and consequence of the aspects of power – and the focus of this study, reveals how the object(ive) of transitioning to a low carbon economy functioned within English and Scottish MSP initiatives in a dualistic manner. A discursive analysis of political texts, and semi-structured interviews examined through the novel framework, evidences how the low carbon object functioned as both a boundary and pseudo-boundary (Figure 8.1).
How the object(ive) of transitioning functioned in the articulation of knowledge was reflective of inequalities (the aspects of power) and the problematic nature of knowledge (i.e. path-dependent, embedded, and invested in practice: Figure 8.1). Evidence from the English and Scottish initiatives suggest that the low carbon transition functioned dualistically, whereby for those with the greatest political capital such as government officials, they were able to translate their interests to decision-
makers. In this way, privileged stakeholders were capable of translating their non-decision-making or agenda-setting power into decisions. However, such capacity for action was reflective of the placement and dimensions of power within MSP’s broader institutional framework, such as national energy strategies, rather than the transformative potential of the novel participatory processes.

By contrast, due to the legal framework within which stakeholders were invited to engage in, the low carbon object(ive) functioned as it only could, as an inhibitor to collaboration. These dualistic functions are explained with reference to the novel framework (see Figure 8.1).

As a pseudo-boundary object, at the syntactic boundary, the objective of transitioning functioned as a ploy to entice stakeholder engagement because whilst it provides a common language through which interviewees could engage, the transferal of knowledge was controlled by the government and by the spaces and places in which they engaged (5). At the semantic boundary, knowledge of the low carbon transition was obfuscated because it was localised the government’s problem: securing their political ambitions whether that was economic growth through the expansion of offshore wind, or constitutional independence. This was typified by the fundamental desire of MSP to plug data gaps, rather than facilitate change (6). At the pragmatic boundary then – where spatial demarcation and matters of national identity were at stake- the consequence of power inequalities, institutional resistance, and policy layering ensured that MSP created a pseudo-transformation of knowledge (7). Early indications suggest that there is an unwillingness to alter marine plans substantively, as such there appears to be no effective reflexivity within UK MSP initiatives (8).

The low carbon transition object does, however, appear to have facilitated the translation of knowledge of some interests into the new planning regime (2,3). However, even for these privileged stakeholders, such as government departments in England (p.117), there was no clear evidence of knowledge-transformation through the MSP process, rather it facilitated the translation of knowledge to planners, and the cementing of political ambition (1,4). For example, in England the draft plan was understood to have been significantly altered after input from government departments, which was in turn understood to be acceptable given the requirement for the EMP to be compliant with other policy statements.
Given the significance of embedded inequalities – entrenchment of the negative consequences of the aspects of power - within these first rounds of MSP in English and Scottish, the potential for recapturing the knowledge-sharing and collaborative potential of the low carbon transition seems unlikely (9). The distorted functioning of the low carbon transition is likely to persist due to the resistance seen within all three initiatives across England and Scotland (9).

The cases of English and Scottish MSP reveal the value of the novel theoretical framework developed in Chapter 2 that explores and explains the negative consequence of inequalities in multi-community collaboration. Specifically, this framework requires research to look beyond questions of inclusion and exclusion and explore more critically how things function between communities to facilitate or obstruct cross-stakeholder learning.

### 8.3.2 A focus on function: from knowledge transfer to pseudo-transformation

One of the most important findings of the framework, and the application of it within this thesis, is that it is not enough to associate and define a boundary object without consideration of its function. Drawing on the work of critical scholars that have examined MSP in the UK, including Smith and Jentoft (2017) and Clarke and Flannery (2019), this research studied the role of objects within a participatory process where there was the expectation of obstructive collaboration: inequalities regarding the aspects of power. As such there was a need to clarify the ways in which power inequalities may corrupt the sharing of knowledge. In Chapter 2, it was argued that the pluralist turn (e.g. Oswick & Robertson, 2009; Barrett & Oborn, 2010) provided a conceptual overstretching of Star and Griesemer’s (1989) concept. This study sought to remedy this through the inclusion of Carlile’s (2002, 2004) thinking on the management of knowledge between boundaries, and the expansion of this thinking to account for power inequalities in all its forms and locations ( Lukes 1974, 2003; Gaventa 2005, 2006). In doing so, the framework for distinguishing boundary and pseudo-boundary objects provides for a more detailed explanation of *how* objects can facilitate, or obstruct, constructive communication and cooperation.
The object(ive) of transitioning to a low carbon economy evidences the need for this theoretical clarification. Analysis of interviews in Chapters 5 and 7 illustrates that despite comprising the features of a boundary object, as described by Star and Griesemer (1989) the objective of transitioning, as a thing between within and between communities, did not function to facilitate collaboration within participatory MSP processes. To recap, the features of the low carbon object are as such, first, the need to facilitate the low carbon transition within English and Scottish MSP was two-part: first, action on climate change (constituting moral, environmental and economic arguments), and second, to be compliant with legislative and policy framework including the UKMPS. Its interpretative flexibility was evidenced by the multiple understandings of what it could constitute across communities in England and Scotland (e.g. renewable energy, habitat restoration). Notwithstanding these interpretations, communities of (distinct) knowledge and interest across England and Scotland understood the low carbon transition to generally be reflective of offshore renewable energy developments, and the political support thereof (non-static). Interviewees subsequently tracked back-and-forth between this generalised meaning and their specific interests. Yet a focus on the features of the low carbon transition (object) was insufficient in analysing and explaining the collaborative process within which the transition was employed.

The investigation of how the transition functioned – from transferal through to pseudo-transformation of knowledge (Figure 8.1) – revealed that the object existed, and in turn behaved, distinctly within multiple spaces of engagement. Effective boundary objects are understood to enable collaboration in the absence of consensus by facilitating the development of joint understanding through the transformation of knowledge (Carlile, 2002; 2004). However, in both case studies, the low carbon transition appeared to mostly obstruct rather than facilitate sharing, assessing, and learning within participatory processes. For example, the capacity to create joint understanding around the East of England marine plans was reserved to those with the capital to engage in collaborative efforts that were fundamentally exclusionary to broader collaborative efforts, the closed spaces of engagement. By addressing the objectives that guided the exploration of the two case studies, this study illustrates how collaboration in the absence of consensus and equality – the negative consequences of the aspects of power - can facilitate the obfuscation of knowledge and subsequently create a superficial
transformation of practice. The discourses utilised, and formation of institutions that constitute MSP served to rationalise and legitimise the government's way of knowing, despite elements being contradictory. In this way, the UK and Scottish Government’s sought to exert their ideological power, making marine stakeholders complicit in the continuation of neoliberal hegemony.

The functioning of the transition object – as facilitating a pseudo-transformation of knowledge – is, through detailed analysis of the English and Scottish cases in Chapter 4-7, explained by matters of problematic knowledge, tangible (e.g. resources, non-decision-making power) and tacit (e.g. identity) boundaries, inequalities between communities, and the contextual (historic and political) setting within which multi-community collaboration took place.

### 8.4 Conclusion

This chapter has considered how the low carbon transition functioned within English and Scottish initiatives, and in doing show demonstrated three significant contributions to knowledge provided for within this thesis. First, economic and institutional inequalities are embedded within, and entrenched by MSP, second, the effect of constitutional fragmentation on MSP in the UK (placement of power), and finally, the value of the theoretical framework developed in Chapter 2 has been outlined. The conditions within which MSP has been developed and implemented (e.g. legal framework, political ambition/discourses) are such that participatory processes entrench the functioning of government, and inequalities between stakeholders. MSP is understood, and has been shown within this chapter, to be ultimately restricted by the duties and powers granted to decision-makers or planners: institutional resistance. Capacity for action is, therefore, legislatively restricted to elite stakeholders within particular spaces and levels.

Building on the limitations caused by inequalities and institutional resistance, this chapter has discussed how the implementation of MSP in England and Scotland bears the hallmarks of constitutional fragmentation within the UK. Furthermore, the evaluation of the low carbon transition (object) within MSP has been shown within this chapter to be political concept reflective of the functioning of government (e.g. leadership and political ideology).
Considered collectively, these findings illustrate that the potential for debate and articulation of competing interests was curtailed within MSP creating a pseudo-transformation of marine governance practices. The significance of the theoretical framework is apparent, wherein it has enabled a more nuanced explanation of knowledge collaboration whilst not diminishing the strength of Star and Griesemer’s (1989). This has been evidenced through the examination of the participatory processes within MSP in the UK. The application of the theoretical framework (Chapter 2) has allowed this research to go beyond questions of inclusion or exclusion and explain the forces that underpin, and obstruct, collaborative knowledge-sharing. In the following, and concluding chapter of this thesis, the theoretical and empirical contributions of this thesis are considered along with consideration of future research opportunities.
Chapter 9 Conclusion

9.0 Introduction

This chapter seeks to synthesise the research insights to highlight implications for improving MSP processes and its future research (Objective 5). Accordingly, this chapter is structured in four parts. In section 9.1 the aim and objectives are revisited, and their fulfilment is mapped against the evidence presented and discussed within the thesis. Following this, in section 9.2 and 9.3 the original contributions to MSP practice and boundary theory are emphasised. The chapter concludes with consideration of the limitations of this study and the potential for future research (Section 9.4)

9.1 Reflecting on the aim and objectives of the study

The aim of this study was:

To evaluate how the low carbon transition is articulated by multiple communities through UK MSP.

In turn, examination of English and Scottish MSP initiatives was progressed in accordance with the following objectives:

1. To develop a conceptual framework capable of capturing how marine stakeholders articulate competing interests and develop common understanding within MSP.
2. To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this.
3. To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans.
4. To compare English and Scottish evidence, to reveal how different political discourses have shaped the low carbon transition within UK MSP approaches.
5. To synthesise the research insights to highlight implications for improving MSP processes and its future research.
In meeting these objectives this study has made a number of important original contributions to knowledge (Table 9.1, see also Chapter 8). These include understanding the implementation of MSP, use of MSP a tool for climate change mitigation, the role of politics (functioning of government, and access to government), the consequence of constitutional fragmentation within the UK, and, with regard to boundary object theory, the introduction of a novel theoretical framework. These are discussed in the following sections.

Table 9.1 Summary of research objectives and their fulfilment

<table>
<thead>
<tr>
<th>Objective</th>
<th>Fulfillment of objective within original research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To develop a conceptual framework capable of capturing how marine stakeholders articulate competing interests and develop common understanding within MSP. Chapter 2: introduced the concept of pseudo-boundary objects to account for the conceptual overstretching of boundary objects (Star and Griesemer, 1989). Drawing upon the work of Carlile (2002, 2004) developed a theoretical explanation of inequalities, including the encompassing consequence of power (dimensions, spaces, levels), within multi-community knowledge sharing processes.</td>
</tr>
<tr>
<td>2</td>
<td>To assess how the English and Scottish Government’s rationalise the transition to a low carbon economy and the role of MSP in achieving this. Chapter 4 &amp; 6: revealed how by forming and utilising discourses the government’s rationalised the low carbon transition as a panacea to socio-economic, environmental, and (geo)political crises facing the UK. Moreover, for Scotland the low carbon transition both necessitated, and facilitated independence. The UK and Scottish Government’s equally lauded MSP as a rational solution to the increasing industrialization of the marine area.</td>
</tr>
<tr>
<td>3</td>
<td>To explore stakeholder perspectives on the process of determining how the transition to a low carbon economy is realised within marine plans. Chapter 5 &amp; 7: pragmatic differences and dependencies between stakeholders were entrenched by economic and political inequalities. Subsequently, MSP was understood to create a pseudo-transformation towards sustainable marine governance, whilst securing government ambitions.</td>
</tr>
<tr>
<td>4</td>
<td>To compare English and Scottish evidence, to reveal how different political discourses have shaped the low carbon transition within UK MSP approaches. Chapter 8: discussed key findings of this research including relating to the institutional resistance embedded within MSP, the consequence of constitutional fragmentation on the implementation of MSP as a tool for climate mitigation within the UK, and the value of the novel theoretical framework.</td>
</tr>
<tr>
<td>5</td>
<td>To synthesise the research insights to highlight implications for improving MSP processes and its future research. Chapter 9: in addition to its significant theoretical and practical contribution, this thesis illuminates a range of additional questions and concerns that MSP initiatives must resolve, and for which future research is necessitated.</td>
</tr>
</tbody>
</table>
9.2 MSP a spatial tool for the low carbon transition devoid of politics

MSP initiatives in England and Scotland provided a multi-community, and institutionally and constitutionally complex research setting for this research. By exploring the functioning of the low carbon object within MSP and fulfilling the aim of this study – to evaluate how the low carbon transition is articulated by multiple communities through UK MSP - this thesis has contributed three significant original empirical findings to the understanding of MSP in practice, including:

1. Revealed the institutional resistance that underpins and ultimately controls MSP in practice: by charting the hierarchical institutional structure (the placement of power) of MSP in the UK and exploring the articulation of competing interests this thesis adds to the growing body of critical scholarship and challenges the notion that MSP’s radical potential can be recaptured.

2. Raised concerns over MSP’s effectiveness as a tool for climate action: owing to the problematic nature of knowledge (i.e. path-dependent embedded, and invested in practice), and institutional resistance (aspects of power), MSP is ineffective in creating common understanding and collaboration around climate change mitigation, such as the low carbon transition.

3. Through the comparative analysis of English and Scottish evidenced how political discourses determined how the low carbon transition was realised within MSP and in doing so revealed the consequences of constitutional fragmentation within the UK.

This study contributes to an understanding of the multiplicity of boundaries across which policy ambitions including the low carbon transition and MSP participatory processes must work. Boundaries between stakeholders that were identified by this study illustrates how participatory processes within MSP must not only overcome the negative consequences of differences in knowledge (pragmatic or institutional boundaries), but also organisational (e.g. induced and non-decision-making power), geographic, and identity. In both case studies, however, MSP appears to have been narrowly focused on and legislated for the rational use of marine space and reducing spatial conflicts. Whilst stakeholders were invited into the participatory process, there
was a negligible capacity (limited scope) to explore and debate alternative future visions for the ocean surrounding the low carbon transition. Identification of these boundaries, therefore, helps to explain that whilst MSP should be a political process that creates space for debate with the overall view of instigating radical change and redirecting us from unsustainable pathways, current participatory processes do not provide for differences to be explored and articulated. The boundaries and inequalities between stakeholders are entrenched, and at times exacerbated, due to continued exertion of control by decision-makers (i.e. those with the greatest power in all its forms, and access to levels of debate).

This study illustrates how the low carbon transition has garnered significant political traction in the UK which has resulted in the depoliticised realisation of it within MSP. By exploring and analysing political texts, the objects context, this research traced the shifting rationalisations (discourses) for the low carbon economy as a panacea to several crises including economic, social, and constitutional. This research demonstrates that at the centre of both Westminster and the Scottish Government’s ambitions is an energy transition towards significant offshore wind deployment. These ambitions were subsequently safeguarded within the relevant legislative and policy hierarchies including in MSP (i.e. Marine Acts, UKMPS). Identification of these motivations aided the explanation of the institutional resistance that ultimately determined how MSP was implemented (i.e. through depoliticised processes), and the low carbon transition was realised within the English and Scottish systems. From the tokenistic transferal of knowledge to the intentional exclusion of stakeholders, the analysis of English and Scottish case studies illustrates how participatory processes were employed to provide an impression of democratic legitimacy, best practice, and progressive change. It is important to recognise that this political influence (i.e. placement and exertion of decision and non-decision-making power), and path dependency of knowledge and policy, can have a constraining effect into the future, a particularly timely observation as England and Scotland move to review and iteratively develop the marine plans.

Additionally, the comparative analysis of English and Scottish case studies reveals the constitutional complexity of MSP across the UK. MSP is being implemented by devolved administrations on different temporal scales and through different spatial
arrangements (e.g. Scotland’s additional SNMP and regional plans). However, this study has exposed the limitations to this decentralised approach caused by the respective devolution settlements and the level at which there is capacity for action. This is evidenced most clearly through the regional plans for Scotland. The requirement for SRMPs to conform to both Scottish and UK-wide plans and strategies is such that the potential to radically transform the governance of the marine area, based on the principle of subsidiarity, is inconceivable under Scotland’s current devolution settlement. This study contributes to understanding the consequences of institutional resistance, the intention to retain decision-making power, stemming from Westminster that negatively effects the development and implementation of MSP in across devolved nations within the UK.

Finally, this research challenges the notion that MSP’s radical potential can be recaptured within the context of the UK (Clarke & Flannery 2019; Flannery & McAteer 2020). A more radical form of MSP should provide space for public debate about alternative futures and empower stakeholders, but this research stresses the necessity for there to be scope within MSP for structural change. Debate within the narrow remit of existing governance structures has been shown through this study to be ineffective at facilitating the creation of joint understanding through the transformation of knowledge. Given the significance of the fundamental inequalities within these first rounds of English and Scottish MSP, the potential for recapturing the knowledge-sharing and collaborative potential of the low carbon transition in future plans seems unlikely. This study does not consider pseudo-boundary objects as inescapable or resist the idea of MSP. Equally so, I do not naively believe that MSP will be in the vanguard of the assault on entrenched political regimes. However, this study has highlighted limitations to its transformative potential caused by a broader political context: institutional resistance established within the statute. Therefore, a recapture of MSP’s transformative potential must be accompanied by a substantial reorganisation of power from closed places, accompanied by institutional willingness. Questions must be asked of the role of the state, and the capacity for action ensuring that spaces of participation can foster sharing, assessing, and learning (transformation of knowledge) between all actors.
There is a growing body of literature united in their call for a re-conceptualisation of MSP, and endorsement of various modalities of repoliticisation (Ritchie & Ellis, 2010; Jay, 2018, 2019; Fairbanks et al. 2018; Clarke & Flannery 2019; Tafon et al. 2018). This study has brought to the fore questions and issues relating to the role of the state (government), and exertion of hidden power prior to and within MSP. Whilst I do not naively believe that MSP will be in the vanguard of the assault on broader institutional regimes or socio-economic inequalities and have indeed questioned the capacity to recapture its radical potential, I suggest that there are opportunities to better facilitate the articulation of competing interests and foster sustainability. These include:

1. Recentralizing conflict in marine governance: e.g. ‘pragmatic adversarialism’ wherein planners develop governance norms to tackle issues, such as the inequity caused by spatial privitisation, and in doing provide space for the articulation of interests (Tafon et al. 2019).

2. The deliberate redesign and transformation of marine governance regimes: transition management approach that seeks to explore multiple different trajectories (Kelly. C et al. 2018, 2019); or MSP could be reconfigured to enable communities to reflect on the rules of the game and if they need to be changed, and challenge existing discourses (van Tatenhove, 2017).

3. The development of strategies to empower stakeholders: citizen science (Kelly. R et al. 2019; Nursey-Bray et al. 2018; McAteer et al. 2021); participatory mapping (St Martin & Hall-Arber, 2008; Bennett, 2018; Boucquey et al. 2019); use of skilled intermediaries including eNGOs (Brooker et al. 2019) or advocate planners (Flannery et al. 2016; Saunders et al. 2019a; Tafon et al. 2019)

As MSP continues to be championed as a rational and integrative governance regime, practitioners must learn from early initiatives and in doing so actively work to repoliticise its implementation or explore radical alternatives. Employed collectively, or individually, methods to restructure the capacity for action must confront the entrenched inequalities that exist both prior to and within MSP initiatives, now and into the future.
9.3 Theoretical contribution: framework for distinguishing between boundary and pseudo-boundary objects

Through the development and application of a novel framework, this thesis makes two key theoretical contributions:

1. To boundary object theory: devised a theoretical framework, introducing the concept of pseudo-boundary objects, for exploring a multi-community collaboration wherein there is an expectation of obstructive collaboration i.e. collaboration in the absence of consensus and equality.

2. The evaluation of MSP with a recognition of the challenges of multi-community collaboration: introduced a critical approach to boundary objects into the examination of MSP.

This study’s first contribution is to the literature on boundary objects. This study has introduced a new concept of ‘pseudo-boundary objects’ and developed a framework for distinguishing between the production of constructive and obstructive collaboration. By drawing on three streams of literature including theories of knowledge exchange between communities; the role of boundary objects in knowledge exchange and transformation; and the consequence of the aspects of power and inequality on the functioning of objects between communities, the resulting theoretical framework sought to retain but re-evaluate the explanatory power of boundary objects whilst reconciling this with the critiques around power and co-option raised in the pluralist literature. The framework for defining boundary and pseudo-boundary objects thus recentres issues of power viewing its aspects as omnipresent in the context and functioning of objects, contributes to a shift in focus from features to function, and through its application uncovers a complex interplay of tangible and tacit boundaries that complicate the functioning of objects. These insights highlight the need for further research within this line of research.

Refocusing the analysis of objects, boundary or otherwise, on how they function in the exchange of knowledge rather than on their types or features deepens the analytical strength of the concept. A review of the extant literature revealed a problematic assumption and prioratisation of features whereby every cross-community thing regardless of how it functioned was defined as a boundary object: the pluralist turn. Chapter 2 of this thesis argued the need for a more critical evaluation of how boundary
objects function to provide a platform through which to develop and maintain coherence across intersecting and at times contradictory communities. The transference, translation, and transformation of knowledge, as identified by Carlile (2002, 2004), thus provides a more robust explanatory focus for the application of boundary object theory. The conceptual re-adjustment and analytical space provided by pseudo-boundary objects within this study thus retains the explanatory value of Star and Griesemer’s (1989) framework and accounts for how power subverts object to obfuscate and obstruct cooperation. This re-evaluation of boundary objects was premised on the fact that the functioning of an object is conditional, determined by the context within which it is constructed and used. Thus, the theoretical framework developed within this study reorientates the examination of collaboration in multi-community systems towards an explicit consideration of the capacities and abilities to share, assess, and learn across communities.

By providing analytical space for consideration of the consequences of the aspects of power within collaborative efforts, the framework developed within this study draws attention to the context within which an object exists. Beyond identifying the boundaries of knowledge, the theoretical framework highlighted other tangible and tacit inequalities and differences that affect the functioning of objects between communities, such as the exertion of induced and non-decision-making power. Analysis of interviews revealed several communities bound and defined by organisational, institutional, and identity boundaries that were hugely influential in determining how the object functioned. Objects are thus nested within not only the immediate collaborative efforts but drawn from and influenced by historic interactions and decisions (exertion of power) within and between these communities. Just as the reorientation from features to function allowed for the recentring of power and inequalities within the boundary object literature, so too does the deliberate examination of the broader context of an object. This ecological approach whereby attention must be paid to the entirety of the collaborative process and the aspects of power, whilst true to Star and Griesemer’s (1989), helps to further explain how objects come to facilitate obstructive collaboration (see Chapter 8, Figure 8.1).

The second key theoretical contribution relates to the evaluation of MSP wherein the functioning of the low carbon transition object is examined. This research has
introduced a critical approach to boundary objects into the examination of the MSP policy arena. Authors including Döring and Ratter (2015), van Enst et al. (2016) and Walsh (2019) have utilised boundary theory, including boundary objects, to explain the flexibility and bridging capacity of various concepts within MSP practices. However, they have not explicitly considered or theorised how such objects have functioned between communities or provided space for consideration of the influence of inequalities and the aspects of power. For example, Walsh’s (2019) utilisation of boundary objects centres on the interpretative flexibility of a concept and thus falls into the same trap as much of the extant object literature wherein features are prioritised. This study thus provides an original contribution to the MSP literature by introducing the framework for distinguishing boundary and pseudo-boundary objects that more critically explores the production of constructive or obstructive collaboration around particularly policy objectives.

Additionally, with recognition of the growing body of evidence that indicates a gap between the theorisation and implementation of MSP, the novel object framework provides analytical space for discussions regarding the reflexive capacity of future participatory processes. This study revealed how the transformative potential of the object of transitioning was controlled because of the aspects of power and problematic nature of knowledge. In turn, the novel object framework points to the need for the extensive restructuring of participatory spaces, and the realisation of iterative ambitions of MSP (i.e. iterative collaboration and knowledge sharing) to foster learning, recognising that domination or control of an object is not indefinite. To overcome the shortcomings related to conceptual and institutional fragmentation, and build cross-stakeholder learning, MSP processes must provide for debate, performative reflection (review processes) and rule changing (redistribution of decision-making power) (van Tatenhove, 2017), such as the examples considered in section 9.2. The novel framework, therefore, provides a theoretical test by which to examine the success of new opportunities for articulating competing interests, moving beyond questioning simply whether stakeholders had the capacity to engage, towards a critical examination of the capacity to transform knowledge and so marine governance. The value of the framework is, therefore, in both the examination of MSP in practice (i.e. functioning of the transition object and knowledge transformation), and conceptualisation and testing of iterative practices (i.e. recapturing of the
collaborative potential), enabling cross-stakeholder learning recognising the benefits of managing difference and conflict (e.g. innovation).

9.4 Limitations and implications for future research

With regards to the limitations of this study and future implications, there is considerable research that could be conducted into both boundary object theory and MSP initiatives.

Theoretical research: boundary and pseudo-boundary object

Concerning the use of the framework, there is considerable space and need for research to be conducted concerning how objects function to facilitate constructive or obstructive collaboration. Although I have provided a conceptual readjustment of Star and Griesemer’s (1989) concept by linking it with and extending Carlile’s (2004) framework, and considering the placement of power (Lukes 1974, 2005; Gaventa, 2003, 2006), I recognize that this needs to be further validated by applying it to a wider range of cases where there is an expectation of obstructive collaboration. The application of this conceptual framework in such settings will help develop its capacity to identify and diagnose pseudo-boundary objects, considering the consequence of the various aspects of power.

I hope a clearer identification of pseudo-boundary objects will move the discussion in the pluralist tradition beyond the identification of ‘bad’ objects and will enable researchers to ask several critical questions about how these objects function to inhibit knowledge sharing while simultaneously appearing to be a collaborative endeavour. In the case of the participatory process, the framework reiterates that researchers must seek out and explore the exertion of visible, hidden or invisible power in all its dimensions, spaces, and levels. This may provide greater insights into the way ‘depoliticization’ and different forms of power are used or found (retained within closed space or place) in obstructive situations.

Furthermore, I hope this framework prompts a more critical perspective on the consequences of the historic context of an object, who gains and who loses, by which mechanisms of power and, most importantly, how efforts to rehabilitate pseudo-boundary objects can best be advanced. Just as the framework consolidates and
recentres the negative consequences of inequalities in collaborative processes, so too
does it highlight the benefits of managing difference and conflict. This has value not
only in enhancing our understanding of inequalities in collaborative processes but may
also point to how the positive functions of boundary objects can be protected and
nurtured.

**Empirical research: MSP as a radical governance tool for climate action**

I want to end, where I began, with a consideration of MSP as a tool for climate change
mitigation, and the implications of my research into this crucial subject.

Whilst this research has revealed the negative consequences of the aspects of power
regarding the low carbon transition within MSP, and in doing so contributed to the
growing body of critical literature, this study was limited in two ways namely relating
to issues of time. First, owing to the fact that English and Scottish marine plans were
developed between 2011-2016, I did not directly observe the respective stakeholder
engagement processes. Second, regarding the English case study, a number of years
had passed since the stakeholder process had occurred (completed in 2014, interviews
in 2018). As such, there is a concern that aspects of the process may have been
forgotten. Developing an understanding of multi-community collaborative efforts can
be hard to achieve because the researcher must capture the interactions and practices
of sharing, assessing, and learning of knowledge. This study identified the impact of
power and inequalities on knowledge-sharing through an in-depth analysis of a wide
range of participant’s detailed accounts and plan documents. However, I suggest that
further research, could overcome these time-based issues and would benefit from other
methods such as ethnography that could provide a closer look into the engagement
process.

There were also logistical constraints to the number of case studies that could be
conducted. England and Scotland provided robust and useful comparative cases that
revealed a complex interplay of constitutional and organisational boundaries. Ideally,
the research would have included an international case, such as Canada. But due to
time and resource limitations, this was unfeasible.

In terms of future research, this study has highlighted a number of questions and areas
regarding MSP that would benefit from consideration:
• How will the low carbon objective function in future iterations of English and Scottish MSP? Can the object of transitioning move from being obstructive to facilitating the constructive transformation of knowledge, or will it iteratively embed obstructive collaboration?
• How are competing interests articulated within other MSP practices e.g. in Wales, Northern Ireland, in the Global south?
• In the context of transboundary marine spatial planning, how did the objective of transitioning function?
• How will Scottish independence effect the implementation of MSP? At the time of writing up this thesis (2019-20), polling shows record support for secession (YouGov, 2020), and with recent devolution of competence over the management of land and property (including the seabed) in Scotland35. It follows then that research into whether Scottish independence would provide a substantial enough policy window to enable the recapturing of MSPs transformative potential would be advantageous.

If MSP is to recapture its radical and transformative potential, those implementing it must recognise and utilise the differences and dependencies that bind us to the marine area. We must protect the oceans on our blue planet and move away from our unsustainable pathways.

Thank the ocean with every breath you take.

Dr Sylvia Earl

35 Crown Estate Scotland was established in 2019, transferring the rights to manage land and property in Scotland, and the retention of financial benefits accruing from this within Scotland (e.g. oil and gas, and offshore energy licencing).
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marine spatial planning—“ad utilitatem omnium”/marine spatial planning: “It is better to be on
the train than being hit by it”/Reflections from the perspective of recreational anglers… . Planning Theory & Practice, 17(1), pp.121–151.


[Accessed August 2018]


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Appendix 1. List of speeches analysed for English case study and wider UK context

BEIS: Department for Business, Energy & Industrial Strategy; CO: Cabinet Office; DBIS: Department for Business, Innovation & Skills; DDCMS: Department for Digital, Culture, Media & Sport; DECC: Department of Energy and Climate Change; DEFRA: Department for Environment, Food, and Rural Affairs; DfT: Department for Transport; DfID: Department of International Development; FCO: Foreign & Commonwealth Office; MHCLG: Ministry of Housing, Communities & Local Government; PMO: Prime Minister’s Office.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
<th>Date</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECC, 2010a</td>
<td>Charles Hendry’s speech on sustainable energy security</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010b</td>
<td>The Rt Hon Chris Huhne MP’s speech to the TUC annual Climate Change Conference</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010c</td>
<td>Charles Hendry’s speech at the Energy and Utility Forum, House of Commons</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010d</td>
<td>The Rt Hon Chris Huhne MP’s speech to the European Future Energy Forum</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010e</td>
<td>The Rt Hon Chris Huhne MP’s speech at the LGA annual conference in Bournemouth</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010f</td>
<td>The Rt Hon Chris Huhne MP delivers speech at CBI climate change summit</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010g</td>
<td>The Rt Hon Chris Huhne MP’s speech to the Green Alliance, UK-EU Action on Climate Change</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010h</td>
<td>Charles Hendry’s keynote speech to CCS Senior Stakeholders Conference</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DfT, 2010a</td>
<td>Fleet News Green Summit</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>PMO, 2010a</td>
<td>Queen’s Speech: Energy Security and Green Economy Bill</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>DECC, 2010i</td>
<td>The Rt Hon Chris Huhne MP’s speech at Chatham House</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DfT, 2010b</td>
<td>Low CVP conference</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010j</td>
<td>The Rt Hon Chris Huhne MP’s speech to LSE</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010k</td>
<td>The Rt Hon Chris Huhne MP’s speech to CCS Senior Stakeholders Conference</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010l</td>
<td>The Rt Hon Chris Huhne MP’s speech to the CBI Conference</td>
<td>2010</td>
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<tr>
<td>DECC, 2010m</td>
<td>The Rt Hon Chris Huhne MP’s speech to the Guardian’s Cleantech Energy Summit</td>
<td>2010</td>
<td>Coalition</td>
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<td>Organization</td>
<td>Event Description</td>
<td>Year</td>
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<tr>
<td>DECC, 2010n</td>
<td>Charles Hendry's speech to the PRASEG Christmas reception</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010o</td>
<td>Greg Barker's opening speech to the European Future Energy Forum</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DfT, 2010c</td>
<td>Sustainable transport</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DfT, 2010d</td>
<td>Green Bus Fund</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010p</td>
<td>Greg Barker's speech to the Micropower Council</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DEFRA, 2010a</td>
<td>Rt Hon Caroline Spelman MP speech: 'Futureproofing the present: adapting to the reality of climate change'</td>
<td>2010</td>
<td>Coalition</td>
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<td>DECC, 2010q</td>
<td>Outcomes of Cancun Climate Conference (The Rt Hon Chris Huhne MP's Oral Statement to Parliament)</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>Defra, 2010b</td>
<td>Lord Henley: International Energy Agency’s conference “Saving more energy through compliance”</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>Defra, 2010c</td>
<td>Adapting to climate change: Lord Henley speech to UNEP meeting for insurers</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>Defra, 2010d</td>
<td>Lord Henley’s keynote address to Green Alliance conference on the Eco Design Directive</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010r</td>
<td>The Rt Hon Chris Huhne MP's speech to the Passivhaus Conference</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DfT, 2010e</td>
<td>Cycle Point</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010s</td>
<td>Solar Energy UK</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>DECC, 2010t</td>
<td>The Rt Hon Chris Huhne MP speech: COP 16 Plenary Statement, Cancun</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>MHCLG, 2010a</td>
<td>Better planning: from principle to practice</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>MHCLG, 2010b</td>
<td>National regeneration summit</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>MHCLG, 2010c</td>
<td>Housing market intelligence conference</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>MHCLG, 2010d</td>
<td>Participation in planning</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>MHCLG, 2010e</td>
<td>Royal Town Planning Institute's annual planning convention</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>MHCLG, 2010f</td>
<td>Growing the Big Society</td>
<td>2010</td>
<td>Coalition</td>
</tr>
<tr>
<td>MHCLG, 2010g</td>
<td>Local government: rewriting the rules</td>
<td>2010</td>
<td>Coalition</td>
</tr>
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<td>FCO, 2010a</td>
<td>Energy in a low carbon economy: New roles for Governments and markets</td>
<td>2010</td>
<td>Coalition</td>
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<tr>
<td>FCO, 2010a</td>
<td>Use the profit motive to fight climate change</td>
<td>2010</td>
<td>Coalition</td>
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<td>Defra, 2010e</td>
<td>Radical new way of managing our seas published today</td>
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<td>Richard Benyon speech - Charting Progress 2 Launch</td>
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<td>DECC, 2011a</td>
<td>Greg Barker's speech to the RUK Wave and Tidal Conference, QEII conference center</td>
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<td>The Rt Hon Chris Huhne MP's speech to CentreForum</td>
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<td>Fourth Carbon Budget: oral ministerial statement by The Rt Hon Chris Huhne MP</td>
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<td>The case for action on climate change: The Rt Hon Chris Huhne MP delivers three key speeches</td>
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<td>Greg Barker's Speech for Solar Power UK</td>
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<td>Electric vehicles and their integration in the built environment</td>
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<td>Greg Barker speech: Green Deal and Big Society event</td>
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<td>Greg Barker's opening speech to the Rights and Resources Initiative (RRI) Dialogue</td>
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<td>Greg Barker speech to Micropower Council annual event</td>
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<td>DECC, 2011r</td>
<td>Charles Hendry's speech to Platts CCS Conference</td>
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<td>DfT, 2011g</td>
<td>Aviation Club lunch</td>
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<td>North West Biofuel Network meeting</td>
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<td>The Rt Hon Chris Huhne MP: The geopolitics of climate change (speech to Future Maritime Operations Conference at the Royal United Services Institute)</td>
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<td>Secretary of State The Rt Hon Chris Huhne MP's Oral Statement on the outcomes of the Durban COP17 climate change conference</td>
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<td>Local planning for sustainable development</td>
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<td>The Rt Hon Chris Huhne MP speech to the Durban COP17 Climate Conference Plenary</td>
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<td>Climate Impacts Study - speech by The Rt Hon Chris Huhne MP</td>
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<td>DfT, 2011i</td>
<td>Smarter working and the public sector</td>
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<td>Zero carbon hub annual conference 2011: tomorrow's new homes</td>
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<td>MHCLG, 2011d</td>
<td>Planning for growth</td>
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<td>Homes to be proud of</td>
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<td>Confederation of British Industry annual dinner</td>
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<td>A new settlement for planning</td>
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<td>MHCLG, 2011j</td>
<td>Neighbourhood planning is an opportunity for councillors</td>
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<td>DBIS, 2011a</td>
<td>Building growth in the low-carbon economy</td>
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<td>FCO, 2011a</td>
<td>The future energy challenge</td>
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<td>DECC, 2012a</td>
<td>Speech by the Secretary of State at the Low Carbon Investment Conference</td>
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<td>PMO, 2012a</td>
<td>Deputy Prime Minister’s speech at the Global Business Summit on Energy</td>
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<td>DECC, 2012b</td>
<td>Greg Barker speech at the launch of REA 'Made in Britain' report</td>
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<td>Charles Hendry's speech to the Fuellers lecture 25th anniversary</td>
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<td>DfT, 2012a</td>
<td>Biofuels: the Renewable Transport Fuel Obligation, progress on adoption and the next generation</td>
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<td>DECC, 2012d</td>
<td>Charles Hendry speech at All Energy Aberdeen</td>
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<td>Edward Davey statement on the consultation on energy intensive industries compensation scheme</td>
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<td>PMO, 2012b</td>
<td>Prime Minister's remarks at Clean Energy meeting</td>
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<td>DECC, 2012f</td>
<td>Charles Hendry's speech at the Energy and Utility Forum</td>
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<td>Charles Hendry speech at SmartGrid GB event</td>
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<td>Charles Hendry's speech to the Platts 6th Annual CCS Conference</td>
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<td>DECC, 2012i</td>
<td>Domestic Heat Study report launch: Gregory Barker speech at the Energy Networks Association</td>
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<td>DECC, 2012l</td>
<td>Government's position in the lead-up to Doha: Speech to Chatham House by Edward Davey</td>
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<td>DECC, 2012m</td>
<td>Edward Davey statement in response to Committee on Climate Change letter</td>
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<td>DECC, 2012n</td>
<td>Speech at CBI breakfast by Edward Davey</td>
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<td>DfT, 2012b</td>
<td>Technology Strategy Board</td>
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<td>DECC, 2012o</td>
<td>Climate action in a distracted world</td>
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<td>DECC, 2012p</td>
<td>Charles Hendry's speech to the University of Edinburgh Business School</td>
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<td>Low carbon vehicle partnership (LowCVP) conference</td>
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<td>North West Biofuels Network</td>
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<td>Edward Davey opening remarks to the Clean Energy Ministerial</td>
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<td>Charles Hendry speech to the Nuclear Institute North West Branch Annual Dinner</td>
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<td>DECC, 2012t</td>
<td>Greg Barker keynote speech at the launch of the new Met Office Hadley Centre Climate Programme</td>
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<td>Edward Davey speech to the Global Offshore Wind Conference</td>
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<td>Edward Davey speech to the Offshore Oil And Gas All Party Parliamentary Group</td>
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<td>DECC, 2012w</td>
<td>Gregory Barker speech to the Micropower Council</td>
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<td>DECC, 2012x</td>
<td>Deep geothermal symposium: Gregory Barker speech</td>
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<td>Gregory Barker speech at the RHPP Communities Scheme Launch</td>
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<td>Speech by Charles Hendry at McCloskey's Coal UK Conference</td>
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<td>Caroline Spelman addresses the ABI Conference on climate change and flood risk</td>
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<td>DECC, 2012aa</td>
<td>Statement from new Energy Minister</td>
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<td>DECC, 2012ab</td>
<td>Baroness Verma speech on sustainability on a budget</td>
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<td>House of Commons debate on fuel poverty and energy efficiency</td>
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<td>Secretary of State’s speech at the launch of the Climate Change Risk Assessment</td>
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<td>DECC, 2012ad</td>
<td>&quot;Investing for the Future in Turbulent Times&quot; - Charles Hendry speech to MENA, Chatham House</td>
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<td>Edward Davey speech to the Fair Energy Summit</td>
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<td>Communications: purpose and practice</td>
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<td>Statement by Edward Davey at the start of the UNFCCC COP18 climate change negotiations</td>
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<td>Greg Barker commenting on price increase announcements from energy suppliers</td>
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<td>Greg Barker key note speech at launch of Green Deal Skills Alliance</td>
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<td>Owen Paterson’s speech at the Wildlife and Countryside Link event</td>
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<td>Launching the Climate Legislation Initiative</td>
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<td>The Myths and Realities of Shale Gas Exploration</td>
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<td>Address to the Global Carbon Market Conference</td>
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<td>The climate risk opportunity</td>
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<td>Greg Barker’s opening speech RUK Wave and Tidal conference</td>
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<td>IEA launch of &quot;Redrawing the Energy-Climate Map&quot; report</td>
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<td>FCO, 2013a</td>
<td>Building Green Economy in Kazakhstan: Green Investment Bank</td>
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<td>DECC, 2013r</td>
<td>Speech by Gregory Barker at the Solar Roadshow</td>
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<td>Leading the way; the UK’s new nuclear renaissance</td>
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<td>Independent Transport Commission Annual Lecture introductory address</td>
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<td>DfT, 2013d</td>
<td>The Future of the West: The UK’s Evolving Role in the World</td>
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<td>Dhaka marks publication of the UN IPCC report on climate change</td>
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<td>Edward Davey statement on the Climate and Clean Air Coalition announcement</td>
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<td>Gregory Barker speech to the Large Scale Solar Conference</td>
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<td>John Hayes speech to the Nuclear Industry Association New Nuclear Build Conference</td>
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<td>Living Streets supporters conference</td>
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<td>2013aab</td>
<td>UK new nuclear – successes and beyond</td>
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<td>2013a</td>
<td>Royal Town Planning Institute planning convention 2013</td>
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<td>2013b</td>
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<td>2013a</td>
<td>The UK Government and the Islands - Working Together</td>
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<td>The role of energy innovation in helping the UK to meet its low carbon and energy security goals</td>
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<td>‘Climate friendly growth to unlock business potential’</td>
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<tr>
<td>2014a</td>
<td>Address to the Tidal Energy Summit</td>
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<td>2014b</td>
<td>Address to the Scottish Renewable Conference</td>
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<td>Climate Change: Politics, Economics and Partnerships</td>
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<td>Tackling climate change is not at odds with economic growth</td>
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<td>2014c</td>
<td>Address to the Green Growth Summit</td>
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<td>The UK government’s vision for a global climate deal</td>
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<td>Eurelectric conference</td>
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<td>UK renewables infrastructure investor day</td>
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<td>Energy from Waste conference</td>
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<td>Promoting international cooperation in offshore wind energy</td>
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<td>Annual Heat Conference</td>
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<td>2014f</td>
<td>Green Growth &amp; Business Forum - Speech by HE Antony Phillipson</td>
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<td>UKTI Civil Nuclear Export Showcase</td>
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<td>In-depth look at South coast and seas published</td>
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<td>DECC, 2015c</td>
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<td>DECC, 2015d</td>
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<td>DECC, 2015e</td>
<td>Speech to the Community Heat Conference</td>
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<td>DECC, 2015f</td>
<td>Launch of the 2050 Global Calculator</td>
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<td>DfT, 2015a</td>
<td>The bus sector is evolving</td>
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<tr>
<td>DECC, 2015g</td>
<td>Address to the Ecobuild Exhibition</td>
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<td>DECC, 2015h</td>
<td>Speech at Money Saving Expert</td>
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<td>FCO, 2015a</td>
<td>The global high table: India’s place in the world</td>
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<td>Low-carbon technology can be another string to the bow of UK-India relationship’</td>
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<td>DfT, 2015b</td>
<td>Formula E: Racing to a low carbon vehicle future</td>
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<td>FCO, 2015c</td>
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<td>DECC, 2015i</td>
<td>Lord Bourne’s speech at the Energy Management Exhibition</td>
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<td>FCO, 2015d</td>
<td>Foreign Secretary speech “A conservative response to climate change”</td>
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<td>Secretary of State speech on Climate Change</td>
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<td>Foreign Secretary's Clean Energy Future speech</td>
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<td>Amber Rudd’s speech on a new direction for UK energy policy</td>
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<td>Address to the RenewablesUK Offshore Wind Conference</td>
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<td>Lord Bourne’s speech on the global climate change deal</td>
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<td>Hugo Swire's speech at Brazilian Embassy Amazon Day</td>
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<td>FCO, 2015g</td>
<td>Smart meters roll-out: sharing the UK’s capabilities</td>
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<td>DfT, 2015c</td>
<td>The future of business mobility</td>
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<td>PM speech to the COP21 summit in Paris</td>
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<td>PMO, 2015a</td>
<td>G20 Summit: PM press conference</td>
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<td>Defra, 2015a</td>
<td>Lord Henley speech – CBI roundtable on climate change adaptation</td>
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<tr>
<td>DfT, 2015d</td>
<td>Moving road transport forward</td>
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<tr>
<td>DfT, 2015e</td>
<td>Buses form the backbone of our local transport network</td>
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<td>DDCMS, 2015a</td>
<td>Smart Cities - UK opportunities and potential</td>
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<td>MMO, 2015a</td>
<td>MMO launches new Marine Information System (MIS)</td>
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<td>MMO, 2015b</td>
<td>Cefas leads the marine &quot;Open Data&quot; revolution</td>
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<tr>
<td>FCO, 2015h</td>
<td>United Kingdom's perspectives post-COP21</td>
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<td>DECC, 2016a</td>
<td>Realising the vision for a new fleet of nuclear power stations</td>
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<td>DECC, 2016b</td>
<td>Andrea Leadsom's speech at Women in Nuclear UK Conference</td>
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<td>FCO, 2016a</td>
<td>Urbanisation and stable energy are important for growth'</td>
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<tr>
<td>DECC, 2016c</td>
<td>Amber Rudd speech to the Business &amp; Climate Summit</td>
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<td>BEIS, 2016a</td>
<td>Greg Clark speech at Energy UK</td>
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<td>DECC, 2016d</td>
<td>Government’s vision for shale gas in securing home grown energy supplies for the UK</td>
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<tr>
<td>BEIS, 2016b</td>
<td>Baroness Neville-Rolfe’s speech on energy efficiency</td>
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<tr>
<td>FCO, 2016b</td>
<td>&quot;The Paris Agreement proves that the transition to a climate-neutral and climate-resilient world is happening.&quot;</td>
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<tr>
<td>FCO, 2016c</td>
<td>Address for Commonwealth Marine Economies Programme Workshop: Indian Ocean</td>
<td>2016</td>
<td>Conservative</td>
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<tr>
<td>DfT, 2016a</td>
<td>We need a sustainable railway</td>
<td>2016</td>
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<tr>
<td>FCO, 2016d</td>
<td>UK supports growth and development of East African oil and gas sector</td>
<td>2016</td>
<td>Conservative</td>
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<tr>
<td>BEIS, 2016c</td>
<td>New ministerial team to develop industrial strategy</td>
<td>2016</td>
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<tr>
<td>BEIS, 2016d</td>
<td>UK statement to the IAEA international conference on nuclear security</td>
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<tr>
<td>DfT, 2016a</td>
<td>A smarter vision for transport</td>
<td>2016</td>
<td>Conservative</td>
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<tr>
<td>MMO, 2016a</td>
<td>Draft South Marine Plan: Consultation now open</td>
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<tr>
<td>MMO, 2016b</td>
<td>Marine planning issues and evidence workshops announced</td>
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<tr>
<td>MMO, 2016c</td>
<td>Next phase of marine planning begins</td>
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<tr>
<td>MMO, 2016d</td>
<td>Consultations for next phase of marine planning opens</td>
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<td>MMO, 2016e</td>
<td>Call for issues with supporting evidence for next phase of marine planning launched</td>
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<tr>
<td>MMO, 2016f</td>
<td>New evidence strategy published</td>
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## Appendix 2. List of speeches analysed for Scottish case study

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
<th>Date</th>
<th>Government</th>
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<tr>
<td>First Minister, 2010a</td>
<td>First Minister: Statement on Programme for Government</td>
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<tr>
<td>First Minister, 2010b</td>
<td>First Minister: Low Carbon Investment Conference</td>
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<td>SNP</td>
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<td>First Minister, 2010c</td>
<td>First Minister: Scottish Low Carbon Investment Conference: Closing Address</td>
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<tr>
<td>First Minister, 2010d</td>
<td>First Minister: Renewable UK 2010 Annual Conference &amp; Exhibition Building the Industry</td>
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<td>SNP</td>
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<tr>
<td>DRAE, 2010a</td>
<td>Cabinet Secretary for Rural Affairs Richard Lochhead: ConFor Conference</td>
<td>2010</td>
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<tr>
<td>FSG, 2010a</td>
<td>Swinney upbeat on economic prospects</td>
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<td>FSG, 2010b</td>
<td>Economic Recovery Plan</td>
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<tr>
<td>FSG, 2010c</td>
<td>Supporting economic recovery</td>
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<td>SNP</td>
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<tr>
<td>DRAE, 2010b</td>
<td>Global carbon capture expertise</td>
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<tr>
<td>FSG, 2010d</td>
<td>Low carbon economy strategy</td>
<td>2010</td>
<td>SNP</td>
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<tr>
<td>FSG, 2010e</td>
<td>Low Carbon Investment conference</td>
<td>2010</td>
<td>SNP</td>
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<tr>
<td>DTICC, 2010a</td>
<td>Simplifying planning policy</td>
<td>2010</td>
<td>SNP</td>
</tr>
<tr>
<td>FSG, 2010f</td>
<td>Increasing pace on planning reform</td>
<td>2010</td>
<td>SNP</td>
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<tr>
<td>DRAE, 2010b</td>
<td>Marine regions consultation</td>
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<tr>
<td>HC, 2010a</td>
<td>Greener homes</td>
<td>2010</td>
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<tr>
<td>HC, 2010b</td>
<td>Home renewables grants</td>
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<td>HC, 2010c</td>
<td>Home Insulation Scheme</td>
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<td>HC, 2010d</td>
<td>Householder green energy help</td>
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SDECC: Directorate for Environment and Climate Change; DEET: Directorate for Energy, Enterprise and Tourism; DRAE: Directorate of Rural Affairs and the Environment; DTICC: Directorate of Transport, Infrastructure and Climate Change; FSG: Finance and Sustainable Growth
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<td>Low carbon vehicles</td>
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<td>First Minister, 2011a</td>
<td>Energy lab launched</td>
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<td>FSG, 2011a</td>
<td>Budget must aid Scottish economy – Swinney</td>
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<td>First Minister, 2011b</td>
<td>North Sea oil and gas investment</td>
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<td>Government Economic Strategy</td>
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<td>Planning performance on the up</td>
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<td>DTICC, 2011b</td>
<td>Programme for planning</td>
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<td>National Marine Plan</td>
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<td>DEET, 2011b</td>
<td>Marine renewables generate interest</td>
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<td>DEET, 2011b</td>
<td>Marine energy opportunities across Europe</td>
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<td>Low carbon Scotland - Spending Review</td>
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<td>Community sustainable energy loans</td>
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<tr>
<td>DFM, 2012a</td>
<td>Seven key strengths of Scotland’s economy</td>
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<td>FSG, 2012a</td>
<td>Over £100m to stimulate economic growth</td>
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<tr>
<td>FSG, 2012b</td>
<td>Scotland will stand on her own two feet</td>
<td>2012</td>
<td>SNP</td>
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<tr>
<td>FSG, 2012c</td>
<td>A Scottish budget for jobs and growth</td>
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<tr>
<td>HC, 2012a</td>
<td>Planning for sustainable economic growth</td>
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<td>SNP</td>
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<td>Climate change affecting fish stocks</td>
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<td>First Minister, 2012a</td>
<td>Wave and tidal energy action plan</td>
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<td>DRAE, 2012b</td>
<td>Public engagement on offshore energy</td>
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<td>Millions for greener homes</td>
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<td>Greener homes plan for Scotland</td>
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<td>Funding for sustainable transport</td>
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<td>World’s first ‘hybrid’ ferries</td>
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<td>Commitment to quality is central to new architecture policy</td>
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<td>Low carbon deal struck in Hong Kong</td>
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<td>Drive for greener buildings</td>
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<td>Sharing Scottish ambition on climate change</td>
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<td>DEET, 2013c</td>
<td>Planning Scotland’s seas</td>
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<td>2013</td>
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<td>Islands group meeting</td>
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<td>Cabinet, 2014a</td>
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### Appendix 3. List of documents analysed: legislative, general, marine plan.

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Appendix 4. Interview request email

Jane Clarke BSc. MSc
PhD student
School of Natural and Built Environment
Queen’s University Belfast
David Keir Building
Stranmillis Road
Belfast
BT9 5AG

Interview Request

Dear XXXXXX,

I am writing to invite you to take part in an interview for a research project that examines how the transition to a low carbon economy is achieved within marine spatial planning (MSP) practices. In particular, this study aims to understand how MSP addresses the differences between stakeholders on energy issues. I am using the [East of England/ pilot Pentland Firth and Orkney Waters] marine plans as a case study and would be grateful for your support in completing my research.

I would like to interview stakeholders who were involved in the [East of England/ pilot Pentland Firth and Orkney Waters planning process]. I note from XXX documents that you were involved as a consultee, I therefore believe you could provide valuable insight for this project.

To this end, would you be willing to take part in a short interview? I plan on visiting the [East of England/Pentland Firth and Orkney area] around [month] 2018 to conduct these interviews. They will last roughly 45 minutes and I would like to carry them out face-to-face at your office.

If you require any more information about this project, please do not hesitate to contact me. I look forward to hearing about your experiences of MSP in the future.

Yours sincerely,

Jane Clarke
Appendix 5. Participant information sheet

Jane Clarke BSc. MSc
PhD student
School of Natural and Built Environment
Queen’s University Belfast
David Keir Building
Stranmillis Road
Belfast
BT9 5AG
Date XXXX

Information Sheet
Title: Marine spatial planning and the transition to a low carbon economy.

What is the purpose of the study?
This study aims to understand the interactions of marine stakeholders on energy issues within marine spatial planning (MSP). Specifically, this explores how stakeholders with different backgrounds come together to agree on policy outcomes. It aims to inform the participative process within MSP and outcomes related to climate change mitigation measures.

Why have I been chosen to take part?
For the purpose of this study you are considered a marine stakeholder with relevance to the low carbon negotiations. You have been chosen due to your involvement, or knowledge related to negotiating the transition to a low carbon economy within MSP.

Do I have to give consent to take part?
Yes, consent is required for all aspects related to the semi-structured interviews, this includes:
- Taking part in the semi-structure interviews;
- for the interview to be digitally recorded;
- for these recordings to be transcribed verbatim, with your identity and responses remaining anonymous and not attributable to you.

There is a consent form (tick box format) which you will be required to fill in when agreeing to participate in this study.

What will I be asked to do?
To take part in semi-structured interviews that should last 45 minutes.

What are the potential disadvantages to my taking part?
The researcher does not anticipate that there are any disadvantages.

What are the potential benefits?
As the results of this research are anticipated to contribute to providing good practice lessons for marine planning in the UK and Ireland, there would be potential benefits from participating.

Will my participation be kept confidential?
Yes, any responses given during the interviews will be kept anonymous. Any quotations used in the written thesis, and publication of research will not be made attributable to you. A coded system will be used to refer to individual quotations, for example a member of the renewable energy sector said..., a public body representative stated... etc.

**What will happen to the results of the study?**
They will form part of the analysis contributing to understanding if MSP is facilitating the transition to a low carbon economy and will be part of the theoretical discussion within the PhD thesis. The intention is to submit the results of this thesis to be published in peer reviewed journals. Additionally, the findings of this study will provide good practice lessons for marine planning in Ireland and the UK in relation to the transition to a low carbon economy.

**Who is organising and funding the project?**
This research is being conducted as part of a Department for the Economy for Northern Ireland PhD studentship and has been organised through the School of Natural and Built Environment (SNBE) of Queen’s University Belfast (QUB).

**Who has reviewed the project?**
Engineering and Physical Science Faculty Ethical Research Committee at QUB.

**What if there is a problem?**
In the first instance please contact the project supervisor Dr Wesley Flannery who can be contacted at w.flannery@qub.ac.uk.

**Contact details of researcher**
Jane Clarke  
School of Natural and Built Environment, QUB  
jclarke323@qub.ac.uk

**Supervisors**
Dr Wesley Flannery  
School of Natural and Built Environment, QUB  
w.flannery@qub.ac.uk

Professor Geraint Ellis  
School of Natural and Built Environment, QUB  
g.ellis@qub.ac.uk
Appendix 6. Participant consent form

Consent form for participating in semi-structured interviews

Title of project: Marine spatial planning and the transition to a low carbon economy.

Researcher: Jane Clarke, SNBE, Queen’s University Belfast
Research supervisors: Dr Wesley Flannery; Professor Geraint Ellis

Please tick box

1. I confirm that I have read and understand the information sheet provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw up to 8 weeks after the interview without giving any reason.

3. I agree to take part in semi-structured interviews, and having the interview recorded and transcribed.

4. I agree to take part in the above study.

_________________  ___________________  ___________________
PRINT NAME  SIGNATURE  DATE
# Appendix 7. List of interview codes

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