A New Governance Approach to Designing an Effective Arrangement for the Sustainable Management of Renewable Marine Resources in the Eastern Caribbean States

by

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The undersigned hereby certify that they have read and recommend to the Faculty of Graduate Studies for acceptance a thesis entitled "A New Governance Approach to Designing an Effective Arrangement for the Sustainable Management of Renewable Marine Resources in the Eastern Caribbean States" by Kerith Tristan Kentish in partial fulfilment of the requirements for the degree of Master of Laws.

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DEDICATIONS

For

My parents, George and Civilla Kentish

and

My grandmothers, Auckland Kentish and Gertrude Tross

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ABSTRACT

The study's main purpose is to propose a governance framework that meets the priority of sustainable development for the regulation of offshore renewable resources in the OECS region. The study develops an analytical framework for evaluating the recently adopted "Round 3 model of governance" for the regulation of offshore wind and other marine activities in the United Kingdom. The focus is on the licensing procedures applicable to offshore wind development. Thereafter, the study examines the appropriateness of the application of the Round 3 model to the regulation of marine renewables in the OECS, and makes recommendations in that regard.

Additionally, through the study of marine renewable resource development, this thesis looks at general conditions for effective ocean governance. In this regard, the thesis argues that strict hierarchical governance of the marine environment is not a desirable approach to effective ocean governance.

LIST OF ABBREVIATIONS

BWEA	British Wind Energy Association
CO2	Carbon Dioxide
CPA	Coast Protection Act 1949 (UK)
DTI	Department of Trade and Industry
DEFRA	Department of Environment Food and Rural Affairs
EA	Electricity Act 1989 (UK)
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ES	Environmental Statement
EU	European Union
EWEA	European Wind Energy Association
FEPA	Food and Environment Protection Act 1985
GHGes	Greenhouse Gases
IPC	Infrastructure Planning Commission
IPCC	Intergovernmental Panel on Climate Change
MCCA	Marine and Coastal Access Act 2009
MDGs	Millennium Development Goals
MMO	Marine Management Organisation
MPS	Marine Policy Statement
MSP	Marine Spatial Planning
NIMBY	Not-In-My-Back- Yard
NPS	National Policy Statement

NSIP	Nationally Significant Infrastructure Project
OECS	Organisation of Eastern Caribbean States
OPEC	Organisation of the Petroluem Exporting Countries
REZ	Renewable Energy Zone
SEA	Strategic Environmental Assessment
SIDS	Small Island Developing States
UNCLOS	United Nations Convention on the Law of the Sea
UK	United Kingdom

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CHAPTER ONE

Introduction

1.1 Background Information

The fancy of the Caribbean lies in the shameless promise of heaven on earth offered by pristine sandy beaches and exciting marine adventures, all wrapped in the seclusion and tranquility of untouched charm. For many of these low-lying paradises, particularly in the Organisation of Eastern Caribbean States (OECS) region,[1] the tourism industry alone relies heavily on the natural beauty of coastal environments and the ecosystem biodiversity characteristic of the Caribbean Sea and the Atlantic Ocean. Together, this package provides the primary means for economic sustenance and survival for many OECS states. Beyond tourism however, these bodies of water service many other competing interests and uses. The ocean spaces have long been the epicenter for many environmental, social, cultural and economic benefits which range from oil and gas exploration to aquaculture, fishing, boat racing, leisure, down to navigation, shipping and trade. The coastal and marine ecosystems therefore, have always been especially vulnerable to human interventions and their escalating demands for the sustenance of modern standards of living. While the region has made substantial efforts to balance the

[1] The OECS is a sub-regional economic union created in 1981 by the Treaty of Basseterre (See, Treaty of Bassettere, Bassettere, 18 June 1981, online: The Organization of Eastern Caribbean States <http://www.oecs.org>.) Today, its membership comprises the countries of Anguilla, Antigua and Barbuda, Commonwealth of Dominica, Grenada, Montserrat, Saint Lucia, Saint Kitts and Nevis and Saint Vincent and the Grenadines. The Mission of the Organisation of Eastern Caribbean States is to be a Center of Excellence contributing to the sustainable development of OECS Member States by supporting their strategic insertion into the global economy while maximizing the benefits accruing from their collective space.

interests of the marine environment against modern standards of living, the impacts of climate change threaten to distort this equilibrium.

Most energy supplies come from the burning of fossil fuels. Combustion releases large amounts of pollutants into the atmosphere, particularly carbon emissions that cause global warming.[2] However, for quite some time, there has been a denial of any correlation between fossil fuel use and global warming.[3] Recently, the Intergovernmental Panel on Climate Change (IPCC) has settled the science on the matter, at least for the time being that is. They note that: "[g]lobal atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750. […] The global increases in carbon dioxide concentration are due primarily to fossil fuel use and land use change, while those of methane and nitrous oxide are due to agriculture."[4] However, there are still some who doubt the findings of the IPCC. While there are still skeptics, the numbers are low and the IPCC appears to be the most comprehensive and credible source of information on climate change.[5] Climate change is real and is happening. Global average increases in air and ocean temperatures

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[2] Susan Soloman et al, *Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2007) at 2 [Soloman, "Summary for Policymakers"].

[3] See e.g. Dr. Edward F. Blick, *Global Warming Myth and Marxism: How the U.N. and Marxist Economies Have Used the Global Warming Myth to Wreck World Economies*, (USA: Southwest Radio Church of the Air, 2009) [Blick, "Global Warming Myth"].

[4] Soloman, "Summary for Policymakers"*, supra* note 2.

[5] The IPCC was formed by the World Meteorological Organization and the United Nations Environmental Programme in 1988 to further understandings of global climate change. Since its formation, the IPCC has published four comprehensive assessments on global climate change in addition to several ancillary special reports. By way of example, the IPCC's Fourth Assessment Report drew together 450 scientists from all over the world. In drafting the Report, 800 contributing authors gave specialized inputs while approximately 2500 experts reviewed the document providing a total of 90,000 comments. The reports are used worldwide, most notably by state parties to the United Nations Framework Convention on Climate Change and its Kyoto Protocol, as a credible and comprehensive source of information on climate change, its potential impacts, and options to adapt to or mitigate climate change. See generally, Rajendra Pachauri, "A Mistake about Glaciers does not Negative Climate Change" *The Sydney Morning Herald* (30 March 2010), online: <http://www.smh.com.au> [Pachauri, "Climate Change"].

pose immediate threats to the integrity of the environment.[6] The IPCC has predicted that climate change, if unabated, will heavily impact freshwater resources,[7] ecosystems[8], crop productivity[9] and coastal systems and low-lying areas.[10] Specifically, small island states, such as those that constitute the OECS, are especially vulnerable to the effects of climate change and sea-level rise due to their limited size, proneness to natural hazards and external shocks, and low adaptive capacity.[11] Some of the immediate threats of global warming that impact the overall tourism product and the environmental sustainability of OECS countries include for instance, the destruction of marine ecosystems through ocean acidification and coral bleaching, and the demolition of coastal barriers. These impacts reduce the amenity value for coastal users and tourists.[12] Such irreversible catastrophes inherently shock other economic activities such as the fishing industry and disrupt socio-cultural norms of coastal populations. The effects of global warming are never-ending, irreversible and cannot be ignored.[13] To avoid dangerous atmospheric temperatures, the IPPC has recommended long-term stabilization of GHG concentrations in the

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[6] Soloman, "Summary for Policymakers"*, supra* note 2 at 5.

[7] Martin L. Parry et al., *Summary for Policymakers. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge Printing Press, 2007) at 11 [Parry, "Summary for Policymakers"].

[8] *Ibid.* Ecosystems will be affected by flooding, drought, wildfire, insects and ocean acidification impacts perpetuated by climate change.

[9] *Ibid.* While extreme weather affects the ability of natural resources to regenerate, rising temperatures themselves will have a massive impact and the ability to continue growth of foods associated with particular climates.

[10] *Ibid.* at 12. Coasts are projected to be exposed to increasing risks, including coastal erosion, due to climate change and sea-level rise. The effect will be exacerbated by increasing human-induced pressures on coastal areas.

[11] See, Nobuao Mimura et al., "Small Islands" in Martin Parry et al., *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change 2007* (Cambridge: Cambridge University Press, 2007) 687 – 716 at 689 [Mimura et al., "Small Islands"].

[12] *Ibid.*

[13] See, A.R.H. Goodwin, *"The Future of Oil and Gas Fossil Fuels"* in Trevor M Letcher, *Future Energy: Improved, Sustainable and Clean Options for our Planet* (Amsterdam: Elsevier, 2008) at 19 ¶ 5. [Goodwin, "Future of Fossil Fuels"].

atmosphere. To do this, a portfolio of adaptation and mitigation measures must be immediately[14] deployed to reduce the pernicious effects of climate change.[15]

Internationally, the *United Nations Framework Convention on Climate Change*[16] and its *Kyoto Protocol*[17] recognizes the need for urgent and massive reductions in carbon dioxide (CO2) emissions in order to counter the effects of climate change. Specified parties to these treaties are legally bound to mitigate climate change by limiting anthropogenic emissions of greenhouse gases (GHGes).[18] There are two options available for effective emission reduction: (1) development of processes that make fossil fuel production cleaner and more sustainable;[19] and (2) development of renewable forms of energy. Though option one reduces CO2 emissions, it continues business as usual practices, that is, the combustion of fossil fuels, which contribute to natural resource depletion. While it is accepted that a 'portfolio of diverse adaptation and mitigation actions'[20] are necessary to combat climate change, renewable energy is the only initiative that delivers permanent GHG emission reductions. It is well accepted that our energy

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[14] See generally, Nicholas Stern, *The Economics of Climate Change: The Stern Review* (Cambridge, UK: Cambridge University Press, 2007) at xv. Here, Lord Stern argues that "there is still time to avoid the worst impacts of climate change, if we act now and internationally."

[15] Parry, "Summary for Policymakers, *supra* note 7 at 20.

[16] *United Nations Framework Convention on Climate Change*, 9 May 1992, 1771 U.N.T.S. 107 (entered into force 21 March 1994), online: UNFCCC <http://unfccc.int/resource/docs/convkp/conveng.pdf> [UNFCC].

[17] *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 11 December 1997, 2303 U.N.T.S. 148, online: United Nations Treaty Series <http://treaties.un.org> [Kyoto Protocol].

[18] See, UNFCCC, supra note 16 at 6 ¶ 2(a). For a list of Annex I countries bound by this obligation see page 23 of Convention.

[19] See, Godfrey Boyle, Bob Everette & Janet Ramage, *Energy Systems and Sustainability: Power for a Sustainable Future* (Oxford: Oxford University Press, 2003) at 573 ¶ 14.1 [Boyle, "Energy Systems and Sustainability"]. Here, the authors outline three approaches for reducing the impacts of fossil fuels: 1. Improve energy conversion efficiency of fuel-based energy supply system, so that less fuel is required to achieve a given level of energy output. 2. Switching to lower-carbon fuels with a lower carbon content. 3. The use of energy conversion devices that can extract useful energy from fossil fuels directly, thus, avoiding combustion and its associated impacts.

[20] See generally, Richard J.T. Klein et al., "Inter-relationships between adaptation and mitigation" in Martin Parry et al., *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change 2007* (Cambridge: Cambridge University Press, 2007) 744-777 [Klein et al. "Adaptation and Mitigation"].

future needs alternative sources of energy, "…which when consumed, are free of environmental impact."[21] Renewable energy resources impose the least regrettable impacts on the environment, human health and the economy. Apart from the contribution to GHG emission reductions, there are several other benefits to be had from renewable energy generation. For one, the use of renewable energy ensures a more sustainable use of finite sources of energy. As well, the development and use of renewable forms of energy could potentially create employment and economic development opportunities. Additionally, renewable energy provides a hedge against volatile energy prices. This is particularly important for OECS countries that are dependent on imported fossil fuels to meet their energy demands. Together, these benefits explain why OECS countries are interested in renewables in the absence of obligations to mitigate under the climate regime.

Additionally, although the international climate change regime does not legally bind countries in the OECS to pursue climate change mitigation, primarily, in the interest of securing their own physical and economic existence,[22] the countries have set out to replace, or supplement, their electricity generation with clean, indigenous and renewable forms of energy. Statistically, the countries in the Caribbean are negligible contributors to global carbon emissions. Despite this fact, the understanding that climate change is a global issue and that a concerted effort is needed to address it, has also influenced Caribbean states to rethink their energy generation practices. [23] In addition to climate change, the issues of energy security, energy poverty, and the opportunity to ensure a

[21] Goodwin, "Future of Fossil Fuels", *supra* note 13 at 19 ¶ 5.
[22] See, OECS Secretariat, Media Release 18/09, "Organization of Eastern Caribbean States Secretariat Statement for Earth Day 2009" (22 April, 2009), online: <http://www.caricom.org>.
[23] See, Senator Conrad Enil, "Welcome Remarks" (Speech delivered at the Caribbean Preparatory Meeting on the Establishment of a Caribbean Renewable Energy Centre, 10th March 2010) [unpublished].

more sustainable use of finite sources of energy are also propelling the paradigm shift in the energy sector towards renewable energy.[24] As well, other factors driving the development and use of renewable energy include the potential for the creation of employment and economic development opportunities.

At present, the region has utilized quite a few forms of onshore renewable energy: wind power, hydropower, geothermal and solar energy.[25] However, the current amounts of electricity generated from these sources are nowhere near the region's potential[26] and do not meet the demand. Over the past two decades however, there has been substantial international interest in the advancement of offshore renewable energy sources (wave, tidal, ocean thermal energy conversion and offshore wind). The growing international interest[27] in the possibility of tapping into the energy potential of marine renewables has recently influenced the renewable energy agenda at the 2009 Caribbean Renewable Energy Forum held in Montego Bay, Jamaica.[28] Drivers for integrating marine renewables into the Caribbean energy mix include: reduction in GHG emissions, energy security, job creation opportunities, and opportunities for saving foreign exchange by

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[24] See, Andrew Thorington, "Editorial" Industry Journal 8 (January 2010) at 1, online: Caribbean Electric Utility Service Corporation <http://www.carilec.com/publications/IJJAN2010%20.pdf>. [Thorington, "Editorial"].

[25] See, Thomas M. Scheutzlich, "Existing and Future Opportunities for Investment in Caribbean Renewables" (slide show presented to the Caribbean Renewable Energy Forum, October 2009)[unpublished] online: CREF <http://www.caribbeanenergyforum.com> [Scheutzlich, "Existing and Future Opportunities"].

[26] See, Caribbean Council for Science and Technology, *Renewable Energy In the Caribbean; Where we are; Where we should be*, (LC/CAR/G.565/CCST/99/1/)(4 June 1999)[unpublished] at 2, online: Economic Commission for Latin America <http://www.eclac.org> [Caribbean Council for Science and Technology, "Renewable Energy In the Caribbean"].

[27] For instance, tidal energy in Nova Scotia, Canada is at the demonstration stage. So too is wave power in Portugal and offshore wind in Denmark and the United Kingdom.

[28] See generally, Michael Murphy, "Tapping into the Caribbean's Ocean Energy Potential" (slide show presented to the Caribbean Renewable Energy Forum, 16 October 2009)[unpublished] online: CREF <http://www.caribbeanenergyforum.com>. [Murphy, "Ocean Energy Potential"].

reducing dependence on imported fossil fuels.[29] While conceptually attractive, the use of marine renewables in the Caribbean region is largely unexplored and untapped. These renewables are yet to be subject to rigorous feasibility assessments. In fact, marine renewables progress in the region can be described as items for discussion on renewable energy agendas. In the context of energy security, volatile energy prices and the increasing burden of climate change, regulators and policy makers in the region believe that now is the time to move beyond the identification and investigation stage of renewable energy sources towards the deployment of renewable energy technologies.[30]

1.2 Description of the Problem

Several obstacles stand in the way of renewable energy deployment in the Caribbean. These obstacles include: lack of baseline data on resource potential, limited technological awareness, inadequate financing, limited capacity and inadequate policy, regulatory and legislative frameworks to encourage renewable energy development.[31] For the most part, discussions in the region on barriers to renewable energy deployment have focused on inadequate financing.[32] However, World Bank economists believe that the challenges to project development in the region seem more political, regulatory, legal and institutional rather than financial.[33]

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[29] *Ibid*.
[30] Thorington, "Editorial", *supra* note 24.
[31] See, Joseph Williams, "A Strategic Regional Approach to Sustainable Energy: Challenges, Solutions & Role of CARICOM" (slide show presented to the Caribbean Renewable Energy Forum, 15 October 2009)[unpublished] online: CREF <http://www.caribbeanenergyforum.com>, [Williams, "A Strategic Regional Approach"].
[32] See, David Ehrhardt, "Promoting Efficient Renewable Energy Generation in the Caribbean: Jamaica's Renewables Tender and Possible Alternatives" (slide show presented to the Caribbean Renewable Energy Forum, 15 October 2009)[unpublished] online: CREF <http://www.caribbeanenergyforum.com>.
[33] See, Fanz Gerner, "Towards a Regional Caribbean Energy Market" (slide show presented to the

Already, the coastal and marine environments in the region serve a wide variety of highly competitive uses. The more services that are expected and demanded from the ocean, the greater the opportunity is for unsustainable exploitation and conflict over ocean space use. For quite some time therefore, there has been a growing interest in the management of the uses of ocean space and the associated impacts.[34] In the context of this study, when new values, expectations and services, such as the generation of renewable energy, are being demanded from the oceans and seas, there is a clear mandate to guide their deployment: develop new regulatory regimes where they do not exist, and revise existing arrangements where they do exist.[35] Developing and/or revising ocean governance regimes for marine renewables is particularly important to optimize the management of coastal and marine resources as well as to protect the ocean environment from damage to its long-term viability. At present, there is no marine licensing regime for the regulation of renewable energy generation activities in the coastal and marine environments of countries in the OECS region.

1.3 Statement of the Problem

In moving towards the deployment of marine renewables in the OECS, one of the greatest challenges facing ocean governance regimes is the wide array of marine activities that marine licences must regulate. Any ocean governance arrangement that

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Caribbean Renewable Energy Forum, 15 October 2009)[unpublished] online: CREF <http://www.caribbeanenergyforum.com>, [Gerner, "Towards a Regional Caribbean Energy Market"].

[34] See, Lawrence Juda, *International Law and Ocean Use Management - The Evolution of Ocean Governance* (London: Routledge, 1996) at 1. [Juda, "Ocean Use Management"].

[35] See David Leary and Miguel Esteban, "Renewable Energy from the Ocean and Tides: A Viable Renewable Energy Resource in search of a Suitable Regulatory Framework" (2009) 3(4) Carbon and Climate Law Review 417 at 424-425. [Leary, "Renewable Energy from the Oceans and Tides"].

attempts to regulate activities in coastal and marine environments must take into account the needs of all the stakeholders under its jurisdiction, while simultaneously, providing appropriate terms and conditions to protect the offshore environment from damage to its long-term viability. In this regard, the absence of a regulatory framework on the regional and national levels in the OECS region is now a discernible obstacle to the development of renewable forms of energy from the ocean.

1.4 Purpose of the Study

The main purpose of this study is to propose a governance framework that meets the priority of sustainable development for the regulation of offshore renewable resources in the OECS region. In furtherance of this mandate, the study develops an analytical framework for evaluating the recently adopted Round 3 model of governance for the regulation of offshore wind and other marine activities in the United Kingdom. The focus on this Round 3 model of governance is in relation to the licensing procedures applicable to offshore wind development. Thereafter, the study examines the appropriateness of the application of the Round 3 model of governance to the regulation of marine renewables in the OECS, and recommends policy and governance frameworks in that regard.

However, while the main purpose of the study is to propose a governance framework for the regulation of renewables in the OECS, the study seeks to achieve a wider purpose. Ancillary, therefore, but none the less important, through the process of achieving the main purpose, the study also seeks to come to general conclusions on principles and conditions for effective ocean governance.

1.5 Limitations to the Study

Governance arrangements have been proposed and established for the regulation of several different types of marine renewables in different jurisdictions around the world. For instance, Nova Scotia has instituted a provisional governance arrangement for the regulation of tidal energy. Similarly, Portugal has also instituted a provisional governance framework for the regulation of wave energy. In the United Kingdom, there have been many attempts to regulate the development of tidal and offshore wind resources. In this regard, Freedom-Kai Phillips notes that the United Kingdom "…is clearly ahead of most in terms of legislation pertaining to renewable energy broadly and ocean-based renewables particularly."[36] Therefore, in the interests of time, availability of data and financial resources, the study will focus on assessing the effectiveness of the United Kingdom's governance arrangement for the regulation of offshore wind development. This is not for the purposes of restricting the scope of the study, but as the decision that is commensurate with the maturity of the technology, and the critical learnings to be had from the advanced regulatory experiences in the United Kingdom. Specifically, the study will focus on examining the United Kingdom's Round 3 model of governance for offshore wind as an appropriate governance arrangement for the regulation of marine renewables in the OECS region. Additionally, the Round 3 model of

[36] See, Freedom-Kai Phillips, "Ocean Renewable Energy in the European Union: Understanding and Strengthening EU-Canada Relations in the Law of the Sean and Ocean Governance" in Timo Koivurova et al., *Understanding and Strengthening European Union-Canada Relations in Law of the Sea and Ocean Governance* (Finland: Northern Institute for Environmental and Minority Law, 2009) at 176 ¶ 7.3.8 [Phillips, "Ocean Renewable Energy"].

governance regulates all renewable energy activity in the marine environment and not just offshore wind. Therefore, there is a wider governance lessons that policy-makers in the OECS may adopt given that the regime transcends all forms of offshore renewables.

Further, the study is not concerned with the feasibility of any particular marine renewable in the OECS region, nor does it attempt to advocate the use of any particular marine renewable in the OECS region.

1.6 Significance of the Study within the Current Landscape of Legal Scholarship

The problem and currency of the study is borne out by the title of a 2009 article entitled, *Renewable Energy from the Ocean and Tides: A Viable Renewable Energy Resource in search of a Suitable Regulatory Framework*.[37] In this article, the authors note that, internationally, "…there has been significant progress towards the development of commercial scale operations of ocean energy [and that] ocean energy is now on the threshold of providing a reliable base-load source of renewable energy on a commercial scale."[38] They observe however, that "[w]hile technological barriers are being overcome the lack of clear regulatory frameworks in many countries is now emerging as a barrier to wide-scale development of ocean energy."[39] In this regard, they recommend that there is a need for new regulatory regimes to be developed, where they do not exist, and a streamlining of existing regulations where they do exist.[40] While they remain supportive of these recommendations, they emphasize a point which underscores these recommendations, that is, that "[r]egulatory frameworks need to be developed to more

[37] Leary, "Renewable Energy from the Oceans and Tides", *supra* note 35.
[38] *Ibid*.
[39] *Ibid.*
[40] *Ibid.* at 424 - 425.

suitably deal with environmental impacts of ocean energy projects."[41] In short, the article captures the jurisprudential significance of the issue that will be studied in this thesis in the context of the OECS. This is particularly important. As section 1.2 above notes, the coastal and marine environments in the OECS region serve a wide variety of highly competitive uses. As such, there has been a growing interest in the management of the uses of ocean space and the associated impacts.[42] In the context of this study, when new values, expectations and services, such as the generation of renewable energy, are being demanded from the oceans and seas, there is a clear mandate to guide their deployment: develop new regulatory regimes where they do not exist, and revise existing arrangements where they do exist. The key however, is to pursue these mandates in a manner that 'suitably deals with the environmental impacts of ocean energy projects.'[43]

At present, the socio-political will in the OECS to explore offshore renewable energy has not yet reached a high-level of activism as it has in many other countries around the world. However, if the recent discussions at the 2009 Caribbean Renewable Energy Forum are any indication, the possibility of tapping into the energy potential of marine renewables will be soon pushed to primacy on the energy agenda's of Member States. When that happens, the findings of this study would be best placed to inform the member states of the OECS.

[41] *Ibid*.
[42] Juda, "Ocean Use Management", *supra* note 34.
[43] Leary, "Renewable Energy from the Oceans and Tides", *supra* note 35 at 424-425.

1.7 Thesis Structure

The study is organized in a series of interconnected chapters. Chapter 2 briefly explores the evolving importance of ocean governance, what is meant by ocean governance and the need to revisit governance arrangements when new services are being demanded from the oceans and seas. Chapter 2 also introduces a two-tiered analytical framework for the assessment of the ocean governance regime. The first tier of the analytical framework is the New Governance Approach as articulated by Michael Howlett, Jeremy Rayner & Chris Tollefson.[44] The second tier of the analytical framework is Gibson et al.'s eight core requirements for progress towards sustainable development.[45]

Chapter 3 explores the concept of renewable energy, what it is and the various technologies available for the production of clean, sustainable energy. It is a narrative literature review of some of the benefits that encourage shifts towards renewable energy generation practices and factors thought to discourage the worthiness of pursuing renewable energy exploration and development.

Chapter 4 begins with a brief historical overview of the development of onshore wind power, what it is, how it operates and continues with an overview of the advantages and disadvantages associated with modern development and operation of onshore wind. Thereafter, Chapter 4 explores some of the reasons why countries around the world are moving wind power development offshore. In addition, the practical and technical considerations of developing offshore wind energy are then discussed in relation to the United Kingdom.

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[44] See generally, Michael Howlett, Jeremy Rayner & Chris Tollefson, "From Government to Governance in Forest Planning? Lessons from the case of the British Colombia Great Bear Rainforest Initiative" (2009) 11 Forest Policy and Economics 383 [Howlett et al., "Government to Governance"].

[45] See, Robert B. Gibson et al., "Requirements for Progress towards Sustainability" in Robert B. Gibson et al., *Sustainability Assessment: Criteria, Processes and Applications* (London: Earthscan, 2005) at 95 - 114.

Chapter 5 is a case study of the development of the offshore wind regulatory regime in the United Kingdom. To date, there have been three identifiable regulatory attempts to establish the manner in which offshore wind technologies will be allowed to enter the marine environment. Each regulatory approach coincided with the government's decision to deploy a new round of wind projects, that is, a different consents process was used to approve Round 1, Round 2, and Round 3 projects respectively. In chronological order, this Chapter outlines the consents approaches used to approve project applications under each round of development. Each consent process is then considered in light of Howlett et al.'s three-dimensional new governance framework outlined in Chapter 2. Thereafter, Gibson et al.'s core requirements for progress towards sustainability, also outlined in Chapter 2, will be used to measure the effectiveness of the substantive outcomes of each consent process. Finally, on an evaluation of all three regulatory regimes, the chapter comes to a conclusion as to which regime is most effective in serving the priority of sustainable development.

Chapter 6 seeks to apply the governance lessons learnt from the United Kingdoms' many attempts to regulate offshore wind to the development of an effective governance arrangement or offshore renewables in the OECS region. The chapter begins by outlining the energy supply and consumption context in the OECS region. Thereafter, the chapter describes the energy strategy and legal requirements of the region. The remaining sections are dedicated to justifying the transposition of lessons from the UK case study through a new governance assessment of marine development practices in the region. Specifically, Chapter 6 will explore the governance arrangement used to regulate the development of the dolphinarium industry in Anguilla and the Ashton Marina Project

in Saint Vincent & The Grenadines The findings of the assessment are then discussed in relation to their similarities and differences to the UK experience. The chapter concludes with a discussion of lessons policy-makers in the OECS could adopt in attempting to formulate a governance framework for the regulation of marine renewables in the OECS.

Lastly, chapter 7 presents the conclusions of the study and the recommendations to policy makers and regulators for formulating an effective governance arrangement for renewables in the OECS region.

CHAPTER TWO

Ocean Governance & Analytical Framework

2.1 Ocean Governance: Why does it Matter?

The oceans cover over 70% of the Earth's surface. From the beginning of time, the utilization of this huge body of water and the diverse marine resources that it supports has made life on earth possible for humans.[46] Early uses of the ocean were generally confined to subsistence fishing and trade and navigation.[47] Today, the oceans have been pressured to provide a variety of services for the advancement of individual livelihoods and international trade and economic development.[48] These services include food and recreational opportunities; the development of coastal and marine tourism; navigation, shipping and commerce activities; access to immense sources of usable energy (such as oil and gas) and other non-living resources (minerals); and the provision of a depository for waste products of our contemporary world.[49] Above all, the oceans provide the invaluable service of regulating the climate and weather.[50] The variety of services offered

[46] The importance of the oceans to human life cannot be overstated or under-estimated. The resources provided by ocean and coastal ecosystems, as well as various ocean uses, sustain billions of people around the world through, inter alia, the provision of food, shelter, energy, transportation, employment and recreation. See, *Oceans and the law of the sea: Report of the Secretary-General*, UNGA, 64th Sess., Annex, Agenda Item 76, UN Doc. A/64/66/Add.2 (25 November 2009) at 56 ¶ 214 [UNGA, "Oceans and the Law of the Sea"]. For an overview of the importance of the oceans, see generally, Robert Costanza, "The Ecological, Economic and Social Importance of the Oceans" (1999) 31 Ecological Economics 199. [Costanza, "Importance of Oceans"].

[47] For a review of how ocean resource exploitation has evolved, see generally, Adalberto Vallega, *Sustainable Ocean Governance: A Geographical Perspective* (London: Routledge, 2002) at 83 ¶ 5.2. [Vallega, "Sustainable Ocean Governance"].

[48] See, Christian Nellmann, Stefan Hain & Jackie Adler, *In Dead Water: Merging of Climate Change with Pollution, Over-harvest and Infestations in the World's Fishing Grounds* (Norway: Grid-Arenfal, 2008) at 7 and 14. [Nellman, "In Dead Water"].

[49] Juda, "Ocean Use Management", *supra* note 34 at 1.

[50] The oceans are commonly described as 'the blue lungs of the planet.' They breathe in carbon dioxide and exhale oxygen. When the oceans inhale and exhale, they help to regulate the climate system and generates

underscores the importance of the seas to humans. If the expectation is that present and future generations will continue to benefit from the dynamic oceans and seas, then the maintenance of safe, healthy and productive seas and the attainment of principled ocean governance are of even greater importance.[51]

The seemingly endless uses and services of the oceans have spawned a modern culture of exploration and exploitation.[52] This dominant culture is aided and abetted by our own advances in technology,[53] excessive consumption patterns, and the increasing demands of growing coastal populations and growing economies.[54] Coastal overdevelopment[55] and excessive marine exploitation pressures[56] have empowered anthropogenic influences that fundamentally change the natural order of coastal and marine ecosystems. The cumulative pressures of over-fishing, pollution, climate change and other environmentally harmful activities are bearing down on the marine environment.[57] Simply put, the health of our seas is at risk.[58] Consequently, when the health of the seas is at risk, so too is its capacity to provide the services that contribute to

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half of the world's breathable oxygen. Life on Earth is therefore dependant on the health of our oceans. See Janot Memdler de Suarez et al., *Draft Policy Brief Ensuring Survival: Oceans, Climate and Security* (proceedings of the Global Oceans Conference, May 3-7, 2010) (Paris: UNESCO, 2010)[unpublished] online: Global Forum on Oceans, Coasts and Islands <http://www.globaloceans.org > [Draft Policy Brief].

[51] See, Robert L. Friedheim, "A Proper Order for the Oceans: An Agenda for the New Century" in Davor Vidas et al., *Order for the Oceans at the Turn of the Century* (The Hague, Boston: Kluwer Law International, 1999) at 539 who notes that even though "…there is no definitive evidence that the natural world cannot provide for the needs of the future human billions, especially since it is so difficult to predict the benefits of future technological change, it is reasonable to be cautious and plan for ways to avoid system collapse." [Friedhman, "A Proper Order"].

[52] Costanza, "Importance of the Oceans", *supra* note 46.

[53] UNGA, "Oceans and the Law of the Sea", *supra* note 46 at 12 ¶ 26.

[54] See generally, Edward R. Carr et al., "Interlinkages: Governance for Sustainability" in John Agard et al., *Global Environment Outlook: Environment for Development* (United Nations Environment Programme, 2007) 361 – 394.

[55] Over half of the world's population lives along the coast - only 10% of the Earth's land - creating intense pressure on coastal habitats and resources. See, Draft Policy Brief, *supra* note 50 at 1.

[56] Nellmann, "In Dead Water", *supra* note 48 at 42.

[57] For a quick review of some of the threats to the marine environment, see, Nellman, "In Dead Water", *supra* note 48 at 26.

[58] See, Jacquline Adler et al, "*Water"* in John Agard et al, *Global Environment Outlook: Environment for Development* (United Nations Environment Programme, 2007) at 115.

human well-being, economic security and sustainable development for present and future generations.[59] If left unchecked, the severity of these risks will be amplified as technology advances and as human needs, values and expectations of the oceans continue to change and increase. The more services that are expected and demanded from the ocean, the greater the likelihood is of unsustainable exploitation and conflict over ocean space use. For quite some time therefore, there has been a growing interest in the management of the uses of ocean space and the associated impacts.[60] In other words, when coastal and marine resources are shared by more than one stakeholder, and the interests and activities of stakeholders in the marine environment change and/or increase, there is a pressing need to strategically manage the oceans so as to ensure the sustainable development and exploitation of the diverse marine resources that it supports. In short, the governance of our oceans and seas matters.

2.1.1 The Concept of 'Governance'

In order to define the phrase "ocean governance," it is necessary first to outline the concept of "governance," at least in its broad sense. What is governance? Governance is a concept that may be defined in many ways. The simple and probably the most obvious approach is to adopt a strict legal interpretation of the governance concept. So for instance, Biliana Cicin-Sain & Robert W. Knecht define governance as:

> the architecture and makeup of the regime used to govern behaviour, public and private, relative to an ocean area and the resources and activities contained therein.[61]

[59] UNGA, "Oceans and the Law of the Sea", supra note 46 at 56 ¶ 214.
[60] Juda, "Ocean Use Management", *supra* note 34 at 1.
[61] See, Biliana Cicin-Sain & Robert W. Knecht, *The Future of U.S. Ocean Policy: Choices for the New Century* (Washington, D.C.: Island Press, 2000) at 14.

Governance may also be defined by referencing the values, institutions and other non-legal mechanism that influence the decision-making process. In this regard, Lawrence Juda in 1999 defined the concept as:

> the formal and informal arrangements, institutions, and mores which determine how resources or an environment are utilized; how problems and opportunities are evaluated and analyzed; what behavior is deemed acceptable or forbidden; and what rules and sanctions are applied to affect the pattern of resource and environmental use.[62]

In Juda's opinion, the concept of governance is not about government and management per se, but really about the "… mechanisms and institutions that serve to alter and influence human behaviour in particular directions."[63] The concept as defined by Juda, is a recognition of the increasingly significant contribution that non-governmental actors make to a governance process by simply monitoring, evaluating, publicizing and seeking to influence management efforts.[64] This interpretation of the governance concept appears to have percolated the specialist and academic communities.[65] The Centre for Governance at the University of Ottawa provides an excellent working definition of governance:

> Governance is about guiding. It is about the processes by which human organizations, whether private, public or civic, steer themselves. The study of governance involves examining the distribution of rights, obligations and power that underpin

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[62] See, Lawrence Juda, "Considerations in Developing a Functional Approach to the Governance of Large Marine Ecosystems" (1999) 30(2) Ocean Development and International Law 89 at 90.
[63] *Ibid.* at 91.
[64] *Ibid.*
[65] See, Lucia Fanning, Robin Mohan & Patrick McConney, "Principled Ocean Governance for the Wider Caribbean Region" in Lucia Fanning, Robin Mohan & Patrick McConney *Towards Marine Ecosystem-based Management in the Wider Caribbean* (Amsterdam, Netherlands: Amsterdam University Press, 2010) [forthcoming October 2010], online: Marine Affairs Programme <http://marineaffairsprogram.dal.ca/Files/Mahon,_Fanning,_McConney_Principled_ocean_governance.doc >, who note that "…The movement towards the use of this term reflects a global shift in awareness of the increasing diversity of stakeholders (actors) involved in determining the patterns of actions and ideas that we see and hear around us daily."

> organizations; understanding the patterns of coordination that support an organization's diverse activities and that sustain its coherence….
>
> [Governance is about] interacting. Governance pertains not only to organizations, but also to: the complex ways in which private, public and social organizations interact and learn from one another; the manner in which citizens contribute to the governance system, directly and indirectly, through their collective participation in civil, public and corporate institutions; and the instruments, regulations, and processes that define the "rules of the game"…
>
> The knowledge of governance has application not only in determining the appropriate guiding mechanisms for organizations or the evolution of society, but also as a manière de voir, or coordination perspective, on the workings of organizations… to support the development of socio-economic policy; an analytical framework providing a language of problem reformulation; and a tool to provide insights into new ways to tackle problems of organizational design and social architecture.[66]

One can debate endlessly about what it means to "govern" and which definition is best suited to convey the appropriate meaning of the concept. However, as stated above, there is a growing trend that favours interactive decision-making – a process that places due value on the contributions of non-governmental actors to the governing process. Essentially, therefore, a good modern concept of governance must incorporate the prevailing view that it establishes the framework and relationships for the exercise of government and/or management over societal resources between state and non-state actors. Or put in other words by Michael Sutherland and Sue Nichols, "[g]ood governance is based on recognition of the interests of all stakeholders and inclusion of their interests where possible."[67] What then is 'ocean governance?'

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[66] Cited in Sue Nichols, Michael Sutherland & David Monahan, "Good Governance of Canada's Offshore Coastal Zone: Towards an Understanding of the Marine Boundary Issues" (2000) 54(4) Geomatica 415.

[67] See, Michael Sutherland and Sue Nichols, "Issues in Governance of Marine Spaces" in Michael Sutherland et al., *Administering Marine Spaces: International Issues* (Copenhagen, Denmark: The International Federation of Surveyors, 2006) at 6 [Sutherland, "Issues in Governance of Marine Spaces"].

2.1.2 The Concept of 'Ocean Governance'

The foregoing section explored a number of definitions on the concept of governance. Most importantly, the foregoing section provides appropriate context to begin the discussion under this heading, that is, the concept of 'Ocean Governance.' Despite the frequent occurrence of "ocean governance" in scholarly work in marine affairs and ocean law, academics note that the multi-dimensional nature of the concept makes it extremely difficult to define.[68] Over the years, the many dimensions of the concept has inspired a great body of academic thought. Early academic interpretations of the concept focused on the need to manage the uses of ocean spaces while at the same time protecting the ecosystem. Juda's 1996 definition reads as follows:

> The management of the uses of ocean space… seeks, in accordance with some system of politically determined values, which is either explicit or implicit, to increase the benefits that may be derived from the resource and non-resource use of the ocean. At the same time, it attempts to minimize detrimental effects on the ocean environment and to ameliorate conflict of use situations. In general it tries to provide for a directed balance among the various uses of ocean space as well as to protect the ocean environment from damage to its long-term viability.[69]

For quite some time, the concept of ocean governance focused on the governance issues espoused by Juda above.[70] By necessary interpretation, therefore, the early

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[68] See, Gilles Paquet and Kevin Wilkins, *Ocean Governance: An Inquiry into Stakeholding* (Centre on Governance, University of Ottawa, 2002) cited in David Vanderzwaag, Sean LeRoy & Rod Dobell, "Ocean Governance" in *Workshop Backgrounders – 2003 Ocean Management Research Network National Conference* (Ottawa, 1 November 2003) online: <http://www.maritimeawards.ca/OMRN/vanderzwaag.html >.

[69] Juda, "Ocean Use Management", *supra* note 34 at 1.

[70] See, Robert Friedheim's 1999 definition: ""…the development of a set of ocean rules and practices that are equitable, efficient in the allocation of ocean uses and resources (including the notion of sustainability), provide the means of resolving conflicts over access to and the enjoyment of the benefits of the oceans, and specifically attempt to alleviate 'collective-action problems in a world of independent actors'." See, Friedhman, "A Proper Order", *supra* note 51 at 537.

characteristics/traits of ocean governance were defined by the emerging 'ocean governance' issues of that time, that being, the governmental management and control of multiple users of ocean space and the associated impacts on the marine environment incident to the use.

Recently however, academics have proffered the view that 'ocean governance' goes beyond traditional command and control[71] approaches to regulating and influencing human behaviour in relation to the ocean. The other dimension or characteristic of the concept advanced by Rothwell & VanderZwaag, embrace a more interactive decision making process which not only incorporates " …government agencies and departments but a broader range of participants including the private sector, scientists, community groups, non-governmental organizations, academics, First Nations and others."[72] In light of this interpretation of the ocean governance concept, one good definition would read:

> The governance of any geographical area, including marine spaces, is actually the management of stakeholder relationships with regard to spatial-temporal resource use in the pursuit of many sanctioned economic, social, political, and environmental objectives.

In keeping with the recognition of stakeholder involvement in the governing process, Rothwell & VanderZwaag further suggest that ocean governance would offer alternative opportunities and approaches to influence human behaviour beyond the confines of command and control regulation. The approaches identified are "…economic incentives and disincentives, voluntary programs, community-based management, co-

[71] Traditional command and control approaches that influence human behaviour usually refer to legally binding sanctions such as fines or imprisonment.

[72] See, Donald R. Rothwell & David L. VanderZwaag, "The Sea Change Towards Principled Ocean Governance" in Donald R. Rothwell & David L. Vanderzwaag, *Towards Principled Ocean Governance: Australian and Canadian Approaches and Challenges* (London, Routledge, 2006) at 4 - 5. [VanderZwaag, "Towards Principled Ocean Governance"].

management and integrated ocean/coastal planning."[73] Gorina-Ysern et al., offer a definition that is an apt summation of the participatory decision-making dimension of ocean governance postulated by Rothwell & VanderZwaag:

> The term "ocean governance" covers a set of rules – some legally binding and some not – adopted by the international community of States … for the structured regulation, management and control of ocean uses. It also includes the persons, bodies and institutions entrusted with administering the rules that govern ocean space. One of the purposes of ocean governance is the conservation of and protection of ocean habitat and marine life.

From the above articulations of the ocean governance concept, one can extrapolate a few trends that define the scope of the term. The most obvious of these trends is that ocean governance is primarily concerned with the management of stakeholder activities in coastal and marine areas.[74] The other trend is that ocean governance necessarily goes beyond the ambit of simply mitigating conflict of use inevitabilities in the marine environment. In fact, the justification for the management of stakeholder activities in ocean spaces is mainly two-fold: to maximize the benefits that may be derived from the resource and non-resource use of the ocean, while at the same time, ensuring the ocean's long-term viability by conserving and protecting ocean habitat and marine life. To balance these objectives, the evolving trend in ocean governance favours interactive decision making over traditional regulation. Ocean governance therefore, is also defined by a strong presence of human perceptions on the value of ocean uses.

Juda noted that: "[t]he legal regime of ocean space, like all legal regimes, attempts to provide some order by indicating the nature, requirements, and limits of permissible behaviour and by establishing valid expectations for that behaviour."[75] The question

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[73] *Ibid*.
[74] Sutherland, "Issues in Governance of Marine Spaces," *supra* note 67 at 7.
[75] See, Juda, "Ocean Use Management", *supra* note 34 at 3.

remains however, how would policy-makers go about establishing valid expectations for permissible behaviour? One way to do this is to pursue governance objectives or principles when seeking to manage stakeholder activities in the ocean. Statements of principles for ocean governance can be found in a variety of sources.[76] They have emerged through a number of directives and protocols on good governance, international agreements, declarations and codes of conduct.[77] However, the principles that often inform ocean governance are often ill-defined and difficult to apply in practice.[78] As a result, the list of principles will continue to grow as academics seek to clarify their scope.[79] Some of these principles include sustainable development, integration, precaution, the ecosystem approach and community-based management.[80] Consequently, there is an ongoing movement towards adopting governance arrangements which focus on principle-based ocean governance.[81] The adherence to principles when managing stakeholder activities in the ocean can therefore be added to the list of trends which define ocean governance.

The preamble to the 1982 United Nations Convention on the Law of the Sea (UNCLOS),[82] recognizes that "…the problems of the ocean spaces are closely

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[76] Juan L. Suarez De Vivero, "New Frontier of international Law: Recent Lecture – *Marine Policy: Europe and Beyond*" (2007) 15 Williamette J. Int'l L. & Disp. Resol. 167 at 168.
[77] VanderZwaag, "Towards Principled Ocean Governance," *supra* note 72 at 5.
[78] See, Howard S. Schiffman, "Moving from Single-species Management to Ecosystem Management in Regional Fisheries Management Organizations" (2007) 13 International Law Students Association Journal of International and Comparative Law 387 at 387.
[79] *Ibid*. See also Juda, "Ocean Use Management", *supra* note 34 at 3 where the author notes that "over time, once-governing principles of ocean law appear to become anachronistic in the face of changing political, economic, social and technological conditions."
[80] VanderZwaag, "Towards Principled Ocean Governance," *supra* note 72 at 5. For a short list of a modern ocean governance principles, see, David Freestone, "Principles Applicable to Modern Ocean Governance" (2008) 23(3) Int'l J. Mar. & Coast L. 385 at 391 [Freestone, "Modern Ocean Governance"].
[81] See for instance the title of Donald R. Rothwell & David L. VanderZwaag's book *Towards Principled Ocean Governance: Australian and Canadian Approaches and Challenges* (London, Routledge, 2006).
[82] *United Nations Convention on the Law of the Sea*, 10 December 1982, entered into force on 16 November 1994, 1883 *U.N.T.S.* 397, online: United Nations <http://www.un.org>, third preambular

interrelated and need to be considered as a whole." The simple fact is that the oceans are connected, and flow into each other. To collectively govern the activity of stakeholders in oceans around the world would therefore make good sense. UNCLOS is widely referred to as the 'constitution for the oceans.'[83] The regime is one of many governance arrangements that protect marine and coastal environments. Apart from global arrangements, Chapter 17 of Agenda 21 advocates that ocean governance "…requires new approaches to marine and coastal area management and development, at the national, sub-regional, regional and global levels… ."[84] Therefore, in addition to global arrangements, ocean governance is also needed at the national, sub-regional and regional levels.

2.2 New Governance Assessment

The foregoing sections outlined the need for improved governance of our marine spaces in order to protect their long-term viability by managing the manner, and extent to which marine spaces deliver services. Articulating and improving the governance arrangements is particularly necessary when new human needs, values and expectations of the coastal and marine environment arise. In the context of this study, when new services, such as the generation of renewable energy, are being demanded from our oceans, there is a clear mandate: develop new regulatory regimes where they do not exist,

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paragraph. See also, Juda, "Ocean Use Management," *supra* note 34 at 317 where it is noted that "interdependence, [refers to] the concept that what happens here has effects there, remains a reality in ocean space."

[83] UNCLOS is commonly referred to as "A Constitution for the Oceans". This phrase was coined by Tommy T. B. Koh used to describe the intention of the drafters of the treaty. See, Myron H. Nordquist, *United Nations Convention on the Law of the Sea 1982: Commentary* (Boston: Martinus Nijhoff Publishers, 1985) at 11.

[84] See, *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3 -14 June 1992 , Volume I, Resolutions Adopted by the Conference,* UN. Doc. A/CONF.151/26/Rev1 (Vol. 1), (1993) at 238 ¶ 17.1 [Rio Declaration].

and revise existing arrangements where they do exist.[85] One way in which policy-makers and regulators may go about achieving this mandate is to begin by looking at the existing regulatory regime, irrespective of whether said regime permits renewable energy generation activity in the marine environment. In this respect, the New Governance Approach as articulated by Michael Howlett, Jeremy Rayner & Chris Tollefson,[86] is particularly useful. Briefly, this approach is not about adopting or advocating a certain or definitive approach to solving public problems. Rather, it is a way of taking stock of political practices, institutional structures and regulatory instruments which will assist in understanding how a particular regulatory regime operates. However, before exploring Howlett et al.'s spin of New Governance theory, it is first necessary to outline the New Governance theory itself.

2.2.1 The New Governance Theory: *Governing* without Government

The title of Rosenau & Czempiel's book, *Governance without Government: Order and Change in World Politics*,[87] captures the basic but fundamental concept of New Governance theory – governance without government. Noted above, is the increasing awareness among scholars that 'governance' and 'government' are not synonymous terms even though they both share goal-oriented activities.[88] "*Government* occurs when those with legally and formally derived authority and policy power execute

[85] Leary, "Renewable Energy from the Ocean and Tides", *supra* note 35 at 424-425.
[86] Howlett et al., "Government to Governance", *supra* note 44.
[87] See, James N. Rosenau & Ernest Otto Czempiel, *Governance without Government: Order and Change in World Politics* (Cambridge: Cambridge University Press, 1992).
[88] Above at 26 ¶ 2.2.1. See also, Lisa Blomgren Bingham, Tina Nabatchi & Rosemary O'Leary, "The New Governance: Practices and Processes for Stakeholder and Citizen Participation in the Work of Government" (2005) 65(5) Public Administration Review 547 at 548. [Bingham et al., "The New Governance"].

and implement activities... ."[89] Simply then, governing is what governments do.[90] On the other hand, "…*governance* refers to the creation, execution, and implementation of activities backed by shared goals of citizens and organizations, who may or may not have formal authority and policing power."[91] The pillars upon which New Governance scholarship are built are a testament to the truth of the growing perception that 'governance' and 'government' are not synonymous.[92] The New Governance approach can be described as a collection of wide-ranging processes developed to effect public objectives using methods that differ in one way or another from classical forms of law.[93] According to Douglas Nejaime,[94] the cause of New Governance scholars has been motivated by critiques[95] of rights-based, state-centered, top-down strategies which led to an institutional turn towards flexible, collaborative public-private partnerships that seek to destabalize the priority of traditional modes of governance. In this respect, the New Governance model identifies horizontal networks of public, private and non-profit

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[89] *Ibid.*
[90] Howlett et al., "Government to Governance", *supra* note 44 at 385 ¶ 2.1.
[91] Bingham et al., "The New Governance," *supra* note 90 at 547.
[92] For a brief overview on the distinction between 'government' and 'governance' see R. A. W. Rhodes, "The New Governance: Governing without Government" (1996) 44(4) Political Studies 652 [Rhodes, "Governing without Government"].
[93] See, David M. Trubek & Louise G. Trubek, "The Coexistence of New Governance and Legal Regulation: Complementarity or Rivalry?" (Paper presented to the Annual Meeting of the Research Committee on the Sociology of Law, July 2005) [unpublished], online: < http://www.reds.msh-paris.fr/communication/docs/trubek.pdf>. [Trubek, "Coexistence of New Governance"]. The authors equate the understanding of *New Governance* to 'soft law': see, David M. Trubek & Louise G. Trubek, "Hard and Soft Law in the Construction of Social Europe: The Open Method of Coordination" (2005) 11(3) Eur. L.J. 343.
[94] See, Douglas Nejaime, "When Governance Fails" (2009) 79 Ohio St. L.J. 323 at 323 and 331. [Nejaime, "When Governance Fails"].
[95] See, Myungsuk Lee, "Conceptualizing the New Governance: A New Institution of Social Coordination" (Paper presented to the Institutional Analysis and Development Mini-Conference, May 2003) [unpublished] at 2, online: Indian University <http://www.indiana.edu> [Lee, "Conceptualizing the New Governance"]. Here the author notes that "[t]he popularity of governance has something to do with the distrust about the government. Many people have been disappointed with the ability of the government to tackle social problems. [This] leads to reconsideration of the traditional theories of public administration." See also, Rhodes, ""'Governing without Government", *supra* note 94 at 666. Therefore, there is need to get stakeholders to cooperate to pursue their joint affairs.

organizations as the new structures through which governance is administered.[96] In theory, the approach suggests "…that co-ordination by [alternative modes of governance to traditional top-down hierarchical government control through laws and regulations] can lead to more effective rules and opportunities for political participation… ."[97] In this respect, Douglas Nejaime[98] notes that the New Governance approach places primacy on collaborative processes; stakeholder participation; local experimentation' public/private partnerships; and flexible, policy formation, implementation and monitoring. Theory aside, in recent years, the landscape of public administration is slowly reshaping to reflect this new paradigm of solving public problems.[99] Consequently therefore, the New Governance approach is instigating change in a wide spectrum of policy issues and fields, ranging from employment and environmental protection; to welfare, family, health and education laws; to criminal justice administration; and to torts and consumer protection.[100] By no means is this an exhaustive list.

[96] Bingham et al., "The New Governance," *supra* note 90 at 547.
[97] Burkard Eberlein & Kieter Kerwer, "New Governance in the European Union: A Theoretical Perspective" (2004) 42(1) Journal of Common Market Studies 121 at 121. New Governance scholars envision that their approach could create more effective forms of participation; coordinate multiple levels of government; allow more diversity and decentralization; foster deliberative arenas; allow more flexibility and revisability and foster experimentation and knowledge creation. See, Trubek, "Coexistence of New Governance," *supra* note 95 at 2. As to why the New Governance approach would work, Rhodes argues that "[g]overnance as self-organizing networks is a challenge to governability because the networks become autonomous and can resist central guidance." See, Rhodes, "The New Governance," *supra* note 94 at 667.
[98] Nejaime, "When Governance Fails," *supra* note 96 at 332.
[99] See, Orly Lobel, "The Renew Deal: The Fall of regulation and the Rise of Governance in Contemporary Legal Thought" (2004) 89 Minn. L. Rev. 342 at 343.
[100] *Ibid*. at 346.

2.2.2 New Governance Approach as articulated by Michael Howlett, Jeremy Rayner & Chris Tollefson

In their article, "From government to governance in forest planning? Lessons from the case of the British Columbia Great Bear Rainforest Initiative,"[101] Michael Howlett, Jeremy Rayner & Chris Tollefson, question the body of literature that suggests as a fact or otherwise, that there has been a shift from *government* (traditional top-down hierarchical government control) to *governance* (flexible, collaborative public-private partnerships) in forest policy. They support their criticism by examining the 2006 Great Bear Rainforest Initiative in British Columbia; an initiative that is "often-touted as a bold exemplar of plurilateral 'network governance.'"[102] They espouse and evaluate their skepticisms of the acclaimed shift to governance by constructing a three dimensional analytical structure that isolates the modes of governance: the political dimension, the institutional dimension and the regulatory dimension.

[101] Howlett et al. "Government to Governance", *supra* note 44.
[102] *Ibid.* at 387 ¶ 3.

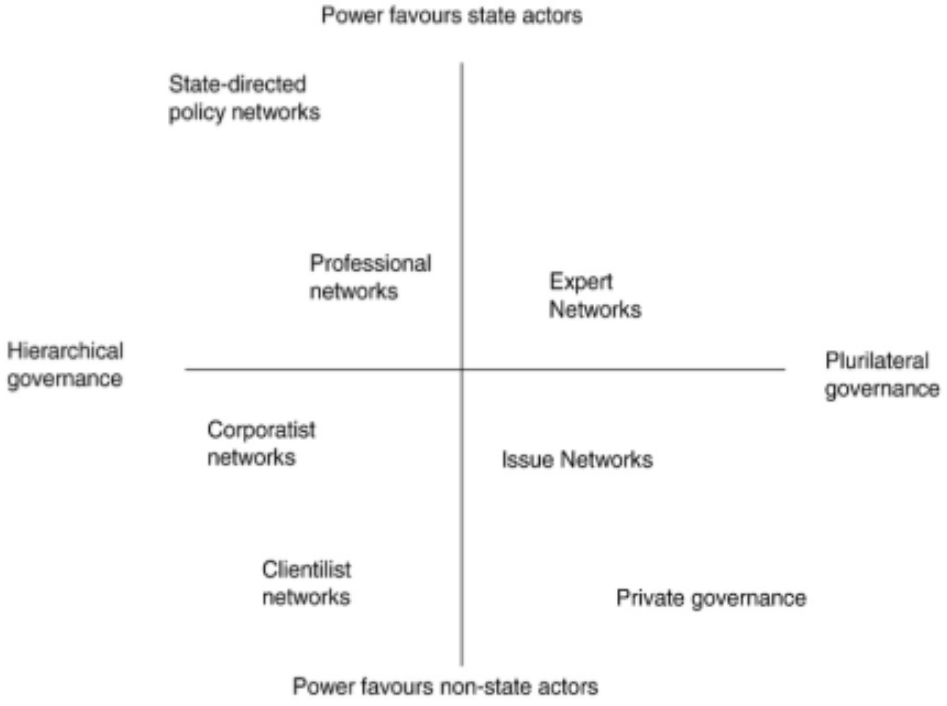

Fig. 1

The Political Dimension of Michael Howlett, Jeremy Rayner & Chris Tollefson's analytical structure
Source: Michael Howlett et al.

Fig. 2

The Institutional Dimension of Michael Howlett, Jeremy Rayner & Chris Tollefson's analytical structure.
Source: Michael Howlett et al.

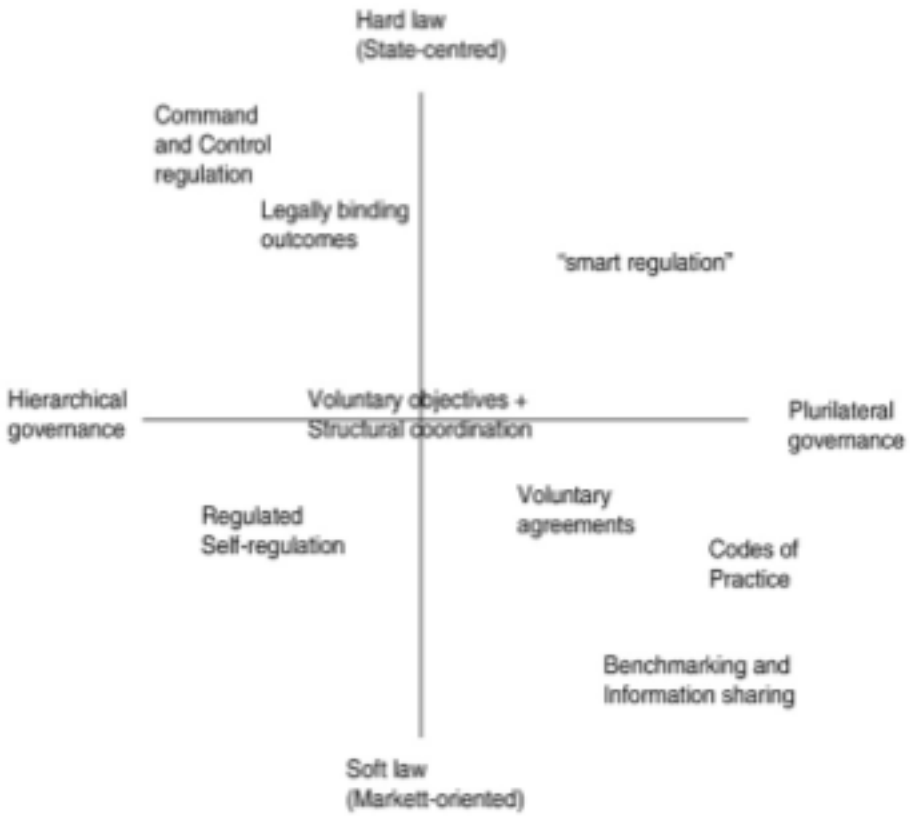

Fig. 3

The Regulatory Dimension of Michael Howlett et. al.'s , Jeremy Rayner & Chris Tollefson's analytical structure.
Source: Michael Howlett et al.

Having isolated the modes of governance, the authors were able to take stock of the political practices, institutional structures and regulatory techniques as they existed. But more important, the isolation allowed them to track the complexity of the changes involved in any shifts among those modes of governance so that they may come to a conclusion about whether there had been a shift from *government* to *governance*. It would be helpful at this time to reference the authors' definition of governance:

> 'Governance' is all about establishing, promoting and supporting a specific type of relationship between governmental and non-governmental actors in the governing process and *a central dimension of any governance*

> *mode is its placement on a spectrum of governing arrangements ranging from hierarchical to plurilateral* [my emphasis].[103]

In sum therefore, the application of this analytical framework to a particular field of governance (employment, environmental protection, health, welfare, etc.) would simply describe the governance arrangement of that field in reference to the three modes of governance. What is the value of this framework? The answer to this question is perhaps best served by a brief outline of the three dimensions.

The first dimension created by the authors is the political dimension. In this mode of governance, the authors were mainly concerned with one question: "whether political power – that is, the ability to make legitimate, authoritative decisions allocating societal resources – favours state or non-state actors."[104] It can be argued on end about what it means for political power to be vested in the state and what it means for that power to be vested in society-driven actors.[105] Earlier, it was noted that "many people have been disappointed with the ability of government to tackle social problems."[106] At the same time, *New Governance* scholars argue that the social trait of non-state actors would influence more effective rules and solutions to social problems.[107] These are issues that the framework forces one to consider after having identified whether the political power in the regime favours state or non-state actors.

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[103] *Ibid.* at 385 ¶ 2.1.
[104] *Ibid*. at 385 ¶ 2.2.
[105] See for instance, Peter M. Haas, "When does power listen to truth? A Constructivist approach to the policy process" (2004) 11(4) Journal of European Public Policy 569 [Haas, "When does power listen to truth?"]. Here, the author puts forward the view that the ability of state-centered decision-makers to master new ideas has limits, and when those limits are reached, there is a need to defer or delegate to authoritative actors with a reputation for expertise. In this view, the article debates about what it means for political power to be vested in state versus non-state actors when scientific issues such as sustainable development is at the heart of the decision-making process.
[106] Lee, "Conceptualizing the New Governance", *supra* note 97.
[107] Above at 26 ¶ 2.2.1.

The other two dimensions recognize that there is more to a governance arrangement than political power. The second dimension for instance, is symbolic of the fact that "institutions set the framework for the exercise of power."[108] In this dimension, the authors were concerned with the constitution and composition of institutional structures: Are the institutions formally or informally constituted? Are the institutions composed of state or non-state actors? According to the authors, these characteristics determine "…the abilities of various state and non-state actors to prevail in policy disputes and decisions, as well as the possibilities for the choice of the policy instruments used to implement the mode of governance."[109]

The third dimension focuses attention on the nature of the legal instruments used in the governance arrangement under study. The authors were concerned about whether the legal regime is characterized by traditional top-down hierarchical government control through laws and regulations or market-oriented regulation which are generally flexible and voluntary. In each of the dimensions, the focus is on locating the governance arrangement, (is it State (hierarchical)? or Non-State (plurilateral)?), of each mode of governance (political, institutional, regulatory). The authors describe the key to using the framework in the following terms: "…movement along the *horizontal* 'hierarchical' to 'plurilateral' axis is seen as being associated with changes along three distinct but overlapping *vertical* dimensions: namely *institutional structures, political practices* and *regulatory techniques… ."*[110] In other words, in moving across the horizontal axis, the fundamental question is whether there is one actor or many actors in each mode of governance, and who those actors are.

[108] Howlett et al. "Government to Governance" *supra* note 44 at 2.2.
[109] *Ibid.*
[110] *Ibid.* at 384 ¶ 1.

This framework does not achieve a particular policy objective. Nor does it advocate a certain approach to solving public problems or how societal resources should be distributed. The value in this framework is that it provides a means by which one may understand, analyze, and thereafter, critique a particular governance arrangement. So for example, when formulating or revising ocean governance arrangements that permit renewable energy generation activity, or policies that guide those governance arrangements, one would want to begin by understanding the political, institutional and regulatory nature of the governance arrangement under study. An understanding of the nature of the regime under study would lead to an awareness of where amongst the three dimensions the power to make decisions respecting societal resources is concentrated, or shared as the case may be.

The only drawback to Howlett et al.'s framework, if it can be considered a drawback at all, is that it stops at an evaluation of the decision-making process that leads to decisions and substantive outcomes. The framework fails to indicate what a substantively good outcome would be. Put another way, in the context of this study, the framework would be unable to assist in a determination of whether a particular ocean governance arrangement that permits renewable energy generation activity is effective. In this regard, there is a need to formulate a substantive standard against which the effectiveness of those regimes can be measured. Simply put, a regime consists of a set of principles, norms, rules and decision-making procedures, which define an issue-area of co-operative use and activity among citizens. One immediate question is what do we mean by "effectiveness" or "regime effectiveness." Arild Underdal defines the concept quite nicely: "In common-sense understanding, a regime can be considered effective to

the extent that it successfully performs a certain (set of) function(s) or solves the problem(s) that motivated its establishment." Critical to the activity of this study, he notes further that:[111]

> Any attempt at designing a conceptual framework for the study of regime effectiveness must … cope with at least three (sets) of questions: (1) what precisely constitutes *the object* to be evaluated? (2) Against which *standard* is this object to be evaluated? and (3) How do we go about comparing the object to this standard – in other words, what kinds of measurement operations do we have to perform to attribute a certain score of effectiveness to a certain regime?

The application of Howlett et al.'s framework contributes to an understanding of a particular governance arrangement, i.e., *the object* to be evaluated (Underdal's first question). The focus now is on the subject matter of Underdal's second question, i.e., the *standard* against which the governance arrangement is to be evaluated. At the outset of this brief discussion, it should be noted that in the context of this study, many standards are available to measure the effectiveness of offshore renewable energy regimes. Because these regimes impact ocean use and management, suitable criteria for effectiveness can be located in principles that advocate certain standards for stewardship of the oceans and seas. As previously noted, statements of principles for ocean governance can be found in a variety of sources: directives and protocols on good governance, international agreements, declarations and codes of conduct. The principles that inform ocean governance are often ill-defined and difficult to apply in practice. As a result, the list of principles will continue to grow as academics seek to clarify their scope. Some of these principles include sustainable development, integration, precaution, the ecosystem

[111] See, Arild Underdal, "One Question, Two Answers" in Edward L. Miles et al., *Environmental Regime Effectiveness: Confronting Theory With Evidence* (Cambridge, Mass: MIT Press, 2002) at 4-5.

approach and community-based management.[112] Any of these principles may serve as legitimate criteria for measuring the effectiveness of substantive outcomes of offshore renewable energy regulation. Any of these principles may serve as the standard by which renewable energy generation activity affecting the coastal and marine environments can be judged. The following section briefly introduces a sustainable development criteria which will be used to measure the effectiveness of the offshore wind regime in the United Kingdom.

2.3 Sustainable Development: A Criteria for Measuring the Effectiveness of Offshore Renewable Energy Governance Regimes

Section 2.1 above outlined the tragedy of our ocean's health. Ocean resource exploitation is bearing down on the health of the oceans and seas, and creating a wide range of difficulties that call for close co-operation between science and policy. Adalberto Vallega in his book *Sustainable Ocean Governance: a Geographical Perspective*,[113] consider two important questions central to this study:

> What is the conceptual framework necessary to design ocean governance strategies consistent with the need to protect the ocean ecosystem? What assessment of the ecosystem is needed, and what principles should be adopted to best utilise its resources?[114]

In dealing with these questions, it was argued that there should be a strict reference to the concepts of sustainability – the contextual pursuit of three goals: (a) the integrity of the ecosystem; (b) economic efficiency; and (c) social equity including a

[112] VanderZwaag, "Towards Principled Ocean Governance", *supra* note 72 at 5. For a short list of a modern ocean governance principles, see, Freestone, "Modern Ocean Governance", *supra* note 82 at 391.
[113] Vallega, "Sustainable Ocean Governance", *supra* note 47.
[114] *Ibid.* at 41 ¶ 3.1.

guarantee of the rights of future generations.[115] This view has generated discussions in marine affairs.[116] In the context of the challenges posed to the marine environment by human use, one author, Edward Miles,[117] conveyed the informed ideology as follows: "There is an urgent need to breathe life into the notion of "sustainability" to make it into a fundamental norm of the new world ocean regime." Therefore, sustainable development is an appropriate standard against which the effectiveness of offshore renewable energy regimes can be evaluated.

In the 1990's, sustainable economic development has become the most heralded concept in the international community on issues respecting the economy, society and the environment. The origin of the term can be traced back to the publication of 1987 Brundtland Report;[118] a document which is credited as having signaled the urgency of rethinking our ways of living and governing.[119] The report defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[120] Since the Brundtland Report, there has been a multitude of elaborations of the 'sustainable development' definition. Those elaborations entertain a wide range of perceptions on the scope and implications of the concept. In the midst of conceptual uncertainty, it is helpful to identify shared basic

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[115] *Ibid.*

[116] For instance Robert L. Friedhman's definition of ocean governance makes explicit inclusion of the notion of sustainability. See, Friedhman, "A Proper Order", *supra* note 51 at 537.

[117] Edward L. Miles, "The Concept of Ocean Governance: Evolution Toward the 21st Century and the Principle of Sustainable Ocean Use" (1999) 27(1) Coastal Management 1.

[118] See, G. H. Brundtland, *Our Common Future* (Oxford: Oxford University Press, 1987) online: Center for a World in Balance <http://www.worldinbalance.net/intagreements/1987-brundtland.php> [Brundtland Report]. However, while the term is accepted as having been coined by the Brundtland Report, it is widely accepted that the underlying concept of sustainable development had been around for quite some time before the publication of the Report. See, Phillippe Sands QC, *Principles of International Environmental Law*, 2d ed.(Cambridge: Cambridge University Press, 2003) at 252.

[119] See, Tracey Strange & Anne Bayley, *Sustainable Development: Linking Economy, Society and Environment* (Paris: OECD, 2008) at 24.

[120] Brundtland Report, *supra* note 120 at Chapter 2 ¶ 1

characteristics of the concept. Gibson et al. have proposed a list of basic characteristics that provide an appreciation of the sustainable development concept:[121]

- The concept of sustainability is a challenge to conventional thinking and practice.
- The concept of sustainability is in all its formulations concerned about the long as well as short-term well-being.
- Sustainability covers the core issues of decision making (the pursuit and maintenance of necessities and satisfactions, health, security, diversity and equity, ecology and community, preservation and development, etc.).
- Sustainability demands recognition of links and interdependencies.
- Sustainability must be pursued in a world of complexity and surprise, in which precautionary approaches are necessary.
- The concept of sustainability recognizes both inviolable limits and endless opportunities for creative innovation.
- Sustainability is open-ended.
- The means and ends are necessarily intertwined.
- The concept of sustainability is both universal and context dependent.

Gibson et al. caveat however, that sustainable development/sustainability cannot be defined as one set of characteristics because they are all dependent on elaboration and specification in context.[122] The authors use these core characteristics to formulate generic sustainability criteria to be applied in assessment evaluations and decision-making.[123] 'Sustainability criteria' would necessarily refer to the body of rules or tools for measuring sustainability and/or identifying unsustainable practices. Any list of rules or tools for measuring sustainability are debatable at best as there will always be openings for learning and revision.[124] It is no surprise therefore, that there are also copious elaborations on good sustainable development assessment criteria. To this extent, measuring sustainability has become a major issue as well as a riving force in the

[121] See Robert B. Gibson et al. *Sustainability Assessment: Criteria, Processes and Applications* (London: Earthscan, 2005) at 59 – 61 [Gibson et al., "Sustainability Assessment"].
[122] *Ibid*. at 61 and 62.
[123] *Ibid*. at 62 – 63.
[124] *Ibid* at 95.

discussion on sustainable development.[125] After having reviewed a wealth of sustainability literature, Gibson et al., propose eight points which constitute a minimal set of core sustainability requirements for measuring progress towards sustainability:[126]

1. Socio-ecological system integrity
2. Livelihood sufficiency and opportunity
3. Intragenerational equity
4. Intergenerational equity
5. Resource maintenance and efficiency
6. Socio-ecological civility and democratic governance
7. Precaution and adaptation
8. Immediate and long-term integration

These requirements, however elaborated and juxtaposed, determine what objectives are favoured, which options are considered and preferred, what effects are judged desirable, acceptable or intolerable in the pursuit of sustainable development.[127] To compliment the application of the Howlett et al. framework, this minimal set of core sustainability requirements for measuring progress towards sustainability will be used to evaluate the UK offshore wind energy consents regime. The following subsections briefly consider each criterion.

2.3.1 Socio-ecological System Integrity

This sustainability criterion builds on the point made at the outset of this chapter, that is, humans are dependent on the integrity of biophysical systems such as the ocean and seas for the continuance of life and for the provision of a range of sufficiency

[125] See, Naim Hamdia Afgan and Maria de Garça Charvalho, "Sustainability" in *Sustainable Assessment Method for Energy Systems: Indicators, Criteria and Decision-Making Proceedure* (Boston, Kluwer Academic Publishers, 2000) at 24 ¶ 4.2 [Afgan et al., "Sustainability"].
[126] Gibson et al., "Sustainability Assessment", *supra* note 123 at 235-236.
[127] *Ibid.* at 89.

demands.[128] According to Gibson et al., this dependency warrants the making of decisions that seek to build human-ecological relationships for establishing and maintaining the long-term viability of socio-ecological systems.[129] As well, the authors propose that decisions should simultaneously seek to build human-ecological relationships in a manner that favours the protection of irreplaceable life support functions.[130] Notably, in making decisions based on this sustainability criterion, Gibson et al. add the caveat that "… the objective is not to prevent system change but to organize and manage our activities so that the changes we influence still preserve the system conditions and services upon which we rely."[131] Therefore, the criterion goes beyond the need to reduce human-induced stresses on socio-ecological systems.[132] In addition to maintaining the integrity of socio-ecological systems, this criterion advocates that there should be a focus on adjusting and reconstructing human governance systems "… to establish more modest, sensitive and flexible relations with the biophysical system."[133]

2.3.2 Livelihood Sufficiency and Opportunity

In the main, human well-being depends on the integrity of socio-ecological systems. However, in addition to environmental concerns, human-well being is also dependant on material goods and services for the attainment of livelihood sufficiency and opportunities for continued improvement.[134] In this regard, this criterion forces decision-

[128] Above at 15 ¶ 2.1.
[129] Gibson et al., "Sustainability Assessment", *supra* note 123 at 95.
[130] *Ibid.*
[131] *Ibid.* at 96
[132] *Ibid.* at 97
[133] *Ibid.*
[134] *Ibid.* at 98.

makers to consider the contribution a particular undertaking may make to ensuring that everyone has sufficient material goods and services for a decent life and opportunities for improvements.[135] In other words, this criterion forces a recognition and consideration of the fact that "…ignoring destitution, oppression and desperation [concerns, for instance] is unsustainable as well as morally unacceptable."[136] Therefore, in considering whether a particular undertaking contributes to livelihood sufficiency and opportunities, decision-makers must necessarily involve in the process "…those whose present needs are allegedly being addressed or potentially affected."[137] Lastly and most importantly, Gibson et al. note that in seeking to advance livelihood sufficiency and opportunities for present generations, decision-makers must pursue these improvements in ways that do not compromise future generations' possibilities for the same.[138]

2.3.3 Intragenerational Equity

According to Gibson et al., for progress towards sustainability, decision makers should ensure that proposed undertakings that can contribute to sufficiency and opportunity are "…pursued in ways that reduce dangerous gaps in sufficiency and opportunity […] between the rich and poor."[139] In essence, this criterion advocates that decisions should make positive contributions towards the concept of 'livelihood equality,' i.e. "…the right of all peoples within the current generation to fair access to the Earth's

[135] *Ibid.* 98.
[136] *Ibid.* at 99.
[137] *Ibid.*
[138] *Ibid.* at 98.
[139] *Ibid.* at 101.

natural resources."[140] In the context of this study, decision makers are to consider whether in approving marine renewables, the costs and benefits are shared equally among all users of the sea. Is the effective decision fair to all users of the sea?

2.3.4 Intergenerational Equity

Also, for progress towards sustainability Gibson et al. require that decision makers "[f]avour present options and actions that are likely to preserve or enhance the opportunities and capabilities of future generations to live sustainably."[141] The focus here is on making a choice between preserving and exploiting ecological systems and associated resources for the benefit of future generations. The criterion does not advocate which choice is better for sustainability. What it does however, is to demand that decision-makers of proposed undertakings give careful attention to future effects, consider the particulars of each case, respect the inevitable uncertainties, and in light of all of this, decide whether future generations would approve the proposed undertaking had they been the decision-makers.[142]

2.3.5 Resource Maintenance and Efficiency

In the context of this study, the application of this criterion will focus on resource maintenance. Here, for progress towards sustainability, decision makers must ensure that approval decisions on proposed undertakings reduce threats to the long-term integrity of

[140] See, Alexandre Kiss, "Public Lectures on International Environmental Law" in Adrian J. Bradbrook et. al, *The Law of Energy for Sustainable Development* (Cambridge: Cambridge University Press, 2005) at 16.
[141] Gibson et al., "Sustainability Assessment", *supra* note 123 at 103.
[142] *Ibid.* at 104-105.

socio-ecological systems by reducing extractive damage.[143] In other words, decision makers must take into consideration the existing stresses on ecosystems and associated resources, and permit development initiatives under conditions that ensure careful extraction of resources. Essentially, therefore, decisions should ensure that natural capital is maintained at or near current levels.

2.3.6 Socio-ecological Civility and Democratic Governance

As another core requirement for progress towards sustainability, Gibson et al. propose that there should be a greater focus on better governance and developing better governance arrangements. This criterion is reflective of the simple point that sustainability is a challenge to conventional thinking and practice. And so, Gibson et al. propose that if the previously mentioned core requirements are to be met, decision makers must begin by recognizing that current decision-making structures and processes are ineffective.[144] What is required to secure progress towards sustainability is governance thinking and arrangements that "… move away from development for the people to development with and by the people."[145] Therefore, central to this criterion is the application of sustainability principles through more transparent and better publicly informed deliberations. Through more transparent and better publicly informed deliberations, the desired result is a greater focus on sociological civility, i.e., "…to be more thoughtful, open and flexible, and to examine our capacities and objectives in a

[143] *Ibid.* at 107.
[144] *Ibid.* at 108.
[145] *Ibid.* at 109.

more integrated way, with more humility, more far-sightedness, and more commitment to continuous learning and adjustment."[146]

2.3.7 Precaution and Adaptation

Precaution and adaptation are some of the most heralded principles in environmental decision-making processes. Principle 15 of the 1992 Rio Declaration encapsulates the very basic understanding of the precautionary principle:[147]

> "[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

In sustainable decision-making, Gibson et al., propose that, in the main, a precautionary approach would seek to avoid undertakings that may imperil progress on other core requirements for sustainability. However, at the same time, a precautionary approach would also seek "to act on incomplete but suggestive indicators of significant risk to social and ecological systems that are crucial for sustainability."[148] Given the obvious complexity, Gibson et al.'s guidance to decision-makers is to "[r]espect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, plan to learn, design for surprise and manage for adaptation."[149]

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[146] *Ibid.* at 108.
[147] Rio Declaration, *supra* note 89.
[148] Gibson et al., "Sustainability Assessment", *supra* note 123 at 113.
[149] *Ibid.* at 111.

2.3.8 Immediate and Long-term Integration

The final core requirement for progress towards sustainability sets the policy objective for meeting all the other requirements. The policy objective is that decisions should "[a]ttempt to meet all requirements for sustainability together as a set of interdependent parts, seeking mutually supportive benefits."[150] In other words, according to this requirement, the goal of sustainable decision-making is to effect decisions that seek to pursue all of the requirements at once so as to make gains in each area. This requirement recognizes the fact that because all the requirements overlap and are interdependent, failure or gains on one requirement will affect progress on others.[151] So for instance, Gibson et al. note that "[g]ains in livelihood sufficiency and opportunity will collapse if the integrity of supporting socio-ecological systems is compromised and key ecological functions are not maintained."[152]

2.4 Conclusion

This chapter outlined the need for improved governance of marine spaces in order to protect their long-term viability by managing the manner, and extent to which marine spaces deliver services. Articulating and improving the governance arrangements is particularly necessary when new human needs, values and expectations of the coastal and marine environment arise. In the context of this study, this chapter highlighted the fact that when new services, such as the generation of renewable energy, are being demanded from our oceans, there is a clear mandate: develop new regulatory regimes where they do

[150] *Ibid.* at 113.
[151] *Ibid.*
[152] *Ibid.*

not exist, and revise existing arrangements where they do exist. Part two of this Chapter developed a two-tiered analytical framework in which policy makers and regulators may go about achieving this mandate. The first tier of the analytical framework is the New Governance Approach as articulated by Michael Howlett, Jeremy Rayner & Chris Tollefson.[153] The concept of this approach is particularly useful for policy makers and regulators. For one, the approach is not about adopting or advocating a certain course of action, procedure or method to solving public problems. Rather, it is a way of taking stock of political practices, institutional structures and regulatory instruments and deciding where amongst these dimensions the power to make decisions respecting societal resources is concentrated. In other words, therefore, the value in the first tier of the analytical framework is that it provides a means by which regulators may understand, analyze, and thereafter, critique a particular governance arrangement. This is a useful first step when trying to create new governance regimes or revise those already in existence as one would necessarily want to begin by understanding the political, institutional and regulatory nature of the governance arrangement under study. The only drawback to Howlett et al.'s framework, if it can be considered a drawback at all, is that it stops at an evaluation of the decision-making process that leads to decisions and substantive outcomes. The framework fails to indicate what a substantively good outcome would be. For any policy-maker or regulator, this would necessarily be their focus. In this regard, the second tier of the analytical framework was created to address the shortages of the first tier. In essence, the second tier is a substantive standard against which the effectiveness of governance regimes such as those governing offshore renewable energy can be measured. Many standards are available to measure the effectiveness of offshore

[153] Howlett et al., "Government to Governance", *supra* note 44.

renewable energy regimes. Because these regimes impact ocean use and management, suitable criteria for effectiveness can be located in principles that advocate certain standards for stewardship of the oceans and seas. It was noted at the outset of the Chapter, that statements of principles for ocean governance can be found in a variety of sources: directives and protocols on good governance, international agreements, declarations and codes of conduct. Some of these principles include sustainable development, integration, precaution, the ecosystem approach and community-based management. Any of these principles may serve as legitimate criteria for measuring the effectiveness of substantive outcomes of offshore renewable energy regulation. Ultimately, Gibson et al.'s core requirements for progress towards sustainable development was chosen as the second tier of the analytical framework as they constitute a workable minimal set of core sustainability requirements extrapolated from a wealth of sustainability literature.

CHAPTER THREE
The Main Drivers for Developing Renewable Sources of Energy

3.1 Introduction and Chapter Overview

Energy is essential for the continued development of modern economies and for the maintenance of modern standards of living.[154] In the contemporary world, there is a high demand for energy for the execution of daily activities. The intrinsic value of energy to all human activity is realized in the proclamation of energy as a "…basic human need."[155] It is needed to deliver adequate food, water, shelter, education, health care and employment. Indeed, without it, all human activity and development would come to a complete and instantaneous standstill.[156] As the world's population increases at an exponential rate and aspires to a standard of living on the basis that now prevails in the global north, the demand for a consistent and reliable supply of energy will also increase exponentially.[157] Already, the International Energy Agency has projected that world primary energy demand will increase by 40% between 2007 and 2030.[158]

Conventionally, most energy is supplied from the burning of fossil fuels – oil, gas and coal.[159] Today, fossil fuels remain the dominant sources of primary energy

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[154] See, Afgan et al., "Sustainability", *supra* note 127 at 15 who confirm the fact that energy resources are the bricks for building our civilizations.
[155] See, the International Renewable Energy Agency, *Our Mission: Background*, online: The International Renewable Energy Agency <http://irena.org>. [IRENA, "Background"].
[156] *Ibid.*
[157] See, Trevor M. Letcher, *Future Energy: Improved, Sustainable and Clean Options for our Planet* (Amsterdam: Elsevier, 2008) at 25.
[158] See, International Energy Agency, *World Energy Outlook 2009: Executive Summary,* (Paris, OECD/IEA, 2009) at 4 [IEA, "WEO 2009"]. Developing Asian Countries are the main drivers for this growth, followed by the Middle East.
[159] UNCTADTDBOR, *The Future Energy Matrix and Renewable Energy: Implications for Energy Security and Food*, UNCTADTDBOR, 2nd Sess., UN Doc. TD/B/C.I/MEM.2/8 (12 January, 2010) 1 at 1 ¶ 1.

worldwide.[160] In recent years, dependence on fossil fuels has created many challenges for the environment, the economy and the global energy system.[161] The emerging scientific consensus is that dependence on fossil fuel combustion for the production of energy results in increased GHG emissions which, in turn, affect air quality and contribute to the rise in global temperatures. The prevailing reliance on fossil fuels also means that import-dependent energy economies face an increased threat to receiving reliable supplies of energy in an energy market characterized by unequally distributed fossil fuel sources and fluctuating fuel costs.[162] Together, "[a]ll these factors contribute to the urgent need to transform the energy sector - which primarily relies on fossil fuels – to one that uses renewable energies and energy efficient measures."[163] Strictly speaking, therefore, renewable energies combined with enhanced energy efficiency measures are necessary to meet the energy challenges of our time. However, some academics argue that energy conservation and improvements have an overall higher potential to contribute to energy solutions than renewable energies.[164] This fact does not take in any way negate the importance of fuel switching to more sustainable sources of energy. It is perhaps best to think of both measures as a set of interdependent parts, seeking mutually supportive benefits. As this study centers on renewable energies, this chapter will concentrate on the literature advocating a move away from carbon-based sources of energy in an effort to slow or possibly halt the adverse effects of exclusive reliance on hydrocarbons. In this

[160] *Ibid*. Taken together, fossil fuels provide some 80 per cent of global energy needs, while fuelwood, hydropower and nuclear energy provide the rest. *Ibid* at 3 ¶ 5.
[161] *Ibid* at 6.
[162] IEA, "WEO 2009" *supra* note 160.
[163] See, IRENA, "Background", *supra* note 157.
[164] See, Yinka O. Omorogbe, "Promoting Sustainable Development through the Use of Renewable Energy: The Role of the Law" in Donald N. Zillman et al, *Beyond the Carbon Economy: Energy Law in Transition* (Oxford: Oxford University Press, 2008) at 59. The author argues that energy efficiency, and not the move away from carbon is the ultimate solution to slowing or possibly halting adverse effects of exclusive reliance on hydrocarbons.

respect, apart from energy efficiency measures, the focus must now be on the development of clean, safe, smart, sustainable and indigenous renewable energy generation technologies that impose the least regrettable impacts on the environment, human health and the economy.[165] Renewable energy refers to all forms of energy which are "alternative" to "conventional" fossil and nuclear fuels.[166] They include biomass, geothermal energy, hydropower, ocean energy (wave, tidal, ocean thermal energy, offshore wind), solar energy, and wind energy.

Not surprisingly, renewable energy generation has been at the fore of international community efforts for decades.[167] Recently, international regard for renewable energy sources has been codified in the *Statute of the International Renewable Energy Agency*.[168] As of 22 August 2010, 148 States have signed the *Statue* and 34 States have ratified it.[169] The Statute has entered into force on 8th July 2010. Generally, the treaty calls for "…widespread and increased adoption and use of renewable energy with a view to sustainable development."[170] Within the text, State Parties also recognize the real opportunity offered by renewable energy sources for gradually alleviating global problems of energy security, volatile energy prices, energy access, climate instability and

[165] See, IRENA, "Background" *supra* note 157 where it is noted that "… renewable energy is one of the key solutions to the current challenges facing the world's energy future."
[166] See, Paul Kruger, *Alternative Energy Resources: The Quest for Sustainable Energy* (New Jersey: John Wiley & Sons Inc., 2006) at 137 ¶ 7.0 [Paul Kruger, "Alternative Energy Resources"].
[167] Renewable Energy has been on the agenda of the United Nations since 1960. In 1978, the General Assembly of the United Nations decided to convene an international conference on new and renewable sources of energy that was later held in Nairobi, Kenya august 10-21, 1981. See generally, Enrique V. Iglesias, "Objectives of the United Nations Conference on New and Renewable Sources of Energy" (1981) 5(2) OPEC Review 12.
[168] *Statue of the International Renewable Energy Agency,* Conference on the Establishment of the International Renewable Energy Agency, 26 January, 2009, Bonn (Doc. IRENA/FC/Statute) online: International Renewable Energy Agency <http://www.irena.org> [IRENA Statute].
[169] See, the International Renewable Energy Agency, *Nauru and Oman ratify Irena's Statute*, online: The International Renewable Energy Agency <http://irena.org>.
[170] IRENA Statute, *supra* note 170 at 2, first preambular paragraph.

sustainable development.[171] Internationally, therefore, there has been much consensus on the urgent need and the attendant benefits of a shift to sustainable, renewable energy generation practices.

This chapter briefly outlines the factors considered to influence the adoption of renewable energy policies and technologies. Specifically, the chapter explores the contributions renewable energy makes to environmental preservation; the contribution renewable energy makes to the attainment of Millennium Development Goals (MDGs) by providing increased access to energy; and the contribution renewable energy could make to alleviate the problem of energy insecurity. Briefly, the chapter thereafter makes an explicit link between the benefits to be had from renewable energies and Gibson et al.'s eight core requirements for progress towards sustainability. Lastly, the chapter briefly identifies some of the barriers to the deployment of renewable energy technologies.

3.2 Renewable Energy Contributes to Environmental Preservation

Conventionally, natural resources like coal, oil and gas, have been extracted to produce energy for human consumption. This simple fact links the business of energy production to that of environmental preservation. Regrettably, every extraction has had real and tangible impacts on the environment.[172] On the other hand, clean, renewable processes of energy generation gradually reduce the effects of deforestation, desertification, biodiversity loss and climate degradation commonly associated with

[171] *Ibid.* See also, *Report of the Secretary-General on the Promotion of New and Renewable Sources of Energy*, UNGAOR, 64th Sess., UN Doc. A/64/277 (2009) at 4 ¶ 5 [UNGAOR, "Promotion of Renewable Energy"].

[172] See generally, Rex J. Zedalis, *International Energy Law: Rules governing future exploration, exploitation and use of renewable resources* (Aldershot: Dartmouth Publishing Company Limited, 2005) at 233.

conventional methods of energy generation.[173] As such, the environmental benefits of switching to renewable energy are well established.

In many parts of Africa, there is a heavy reliance on the burning of firewood and charcoal to meet energy needs,[174] and to sustain a charcoal trade industry for income generation.[175] This practice has encouraged and intensified massive deforestation.[176] In turn, deforestation causes soil erosion, floods, drought, desertification, loss of biodiversity,[177] and accounts for almost 20% of global CO2 emissions, among many other things. These effects ultimately undermine the integrity of the socio-ecological system.[178] Unfortunately, despite the stresses placed on the regenerative capacities of forests, the inextricable links of the charcoal trade industry to income generation and energy needs in Africa only serve to encourage the continued growth of the industry and further forest exploitation.[179] The charcoal trade industry cannot be stopped anytime soon.[180] However, reduction of its harmful impacts can be achieved through the implementation of measures that promote sustainable production and use of wood and

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[173] See, IRENA, "Background" *supra* note 157.

[174] See, UNDP and WHO, *The Energy Access Situation in Developing Countries: A Review Focusing on the Least Developed Countries and Sub-Sahara Africa* (New York: United Nations Development Programme, 2009) at 1.

[175] See, Austin Beyandi "Charcoal Trade Racks up 300bn" *Tanzania Daily News* (24th February 2010) online: <http://dailynews.co.tz>.

[176] See, Christian Peter and Klas Slander, *Environmental Crisis or Sustainable Development Opportunity? Transforming the CharcoalSsector in Tanzania: A Policy Note* (The World Bank, 2009) at 8.

[177] See generally, Kokou Kouami, Nuto Yaovi & Astri Honan, "Impact of charcoal production on woody plant species in West Africa: A case study in Togo" (2009) 4(9) Scientific Research and Essay 881 at 892.

[178] Already, deforestation is driven by the timber, mining and agricultural production industries, by ongoing infrastructure development and other economic drivers. See, Paulette L. Stenzel, "Free Trade and Sustainability Through The Lens of Nicaragua: How CAFTA-DR Should be Amended to Promote the Tripple Bottom Line" (2010) 34 Wm. & Mary Envtl. L. & Pol'y Rev. 653 at 699.

[179] See, Fridah Mungo & Chin Ong, *Lessons from Africa's Unsustainable Charcoal Business* (Kenya: World Agroforestry Centre, 2006) at 2.

[180] See, Benjamin Mwasi, "Land Use Conflicts Resolution In Fragile Ecosystems using Multi-Criteria Evaluation (MCE) and a GIS-based Decision Support System" (Paper presented to the International Conference on Spatial information for Sustainable Development, October 2001) [unpublished] at 2 [Mwasi, "Land Use Conflicts"].

charcoal,[181] and the use of alternative energy resources.[182] Therefore, although renewable energy resources like biomass are only part of the solution, they help to curb deforestation pressures from the charcoal industry.[183] Many renewable energy projects have been launched for this purpose.[184]

The fossil fuel industry is also adding to the degradation of the environment and the resulting depletion of natural resources. Most energy supplies come from the burning of fossil fuels. Combustion releases large amounts of pollutants into the atmosphere, particularly carbon emissions that cause global warming.[185] However, for quite some time, there has been a denial of any correlation between fossil fuel use and global warming.[186] Recently, the Intergovernmental Panel on Climate Change (IPCC) has for the time being, settled the science on the matter[187] However, there are still some who doubt the findings of the IPCC. While there are still skeptics, the numbers are low and the IPCC appears to be the most comprehensive and credible source of information on climate change.[188] Climate change is real and is happening. Global average increases in air and

[181] See, Ministry of Physical Development, Environment and Housing, *Draft Saint Lucia: Energy Sector Policy and Strategy (A Green Paper for Discussion)*, (2003) at 55 ¶ 6.20.
[182] Mwasi, "Land Use Conflicts", *supra* note 182.
[183] See, Uwe R. Fritsche, Bettina Kampman & Beert Bergsma, "Better Use of Biomass for Energy: Position Paper of IEA RETD and IEA Bioengergy" (Paper presented to Renewable Energy Technology Development to COP15, 15 December 2009) [unpublished] at 3, online: International Energy Agency <http://www.iea.org>.
[184] See, Abdulwakil Saiboko "Renewable Energy Project to Curb Deforestation Launched" *Tanzania Daily News* (10 May 2010), online: Daily News <http://dailynews.co.tz>.
[185] Soloman, "Summary for Policymakers", *supra* note 2.
[186] Blick, "Global Warming Myth", *supra* note 3.
[187] Soloman, "Summary for Policymakers", *supra* note 2.
[188] The IPCC was formed by the World Meteorological Organization and the United Nations Environmental Programme in 1988 to further understandings of global climate change. Since its formation, the IPCC has published four comprehensive assessments on global climate change in addition to several ancillary special reports. By way of example, the IPCC's Fourth Assessment Report drew together 450 scientists from all over the world. In drafting the Report, 800 contributing authors gave specialized inputs while approximately 2500 experts reviewed the document providing a total of 90,000 comments. The reports are used worldwide, most notably by state parties to the United Nations Framework Convention on Climate Change and its Kyoto Protocol, as a credible and comprehensive source of information on climate

ocean temperatures pose immediate threats to the integrity of the environment.[189] The IPCC has predicted that climate change, if unabated, will heavily impact freshwater resources,[190] ecosystems[191], crop productivity[192] and coastal systems and low-lying areas.[193] Specifically, small islands are especially vulnerable to the effects of climate change and sea-level rise due to their limited size, proneness to natural hazards and external shocks, and low adaptive capacity.[194] Some of the immediate threats of global warming that impact the overall tourism product and the environmental sustainability of Small Island Developing States include for instance, the destruction of marine ecosystems through ocean acidification and coral bleaching, and the demolition of coastal barriers. These impacts reduce the amenity value for coastal users and tourists.[195] Such irreversible catastrophes inherently shock other economic activities such as the fishing industry and disrupt socio-cultural norms of coastal populations. The effects of global warming are never-ending, irreversible and cannot be ignored.[196] To avoid dangerous atmospheric temperatures, the IPPC has recommended long-term stabilization of GHG concentrations in the atmosphere. To do this, a portfolio of adaptation and mitigation

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change, its potential impacts, and options to adapt to or mitigate climate change. See generally, Pachauri, "Climate Change", *supra* note 5.

[189] Soloman, "Summary for Policymakers", *supra* note 2 at 5.

[190] Parry, "Summary for Policymakers", *supra* note 7.

[191] *Ibid.* Ecosystems will be affected by flooding, drought, wildfire, insects and ocean acidification impacts perpetuated by climate change.

[192] *Ibid.* While extreme weather affects the ability of natural resources to regenerate, rising temperatures themselves will have a massive impact and the ability to continue growth of foods associated with particular climates.

[193] *Ibid.* at 12. Coasts are projected to be exposed to increasing risks, including coastal erosion, due to climate change and sea-level rise. The effect will be exacerbated by increasing human-induced pressures on coastal areas.

[194] Mimura et al., "Small Islands", *supra* note 11.

[195] *Ibid.*

[196] Goodwin, "Future of Fossil Fuels", *supra* note 13.

measures must be immediately[197] deployed to reduce the pernicious effects of climate change.[198]

Internationally, the *United Nations Framework Convention on Climate Change*[199] and its *Kyoto Protocol*[200] recognizes the need for urgent and massive reductions in carbon dioxide emissions in order to counter the effects of climate change. Specified parties to these treaties are legally bound to mitigate climate change by limiting anthropogenic emissions of greenhouse gases (GHGes).[201] There are two main options available for effective emissions reduction: (1) development of processes that make fossil fuel production cleaner and more sustainable;[202] and (2) development of renewable forms of energy. Though option one reduces CO2 emissions, it continues business as usual practices that contribute to natural resource depletion. While it is accepted that a 'portfolio of diverse adaptation and mitigation actions'[203] are necessary to combat climate change, renewable energy is the only initiative that delivers permanent GHG emission reductions. It is well accepted that our energy future needs alternative sources of energy, "…which when consumed, are free of environmental impact."[204] However, an alternative view would seek to claim that there is much bigger picture, that is, that all sources of energy, renewable and non-renewable, are associated with benefits and harm. So for instance, on the one hand, fossil fuel generation produces the 'harm' of GHG emissions.

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[197] Stern, "Stern Review", *supra* note 14.
[198] Parry, "Summary for Policymakers, *supra* note 7 at 20.
[199] UNFCC, *supra* note 16.
[200] Kyoto Protocol, *supra,* note 17.
[201] UNFCCC, *supra* note 16 at 6 ¶ 2(a). For a list of Annex I countries bound by this obligation see page 23 of text.
[202] See, Boyle, "Energy Systems and Sustainability", *supra* note 19 at 273 ¶ 14.1 where the authors outline three approaches for reducing the impacts of fossil fuels: 1. Improve energy conversion efficiency of fuel-based energy supply system, so that less fuel is required to achieve a given level of energy output. 2. Switching to lower-carbon fuels with a lower carbon content
[203] See generally, Klein et al. "Adaptation and Mitigation", *supra* note 20.
[204] Goodwin, "Future of Fossil Fuels", *supra* note 13 at 19 ¶ 5.

On the other hand, renewable energies such as wave, wind, tidal, etc., produce some environmental impact (harm) associated with construction. Therefore, for governments, it is really a matter of making appropriate choices about what combination of energy sources brings the lowest harm while providing the greatest benefit. This view aside, it is generally accepted that renewable energy resources impose the least regrettable impacts on the environment, human health and the economy.[205] In conjunction with climate change mitigation agendas, these characteristics give significant impetus to renewable energy development. In fact, some authors argue that global warming is *the* driving force behind renewable energy development.[206]

Lastly, if the events of the recent oil spill in the Gulf of Mexico have taught world leaders anything about conventional energy generation practices, it is the unadorned fact that "[t]he time has come, once and for all, for [nations] to fully embrace a clean energy future."[207] However, it is also argued that the oil spill is no new lesson, but a blatant and cruel reminder of environmental limits – a recurring fact to which world leaders are wise.[208] Nevertheless, the message is clear; incorporating renewable forms of energy into the energy mix has great potential to contribute to the overall preservation of the environment.

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[205] *Ibid.*

[206] See, Dr. Roger Maddrell, "Offshore Energy – Wind, Waves and Currents" (Paper presented to the World Renewable Energy Congress 2005 Conference, Innovations in Europe, May 2005) [unpublished] at 1, online <http://www.maddrell.org.uk>.

[207] See, The White House Office of the Press Secretary, Media Release, "Remarks by the President on the Economy at Carnegie Mellon University" (2 June 2010), online: The White House <http://www.whitehouse.gov>.

[208] See, GIB, *Gulf Oil Spill a Reminder of Our Limits*, online: The Truth Alyzer <http://www.truthalyzer.com>. See also, Thomas L. Friedman, "No Fooling Mother Nature" *The New York Times* (4 May 2010), online: The New York Times <Http://www.nytimes.com>.

3.3 Renewable Energy contributes to the attainment of Millennium Development Goals by providing increased Access to Energy

Approximately 3 billion people in rural areas in developing countries rely on traditional biomass (wood, charcoal and dung) for cooking and heating.[209] Seven hundred (700) million people in Least Developed Countries lack access to modern energy services.[210] Six hundred (600) million people in Sub-Sahara Africa suffer the same fate.[211] Worldwide, an estimated 1.5 billion people lack access to energy.[212] 'Access to energy' is defined as: "access to clean, reliable and affordable energy services for cooking and heating, lighting, communications and productive uses."[213] Unfortunately, projected population growths only serve to widen the gap between the haves and the have-nots of access to modern forms of electricity. In 2000, world leaders committed to the attainment of eight MDGs.[214] Of those goals, the 2015 deadline to cut world poverty in half is fast approaching.[215] Access to energy is central to achieving the MDGs.[216] The current trends on lack of access to modern energy services poses a significant barrier to

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[209] See, UNDP and WHO, "The Energy Access Situation in Developing Countries: A Review Focusing on the Least Developed Countries and Sub-Sahara Africa, (New York: United Nations Development Programme, 2009) at 16, online: <http://www.who.int> [WHO, "Energy Access Situation"].
[210] *Ibid.*
[211] *Ibid.*
[212] IEA, "WEO 2009", *supra* note 160 at 2.
[213] See, UN Secretary-General's Advisory Group on Energy and Climate Change, *Energy for a Sustainable Future: Report and Recommendations: Summary Report* (New York: United Nations, 2009) at 13, online: <http://www.un.org/millenniumgoals/pdf/AGECCsummaryreport[1].pdf> [UN, "Energy for a Sustainable Future"].
[214] See, *United Nations Millennium Declaration*, GA Res. 55/2. UNGAOR, 55th Sess., Supp. No. 13, UN Doc. A/55/49 (2000) at 4. Those goals are 1. To eradicate extreme poverty and hunger; 2. To achieve universal primary education; 3. To promote gender equality and empower women; 4. To reduce child mortality; 5. To improve maternal health; 6. To combat HIV/AIDS, malaria and other diseases; 7. To ensure environmental sustainability; and 8. To develop a global partnership for development.
[215] *Ibid* at ¶ 19.
[216] See, Stephen R. Tully, "The Contribution of Human Rights to Universal Energy Access" (2006) 4 Northwestern University Journal of International Human Rights 518 at 519 [Tully, "Universal Energy Access"].

the creation of socio-economic opportunities for development.[217] Hindering development is fundamentally incompatible with poverty eradication agendas. Without increased access to energy, the 2015 deadline and all other MDGs will not be met.[218]

Currently, the energy impoverished of the world are plagued by a plethora of extreme disadvantages and living conditions. Traditional indoor combustion of wood, charcoal and dung to meet energy needs has had significant health consequences.[219] The practice causes high mortality rates in women and girls in West Africa who are traditionally responsible for this method of energy generation.[220] Populations lacking access to energy are also deprived of access to food, clean water and sanitation, maternal health,[221] basic healthcare services and equipment,[222] and increased opportunities for education[223]. These problems are all intensified by increasing global temperatures, the ongoing global financial crisis and the instability of energy prices.[224] Access to energy is therefore a key fundamental to reducing existing hardships in developing countries by

[217] WHO, "Energy Access Situation", *supra* note 211 at 37.
[218] UN, "Energy for a Sustainable Future", *supra* note 213 at 7.
[219] The practice of indoor combustion of wood, charcoal and dung for cooking produces great volumes of pollution in poorly ventilated households. When inhaled these pollutants cause lung cancer, pneumonia and chronic lung disease which have resulted in almost two million deaths annually. See, WHO, "Energy Access Situation", *supra* note 211 at 2.
[220] *Ibid*.
[221] Improvement of maternal health (MDG 6) depends upon access to energy. See, Tully, "Universal Energy Access", *supra* note 218 at 21.
[222] Improvement of the human condition by combating HIV/AIDS and other disease (MDG 6) is facilitate by access to energy. Energy allows health centers to refrigerate vaccines, boil water, sterilize equipment, incinerate used syringes, provide light and energy or operating theatres. *Ibid.* at 21.
[223] "Electricity access lowers the time spent by children, particularly girls, in collecting fuelwood, thereby enabling school attendance, reducing drop-out rates, and facilitating the achievement of universal primary education. Electricity also powers information and communications technology (including overhead projectors, computers, printers, and photocopiers) to enable distance learning. Lighting allows children to study for longer periods, and mechanized transport to school, such as electric trains, becomes possible." See, Tully, "Universal Energy Access", *supra* note 218 at 19.
[224] WHO, "Energy Access Situation", *supra* note 211 at (i).

encouraging improved productivity, greater income-generating capacities,[225] economic progress and overall human development[226].

It is estimated that in order to cut poverty statistics in half and affect associated negatives by 2015, an additional 1.2 billion people will require access to electricity and 1.9 billion people will need access to modern fuels.[227] Given the necessity, how best can nations expand access to modern energy for the world's poor without stunting climate change initiatives? World leaders have agreed that renewable energy has huge a potential to provide "decentralised access to energy, particularly in developing countries, and access to energy for isolated and remote regions and islands."[228] In sum, the following syllogism is indisputable: The increased use of renewable energy can assist in providing increased access to energy; Increased access to energy is central to the attainment of the MDGs; Therefore, the increased use of renewable energy could make a significant contribution towards the attainment of the MDGs.

3.4 Renewable Energy contributes to Energy Security

Globally, fossil fuels continue to play a major role in energy supply.[229] Industrialization, urbanization and rapid economic and population growth are driving world fossil-energy demand, and this is projected to increase by 40% between 2007 and 2030.[230] For quite some time, increases in global energy demand have raised international concern regarding the ability to secure affordable, consistent and reliable supplies of

[225] See, Tully, "Universal Energy Access" *supra* note 218 at 19.
[226] IEA, "WEO 2009", *supra* note 160 at 7.
[227] WHO, "The Energy Access Situation", *supra* note 211 at 2.
[228] IRENA Statute, *supra* note 170 at 2
[229] IEA, "WEO 2009", *supra* note 160 at 4.
[230] *Ibid.*

energy to meet growing demands.[231] When energy demands exceed supply, there is a shortage of energy resources, which means that some energy demands will not be met.[232] The transportation industries, for instance, are almost entirely dependent on petroleum.[233] Where supply fails to meet demand, the transportation systems become vulnerable to market pressures and volatile costs. If we take into account all other fossil-fuel dependent activities in our modern societies, when supplies fail to meet demand, there is significant threat to economic prosperity and, even national security.[234] Simply put, economies are faced with the trouble of allocating scarce resources when demands exceed supply. Because efficiency occurs at equilibrium, there is immense pressure to balance out the demand. To do some of this, the usual recourse is to increase the price of energy. This increase in fuel costs amplifies energy security concerns when energy demands exceed supply. In short, supply and demand determine the value of energy.[235] One alternative to paying higher fossil fuel costs is to reduce import demand or increase indigenous supply through the development of renewable forms of energy.[236]

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[231] *Ibid.*

[232] See, Roy L. Nersesian, *Energy for the 21st Century: A Comprehensive Guide to Conventional and Alternative Sources* (New York: M.E. Sharpe Inc., 2007) at 373.

[233] See, Carlos Pascual & Evie Zambetakis, "The Geopolitics of Energy: From Security to Survival" in Carlos Pascual & Johnathan Elkind, *Energy Security – Economics, Politics, Strategies and Implications* (Washington, D.C.: Brookings Institution Press, 2010) at 9 [Pascual, "Geopolitics of Energy"]. Here, the authors note that "transport systems, particularly in the United States, are largely reliant on oil, so disruptions of oil markets can bring a great power to a standstill."

[234] See, Ann Florini, "Global Governance and Energy" in Carlos Pascual & Johnathan Elkind, *Energy Security – Economics, Politics, Strategies and Implications* (Washington, D.C.: Brookings Institution Press, 2010) at 151. See also, Philp E. Cornell, "Energy Security as National Security: Defining Problems Ahead of Solutions" (19 February 2009) Journal of Energy Security, online: Journal of Energy Security <http://www.ensec.org/index.php>.

[235] See, Robert Pritchard, "The Complication that Climate Change poses for Asia-Pacific Energy Security" (2007) 1 International Energy Law and Taxation Review 18 at 19 [Pritchard, "Energy Security"]. However, as is later discussed several facts such as conflict and natural disasters also influence the cost of fossil fuels.

[236] See, Barry Barton et al., "Energy Security in the Twenty-First Century" in Barry Barton et al. *Energy Security: Managing Risks in a Dynamic Legal and Regulatory Environment* (New York: Oxford University Press, 2004) at 469 ¶ G [Barton et al., "Energy Security"].

The International Energy Agency describes energy security as "the uninterrupted physical availability [of energy] at a price which is affordable, while respecting environmental concerns."[237] In very basic terms, energy security refers to the security of energy supply.[238] Typically, when one speaks of a secure supply of energy, it is often in relation to a secure supply of fossil fuels (coal, oil and gas). There is a popular fear that meeting the world's increasing energy demands is speedily depleting global fossil fuel reserves. The fear of a peak in fossil fuel extraction often leads to questions of energy security and intergenerational equity.[239] However, the International Energy Agency has predicted that there are enough reserves to supply the projected demand increase.[240] Coal for one, is the most abundant fossil fuel in the world. It is geographically dispersed and is set to play a dominant role in future energy supply.[241] Its main drawback is its high carbon content which, as discussed, contributes to global warming. On the other hand, natural gas energy emits lesser amounts of carbon than coal and oil.[242] It is estimated that world oil and gas reserves are enough to cover the increase in demand through to 2030 and beyond.[243] However, world oil and gas reserves are concentrated in countries like

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[237] See, International Energy Agency, *Energy Security*, online: International Energy Agency <http://www.iea.org>. This definition is consistent with the elements of energy security identified by Jonathan Elkind. See, Jonathan Elkind, "Energy Security: Call for a Broader Agenda" in Carlos Pascual & Johnathan Elkind, *Energy Security – Economics, Politics, Strategies and Implications* (Washington, D.C.: Brookings Institution Press, 2010) at 121 [Elkind, "Call for a Broader Agenda"].

[238] However, see, Barton et al. "Energy Security", *supra* note 238 at 5. Here the authors coin a similar definition of energy security: "… a condition in which a nation and all, or most of its citizens and businesses have access to sufficient energy resources at reasonable prices for the foreseeable future free from serious risk of major disruption of service." Of import, they note that at different times, in different countries the crucial element of energy security will vary. For them, energy security has three faces: "the first involves limiting vulnerability to disruption given rising dependence on oil from an unstable middle east. The second… is the provision of adequate supply for rising demand at reasonable prices… [and] the third face of energy security is … to operate within the constrains of sustainable development."

[239] See, Edward A. Page, *Climate Change, Justice and Future Generations* (Cheltenham, UK: Edward Elgar, 2006) at 59 -96.

[240] IEA, "WEO 2009", *supra* note 160 at 7.

[241] *Ibid*.

[242] *Ibid*. at 10.

[243] *Ibid*. at 7.

Russia, but more so, in the Middle East.[244] Though it is predicted that there are enough reserves to supply the projected demand increase, these reserves are attended by many risks in the global energy system. If the geopolitics of energy demand and supply are appropriately observed, it becomes clear that one of the real problems in assuring a secure supply of energy is the fact that oil and gas reserves are not widespread, but that they are concentrated in the hands of very few countries.[245] At the end of the 2009 oil and gas year, it was estimated that the twelve (12) countries that form the membership of the Organization of the Petroleum Exporting Countries, (OPEC), control 79.6% of World proven oil resources.[246] It is further estimated that 70% of OPEC oil reserves are concentrated in the member states from the Middle East.[247] To put the energy security situation into proper geopolitical context, it is helpful to note the dominance of some Middle Eastern countries over the world's proven oil reserves. So for instance, at the end of 2009, Saudi Arabia held roughly 19% of the world's total reserves, while Iran held 10%, and Iraq, 8%.[248] The character of these resource-rich countries in the Middle East is particularly important.

Middle Eastern reserves are historically under threat from political instability and conflict characteristic of the region.[249] The *World Energy Outlook* has continually predicted a future mismatch between countries that demand energy and those that supply, wherein there is a growing dependence of the former on the latter for energy.[250] This is

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[244] *Ibid.*
[245] Pritchard, "Energy Security", *supra* note 237 at 18.
[246] See, Organization of Petroleum Exporting Countries, *OPEC Annual Statistics Bulletin 2009* (Austria: Ueberreuter Print and Digimedia, 2009) at 22, Table 3.1.
[247] *Ibid.*
[248] *Ibid.*
[249] See, Catherine Redgwell "International Energy Security" in Barry et al., *Energy Security: Managing Risk in a Dynamic Legal and Regulatory Environment* (New York: Oxford University Press, 2004) at 17.
[250] IEA, "WEO 2009", *supra* note 160.

today's reality for many import-dependent countries around the world.[251] This reality forces an increase in international trade between the haves and the have-nots.[252] Industry strikes and terrorism, for example, are acts of political instability characteristic of oil-producing regions that threaten a 'secure supply of energy' by lowering oil production and increasing the risk of future production shortfalls.[253] It is this political instability and conflict that is the main issue of concern for all 'have-nots' that increasingly depend on these high-risk reserves.[254] Political instability creates global uncertainties about retaining supplies of energy in the near and distant future. As previously noted, secure, reliable and affordable energy sources are fundamental to economic stability and development. Therefore, these uncertainties are highly disfavoured by import-dependent countries.

Additionally, by affecting production, political instability indirectly increases the price of oil and adds to concerns over price volatility and energy affordability.[255] As well, the very fact that few countries dominate the remaining oil reserves means that they have a great influence over the cost of oil. As world oil consumption continues to rise, global distribution of oil reserves will continue to shift in favour of Middle Eastern countries.[256] Because most reserves are concentrated in the hands of a few, and that share continues to increase, it gives Middle Eastern countries and Russia considerable market power and

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[251] For instance, the United States is overly dependent and focused on oil, with consequent special attention on the Middle East. See, Carlos Pascual & Evie Zambetakis, "The Geopolitics of Energy: From Security to Survival" in Carlos Pascual & Johnathan Elkind, *Energy Security – Economics, Politics, Strategies and Implications* (Washington, D.C.: Brookings Institution Press, 2010) at 9.

[252] Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy* (London: The Stationary Office, 2007) at 32 ¶ 1.16 [DTI, "Meeting the Energy Challenge"].

[253] Government Accountability Office, *Report to Congressional Addresses – Commodity Futures Trading Commission: Trends in Energy Derivatives markets Raise Questions about CFTC's Oversight* (USA: GAO, 2007) at 22, online: <http://www.gao.gov>.

[254] Pritchard, "Energy Security", *supra* note 237 at 18.

[255] See generally, Jennifer Giroux and Caroline Hilpert, "The Relationship between Energy Infrastructure Attacks and Crude Oil Prices" (27 October 2009) the Journal of Energy Security, online: Journal of energy Security <http://www.ensec.org>.

[256] Robert Pritchard "Global Energy Security and Middle East Oil" (2006) 1 International Energy Law & Taxation Review 13 at 14 [Pritchard, "Global Energy Security"].

ability to influence the price of their product.[257] So for example, oil price volatility from the Middle East coupled with the world's heavy reliance on Middle Eastern oil represents a legitimate energy security risk to all oil importing economies dependent upon that region.[258] In sum, price volatility can negatively impact energy affordability. Such impacts are undesirable.

In addition to the risks associated with the location of oil and gas reserves in high-risk regions, energy security is also concerned with the 'uninterrupted physical availability of energy'.[259] Supply disruptions have great potential to engender higher energy costs for consumers,[260] and significantly affect modern economic activity. A supply disruption in gas for example, "… could cost the United Kingdom up to £600 million in lost output."[261] These disruptions:

> … may occur at any point in energy supply chains; may originate at a range of geographical locations; may affect one or more fuel types; may occur in isolation or simultaneously; and may be of either short or long-term duration.[262]

Supply disruptions may be geopolitically, environmentally, technically or economically induced.[263] Noted above is the ability of market factors like political instability to impact upon the exploration and production of energy.[264] Other political factors may also cause disruptions. Acts of terrorism and piracy[265] on key sea-lanes[266]

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[257] IEA, "WEO 2009", *supra* note 160 at 7.
[258] Pritchard, "Global Energy Security", *supra* note 258 at 14.
[259] *Ibid*. at 13.
[260] Generally, when there is a supply disruption, the cost of fuel goes up because the demand is greater than available supply. That cost is burdened by the consumer.
[261] Malcolm Wicks MP, Energy Security: a national challenge in a changing world (August 2009) at 9.
[262] Pritchard, "Global Energy Security", *supra* note 258 at 13. See also, Daniel Yergin, "Ensuring Energy Security" (2006) 85(2) Foreign Affairs 69 at 78 where he argues that the concept of energy security be expanded to include the protection of the entire energy supply chain and infrastructure.
[263] See, Arianna Checchi, Arno Behrens & Christian Egenhofer, *Long-term Security Risks for Europe: A Sector-Specific Approach*, (London, Centre for European Policy Studies, 2009) at (i).
[264] Above at 62-63.
[265] See generally, Visiongain, *The Maritime Security Market 2010-2020: Piracy, Shipping & Seaports*

and pipelines[267] are major contributors to short and long-term supply disruptions, and render transportation methods inefficient.[268] Additionally, the use of power grids makes modern energy infrastructures vulnerable to cyber attacks.[269] Cyberspace allows hackers to inflict equipment sabotage, seize control of gas pipelines and steal information.[270] The potential to disrupt energy supplies is obvious. This end result is attractive to terrorist hackers.[271]

A fracture in state relations and/or negotiations may also provoke supply disruptions.[272] History further proves that use of force may also result in supply disruptions in the form of embargos.[273] Furthermore, the revival of pervasive resource

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(London: Visiongain, 2010). See also, Randy Fabi, "Piracy off Nigeria delays oil Projects" *Reuters* (29 January 2009) online: <http://uk.reuters.com>. But more recently "Oil Hub off Cameroon New Frontier for Pirates" *The Gulf* (19 May 2010) online: The Gulf Times <http://www.gulf-times.com>. Additionally, the tapping into pipelines cause risk of explosions, oil spills and other accidents – see, Martha Harris, "Energy and Security" in Michael E. Brown, *Grave New World: Security Challenges in the 21st Century* (Washington D.C.: Georgetown University Press, 2003) at 165 [Harris, "Energy and Security"].

[266] See, Maro Silver, "Somalia: State Failure, Piracy and the Challenge to International Law" (2010) 50 Va. J. Int'l L. 553 at 555 where the author argues that if left unabated, piracy threatens the safety of sea-lanes that transport almost half of the world's cargo. The author illustrates the threat to international energy supplies by drawing on the recent hijacking of a Saudi oil super taker (MV Sirius Star) in 2008 which was released in 2009 after a ransom of $3 million was paid to pirates.

[267] Terrorists are cognizant of the socio-economic and political dependence on oil and gas for continued development and stability. Therefore, to effect economic hardship and internal political instability on the enemy territory, terrorists attack the pipelines which supply the resources that fuel foreign progress. Pipelines are easily sabotaged. The wrecking of a critical pipeline can stall transportation operations for weeks thereby interrupting supply. These attacks also affect local operations by forcing repair constructions which ultimately have dollar burdens that consumers must satisfy. See, Dr. Gal Luft, "Pipeline Sabotage is Terrorist's Weapon of Choice" (2005) Pipeline and Gas Journal, online: <www.pipelineandgasjournal.com>. Over the years, there have been countless attacks on Middle Eastern, South Asian and Russian pipelines.

[268] Note also that conflicts effect disruptions in supply posing physical security threats to energy installations and personnel. Barton et al., "Energy Security", *supra* note 238 at 460 ¶ 4.

[269] See, Daniel Ventre, "China's Strategy for Information Warfare: A focus on Energy" (18 May, 2010) Journal of Energy Security, online: < http://www.ensec.org/index.php>.

[270] *Ibid.*

[271] *Ibid.*

[272] See for instance, "European Union protests as Russia turns off Gas" *The Telegraph* (6 January 2009) online: The Telegraph <http://www.telegraph.co.uk>. Here, a Russian company attempted to raise the price of natural gas to be sold to Ukraine. In the midst of the dispute, Russia reduced the volume of gas supplied to Ukraine and other European countries after allegations of siphoning off gas without paying. That pipeline supplied approximately 15% of EU gas imports. On average however, European countries rely on Russia for 23% of their imported gas. See, Pascual, "Geopolitics of Energy", *supra* note 253 at 20.

[273] See generally, Jay Hakes, "35 Years After the Arab Oil Embargo" (6 October 2008) Journal of Energy

nationalism[274] driven by high oil prices also threatens an uninterrupted energy flow. States like Russia and those belonging to OPEC are conducting resources nationalism activities in order to restrict access to energy resources, so that they may use their dominance over reserves to strategically coerce economic and foreign policy goals.[275] A consistent and reliable supply of energy is likely to be affected where reserves are used for political purposes which conflict with commercial objectives.[276] For instance, the vesting of control over oil resources in national oil corporations which are sometimes less effective than their international peers, result in "…decreased productive capacity and ultimately, supply shortages."[277] Lastly, the gradual resurgence of 'oil violence' in oil producing countries like Nigeria holds grave potential to affect oil output.[278]

Natural disasters such as typhoons, hurricanes[279] and earthquakes, whether occurring locally or regionally, may also disrupt energy supplies by causing damage to

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Security, online: Journal of Energy Security <http://www.ensec.org/index.php>.

[274] See generally, Daniel Möcklii, *Strategic Trends 2010: Key Developments in Global Affairs* (Zurich: Switzerland, Centre for Security Studies, 2010) at 85 and 92.

[275] See, Joseph A. Stanislaw, *Power Play – resource nationalism, the global scramble for energy, and the need for mutual interdependence* (Washington, D.C.: Deloitte Developments LLC, 2009) at 4. It is argued here, that use of energy resources in this way may very well be an alternative to the use of force by governments. See, Daniel Moran & James A. Russel, *Energy Security and Global Politics: The Militarization of Resource Management* (London: Routledge, 2008) at 3. Russia for instance has repeatedly demonstrated its willingness to us gas as a political weapon most vividly during confrontations with Ukraine in January 2006 and February 2008. For a case study on ways in which Iran, Venezula and Russia have used their energy wealth and leverage to strengthen their regional influence over more vulnerable neighbours, see, Pascual, "Geopolitics of Energy", *supra* note 253 at 17.

[276] DTI, "Meeting the Energy Challenge", *supra* note 254 at 32 ¶ 1.18.

[277] See, Dr. David R. Mares, "Resource Nationalism and Energy Security in Latin America: Implications for Global Oil Supplies" James A. Baker III Institute for Public Policy, Rice University (20 January 2010) online: *Baker Institute* <http://www.bakerinstitute.org> at 11.

[278] Dr. Victor Ojakorotu & Lysias Dodd Gilbert, *Checkmating the Resurgence of Oil Violence in the Niger Delta of Nigeria* (2010) online: <http://www.iags.org/Niger_Delta_book.pdf>. On 19 June 2008, the Movement for the Emancipation of the Niger Delta (MEND), through a series of kidnappings of oil workers and sabotage of onshore pipeline infrastructure, kept between 600,000 and 900,000 barrels a day of Nigerian high-quality crude output offline. See, Pascual, "Geopolitics of Energy", *supra* note 253 at 13 – 14.

[279] See, Robert Bamberger, *Energy Policy: Conceptual Framework and Continuing Issues* (US: Congressional Research Service, 2007) at 1 where it was reported that hurricanes Katrina and Rita shutdown more than 5 million barrels per day of refining capacity in Texas and Louisiana and initially shut down 25% of US crude oil production and 20% of natural gas production.

energy infrastructure.[280] As well, extreme weather events may also interrupt supplies by delaying shipment, although only temporarily. The likelihood of accidents (oil spills[281], collision[282]) and technical failures (plant breakdown) during extraction, processing and transportation are additional risks to energy security.[283]

Energy security means different things to different players in the global energy market, depending on whether the player in question is a have or a have-not in regard to energy supply.[284] The discussion in this chapter focused on the have-nots in the regime. Have-nots are especially vulnerable to supply interruptions because of their dependence on fossil fuels. The energy security challenge, therefore, is to minimize exposure to uncontrollable and unpredictable security risks by isolating vulnerable energy economies from supply disruptions and volatile prices. Among other initiatives, isolation can be achieved over the long-term through diversification of fuel type and fuel source.[285] Internationally, it is recognized that diversification by shifting to renewable energy is one way in which oil import states may gradually alleviate risks to cheap and reliable energy flows.[286]

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[280] Pritchard "Global Energy Security", *supra* note 258 at 13.
[281] See, "Gulf Oil Spill Threatens US Energy Security" (5 May 2010) Oil and Gas Financial Journal, online: Oil and Gas Financial Journal < http://www.ogfj.com>.
[282] Harris, "Energy and Security", *supra* note 267 at 164 where the author remarks that the growing potential for accidents due to increased shipping traffic, make freedom of transit a key issue for energy security.
[283] Pritchard "Global Energy Security", *supra* note 258 at 13.
[284] Jeffrey Bader & Stephen Biegun, *The Global Politics of Energy* (Washington D.C.: The Aspen Institute, 2008) at 15. See also Barton et al., "Energy Security", *supra* note 238 at 9.
[285] See, Elkind, "Call for a Broader Agenda", *supra* note 239 at 124.
[286] IRENA Statute, *supra* note 170 at 2.

3.5 The Relationship between Gibson et al.'s Criteria for Sustainability and the benefits to be had from Renewables

This section seeks to make the link between the benefits to be had from renewable energies outlined above and Gibson et al.'s eight core requirements for progress towards sustainability outlined in the latter part of Chapter 2. As to the benefits to be had from generating renewable energy, the first point made in this chapter is that incorporating renewable forms of energy into the energy mix has great potential to contribute to the overall preservation of the environment. Specifically, it was noted that renewable processes of energy generation has the potential to gradually reduce the effects of deforestation, desertification, biodiversity loss and climate degradation commonly associated with conventional methods of energy generation. These potential benefits of renewable energies find favour with Gibson et al.'s requirement for socio-ecological system integrity, intergenerational equity, intragenerational equity and resource maintenance.

Secondly, it was noted that renewable energy contributes to the attainment of MDGs by providing increased access to energy. Here, it was noted that access to energy is fundamental to reducing existing hardships in developing countries by encouraging improved productivity, greater income-generating capacities, economic progress, local development and overall human development. These benefits ultimately find favour with Gibson et al.'s requirements for livelihood sufficiency and intragenerational equity.

Lastly, it was noted that renewable energy could make a significant contribution to energy security. In the main, the use of renewables puts a hedge against volatile energy prices making energy more affordable. This benefit would make considerable gains on

Gibson et al.'s requirement for livelihood sufficiency and opportunity and intergenerational equity.

In sum therefore, issues such as environmental preservation, GHG emission reductions, attainment of MDGs, energy security – all benefits of renewable energy – flow naturally from Gibson et al.'s core requirements for progress towards sustainability. In other words, the general principle that may be extrapolated from the foregoing is that, taken by itself, there can be no question that the concept of renewable energy is a sustainable initiative.

3.6 Barriers to the Deployment of Renewable Energy Technologies

Today, many countries around the world have successfully incorporated forms of renewable energy into their supply systems. These renewables include biomass, geothermal energy, hydropower, ocean energy (wave, tidal, ocean thermal energy, offshore wind), solar energy and wind energy. Outlined above are some of the factors that have driven the evolutionary shift in these supply systems. However, despite the great potential for renewable energy to assist in bridging the challenges to the world's energy future, several factors hinder deeper integration of renewables into the global energy mix. While it is possible to make a general list of these hindrances, the character and extent of the hindrances are region and country specific. Generally, cost and financing, technology and technological capacity, food security, lengthy permitting procedures, lack of policy, regulatory and legislative frameworks and insufficient awareness of the opportunities for renewable energy are all factors that provide resistance, delay or obstruction to renewable energy deployment. In addition to being country specific, some barriers to renewable

energy deployment are also specific to particular forms of renewable technologies. The following chapter explores some of these barriers in relation to offshore wind.

3.7 Conclusion

The desire for continued socio-economic development has often brought regrettable impacts upon the natural environment on which they depend. Decades of unsustainable development and denial are backfiring. Limits to the resilience of our environment are now on prominent display in the international arena, along with the challenges of energy security, volatile energy prices, failure to meet the demands and objectives of the MDGs, and the need for a sustainable way forward. The international community has now come to the consensus that renewable energy offers a key opportunity for gradually surmounting these difficult hurdles.[287]

[287] *Ibid.* See also, UNGAOR, "Promotion of Renewable Energy", *supra* note 173.

CHAPTER FOUR

Wind Energy – From Onshore to Offshore: Issues and Challenges

4.1 Introduction and Chapter Overview

In keeping with the objective to propose a policy and governance framework for the regulation of offshore renewable energy development in the OECS, this chapter is a narrative literature review of those technologies that impact ocean use and management. Though there are tidal, ocean thermal energy conversion, wave and wind forms of offshore energy, this chapter focuses only on wind energy. This is not for the purposes of restricting the scope of the study, but as the decision that is commensurate with the maturity of the technology, and the critical learnings to be had from the regulatory experiences in the United Kingdom. The chapter begins with a brief historical overview of the development of onshore wind power, what it is, how it operates and continues with an overview of the advantages and disadvantages associated with modern development and operation of onshore wind. Thereafter, chapter 4 explores some of the reasons why countries around the world have begun to move wind power development offshore. The practical challenges of developing offshore wind energy are then discussed in relation to the United Kingdom.

4.2 Wind Energy: A Brief History of is Evolution

Wind is an abundant and renewable resource that can supply a significant percentage of the world's electricity demands.[288] Harnessing its energy potential is nothing new. Early uses of wind can be traced to Christopher Columbus' first voyage to the 'New World' in 1492. Trade winds were used to propel *La Niña, La Pinta* and *Santa María* from Palos, Spain, across unexplored waters to San Salvador in the Bahamas.[289] Additionally, for over 800 years, wind energy has been used to power windmills in Europe for grinding grain into flour and meal and to provide power for agriculture and other industrial activities.[290] Additionally, windmills contributed to the expansion of railroads in the 'Wild, Wild West' of America by pumping water for use by steam locomotives in the industrial era.[291] In turn, the construction of new railroad networks enabled westward expansion in America by facilitating cheaper transportation and distribution of goods and services. Railroads spurred big business and economic growth and are credited to have made an indelible contribution to American Industrialization.[292] Wind energy, therefore, made early rural electrification,[293] industry, trade, travel, communication and overall economic growth possible.

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[288] See, Lawrence Staudt, "Wind Energy" in Trevor M. Letcher *Future Energy: Improved, Sustainable and Clean Options for our Planet,* (Amsterdam: Elsevier, 2008) at 97 ¶ 2.1 [Staudt, "Wind Energy"].

[289] Many historians document the different types of rigging equipment used to capture the force of wind to propel the ships across the transatlantic journey. See for instance, Samuel Eliot Morris, *Admiral of the Ocean Sea – A Life of Christopher Columbus* (USA: Morison Press, 2007) at 113.

[290] See, Martin Watts, *Windmills* (Buckinghamshire: Shire Publications Ltd., 2006) at 4.

[291] See, Dan Chris, Mick Sagrillo & Ian Woofendon, *Power from the Wind* (Canada: New Society Publishers, 2009) at 2 [Sagrillo et al., "Power from the Wind"].

[292] *Ibid.*

[293] Although, modern advances in technology have decreased dependence on wind energy in centralized areas, wind energy is still being used for rural electrification in developing countries where access to centralized power plants is not possible. Sagrillo et al. "Power from the Wind", *supra* note 293 at 5.

Wind energy also served as one of the solutions to negate escalating oil prices during the 1970 oil crises.[294] In the past few decades, heightened risks to energy security and the issue of climate change have redirected interest towards wind energy development.[295] With this renewed interest, onshore wind energy grew and matured into one of the first renewable technologies deployed commercially.[296] Generally, harvesting the energy potential of wind becomes possible when atmospheric winds rotate a rotor-blade propeller on a wind tower rotator shaft that turns a wind turbine.[297] Today, the technology has gained global popularity and leads the way in renewable energy generation.[298] All the same, the onshore wind does not come without a few inherent disadvantages.

4.3 Problems Associated with Onshore Development

There are several problems associated with onshore wind development. This section briefly touches upon the following points: (1) The negative impact wind farms pose to wild life conservation; (2) The high cost and intermittent nature of wind energy; (3) The conflict wind farms pose to other land uses and interests which has sparked strong 'not in my backyard' protest.

There has been much apprehension about the negative impact wind farms pose to wildlife conservation. Specifically, the rotating blades used to harness energy from the

[294] *Ibid*. at 3. See also Staudt, "Wind Energy", *supra* note 290 at 95.
[295] *Ibid.* at 4.
[296] *Ibid*. at 95.
[297] See, Paul Kruger, "Alternative Energy Resources"*, supra* note 168 at 150 ¶ 7.3.
[298] REN21, *Renewables 2007: Global Status Report,* (Paris: REN21 Secretariat and Washington, D.C.: Worldwatch Institute 2008) at 6 where it is reported that the largest component of renewables generation was from wind power, which grew by 28 percent worldwide in 2007 to reach an estimated 95GW. Cf with the global wind capacity estimate of 159GW in 2009 – see, World Wind Energy Association, *World Wind Energy Report 2009* (Bonn, Germany: World Wind Energy Association, 2010) at 6.

wind are of great concern because of their potential to contribute to increased bird and bat mortality. However, it is argued that while wind farms increase risks to bird mortality, their contribution to bird mortality is less significant than death caused by cats, electrocution by electrical transmission wires, collisions with windows, poisoning by pesticides and other pre-existing threats to bird life.[299] Regardless of the amount of bird deaths caused by wind farms in comparison to other pre-existing threats, the point to note is that wind farms present legitimate risks to wild life.

One early disadvantage to the development of wind energy was its inability to compete with considerably lower costs of generating energy from fossil fuel sources.[300] However, "[o]wing to the increasing cost of fossil fuels, the value given to GHG emission reductions and the reducing costs of wind turbine technology, wind projects are beginning to compete directly with fossil-fuel plants as a source of electricity generation in the windiest countries."[301] Though these factors are slowly bridging the gap between the cost of fossil fuel electricity and the cost of wind generated electricity,[302] the ability of wind to be economically competitive varies from site to site and country to country, and depends greatly on available wind speeds, the turbine technology used, and many other variables.[303] Apart from its influence on the cost of energy, the variability of wind speeds poses other interconnected disadvantages. For, though wind is an abundant resource, its

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[299] Sagrillo et al., "Power from the Wind", *supra* note 293 at 10-13. Here, the authors argue that the bird and bat mortality can be minimizd by selecting sites that are out of migratory patterns, using taller wind machines with longer blades which rotate slower. These turbines are better avoided by birds.
[300] *Ibid.*
[301] Staudt, "Wind Energy", *supra* note 290 at 96.
[302] See, Arnold W. Reitze Jr., "Electric Power in a Carbon Constrained World" (2010) 34 Wm. & Mary Envtl. L. & Pol'y Rev. 821 at 868 and 869.
[303] See generally, Søren Krohn, Poul-Erik Morthorst & Shimon Awerbuch, *The Economics of Wind Energy* (European Wind Energy Association, 2009) online: European Wind Energy Association <http://www.ewea.org>.

variability means that it is not always predictable.[304] The electricity generated is intermittent and creates risks of possible shortfalls in supply.[305] Therefore, for modern purposes, wind power would require the use of batteries to store surplus energy, or supplementary energy, in order to ensure that the generated supply of electricity matches the actual demand.[306]

Additionally, to meaningfully effect emission reductions and meet modern energy demands, wind farms would have to be constructed in great numbers and would, therefore, require large areas of land.[307] In any given area, but more so in densely populated areas and/or small countries, there is simply not enough land available to construct wind turbines.[308] Worse, there is not enough available land "… with the right ingredients for a wind project: strong and steady winds, a welcoming community and easy access to transmission."[309] If onshore wind development continues to grow, at some point in time, construction will inevitably conflict with other land uses and interests (unless of course construction is located in remote areas which are burdened with expensive transmission costs[310]). One immediate concern is the proximity of wind

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[304] Sagrillo et al., "Power from the Wind", *supra* note 293 at 9.
[305] *Ibid.*
[306] *Ibid.*
[307] Staudt, "Wind Energy", *supra* note 290 at 108 ¶ 4.3 and 4.4. The point to note is that if offshore wind farms are not constructed in large numbers, then their energy output would be minimal, a fact that does not payback for construction and operation costs. Therefore, such projects would be rendered economic failures.
[308] See generally, Thijs Smith, Marting Junginger & Ruud Smits, "Technological Learning in Offshore Wind Energy: Different Roles for Government" (2007) 35 Energy Policy 6431 [Smith et al, "Technological Learning"]. See also, Staudt, "Wind Energy", *supra* note 290 at 108 ¶ 4.4 where the author notes that "wind energy does not have a high power density, and so wind farms of comparable power rating to conventional power stations require large land areas. A 100MW wind farm might be spread across 8 square kilometers of land." He also notes that "the tower footprint is very small. Less than 3% of the land of a wind farm is no longer useful for its original purpose (e.g. tillage, grazing)".
[309] See, Elisa Wood, "Wind Farms: Are the Best Spots Taken? – Jostling for position: Where does wind development go from here?" *Renewable Energy World International Magazine* 13:3 (31 May 2010) online: <http://www.renewableenergyworld.com>.
[310] Transmission costs and other related issues tend to restrict further growth of wind farms.

turbines to residential areas. Traditionally, onshore wind turbines have often been characterized by their negative visual[311] and noise impact,[312] which homeowners claim contribute to the decline of property values[313]. Proponents argue that this kind of opposition to wind farms is not entirely genuine.[314] They claim that "… those who find wind turbines to be unsightly often ignore the great many forms of visual blight that litter our landscape, among them cellphone towers, water towers, electric transmission lines, radio towers and billboards."[315] Despite, the soundness of this fact, the 'not in my backyard syndrome' or "nimbyism" in relation to onshore wind farm development is exceptionally vibrant, well organized and influential.[316] In the United Kingdom for instance, there are over 150 groups that have fought tirelessly against the construction of wind farms in their backyards.[317] These groups have continually "…stymied a reliable

[311] The first wind farms were particularly visually intrusive because of their premature state of development. Today, wind turbines are much larger and fewer units are needed to generate a significant amount of electricity. Therefore, the visual impact is less intrusive on the natural environment. Visual impact can also be managed by using uniform turbine technology, colour, height, and direction of rotation. See, Staudt, "Wind Energy", *supra* note 290 at 108 ¶ 4.3.

[312] *Ibid*. at 109 ¶ 4.5 where the author notes that although earlier wind turbine designs were much noisier, wind farms would still require a distance of 500 meters to reduce audibility.

[313] See *Paul Thomas v. The Municipal Property Assessment Corporation, Region No. 22 and Township of Amaranth File No. WR 70364* at 6. For tax purposes, the complainant appealed against the current value assessment (CVA) of his home ($225,000) on the ground that the value of his property was negatively impacted by noise levels of 40 decibels which emanated from a transformer station directly opposite his house. The appeal was allowed and the complainant's CVA was reduced to $127,000 for the 2008 tax year. For present purposes, the hydro plant served a nearby wind farm in the Amaranth municipality. The decision is cited as having set precedent on wind power noise and property values. See, Bob Aaron, *ARB Decision on Wind Power Sets Precedent*, online: The Legal Tree <http://www.legaltree.ca/node/1332>.

[314] Sagrillo et al., "Power from the Wind", *supra* note 293 at 8 – 18.

[315] *Ibid*. at 13. Here, the authors continue to demonstrate the obvious: that people have grown accustomed to these 'ubiquitous' structures and in so doing, fail to see their impact on natural beauty. They reckon that the public has come to accept these structures because they have not been made the subject of public inquiry, but rather forced upon them by the government of the day.

[316] See, Andrew Whitehead, "NIMBY's Threat to UK Wind Power" *The Birmingham Post* (6 August 2009), online: The Birmingham Post <http://www.birminghampost.net> [Whitehead, "NIMBY's Threat to UK Wind Power"].

[317] See, Alasdair Cross, "Winning over the 'Nimby blockade'" *BBC News* (30 August 2009) Online: BBC News <http://news.bbc.co.uk/2/hi/science/nature/8223048.stm> [Cross, "Winning over the 'Nimby blockade'"].

flow of projects"[318] and have now become significant barriers to renewable energy development.[319] One way to "overcome" this barrier is to move development to the offshore terrain[320] where there is less nimbyism,[321] more development space, and more opportunities for achieving a sustainable supply of electricity[322].

4.4 Wind Energy: Moving Onshore to Offshore

Until recently, harnessing clean, renewable energy from the winds was an undertaking reserved for onshore development. Technology advanced by Denmark opened this exclusive industry to the wide expanse of the offshore marine territory. In 2002, the Horns Rev wind farm sited 14-20 km off the Danish west coast came into operation. With an installed capacity of 160 MW, the project signaled the end of a pioneering phase in offshore wind energy development and is credited as having

[318] See, James Kanter, "Local Opposition Stalls British Wind Power", *The New York Times* (5 August 2009), online: The New York Times <http://www.nytimes.com> [Kanter, "Local Opposition Stalls British Wind Power"].

[319] Patrick Devine-Wright, "Beyond NIMBYism: towards an integrated framework for Understanding Public Perceptions of Wind Energy" (2005) 8(2) Wind Energy 125 [Devine-Wright, "Beyond NIMBYism"].

[320] See, Mark Challis, "Offshore Wind – planning for the new era" (2001) 8 International Energy Law and Taxation Review 180 at 180 where the author notes that the principle advantage of offshore wind farm is that the planning controversy, [nimbyism], can be avoided. However, see Maarten Wolsink, "Near-shore wind power—Protected seascapes, environmentalists' attitudes, and the technocratic planning perspective" (2010) 27 Land Use Policy 195 at 196 where the author suggests that moving wind development offshore to avoid planning controversy can be considered an example of the general tendency to take refuge in still unproven applications when current technologies are facing barriers. The author reasons that "[t]he idea that issues of acceptance could be avoided by going 'over the sea and far away is actually rather naïve." He supports his reasoning by referring to much of the new challenges and issues associated with offshore wind development outlined in section 4.6 below.

[321] The prospect of offshore wind development has won over the support of NIMBY protesters for the mere fact that locating wind projects offshore align with Not-In-My-Back-Yard interests. See, Tim Gray, Claire Haggett & Derek Bell, "Offshore Wind Farms and Commercial Fishing: A Study in Stakeholder Consultation" (2005) 8(2) Ethics Place and Environment 127 at 138 [Gray et al., "Stakeholder Consultation"].

[322] Smith et al, "Technological Learning", *supra* note 310.

"…focused the attention of the [wind] industry."[323] For quite some time, Denmark stood as the leading producer of offshore wind energy in the world. However, as the idea of exploiting the energy potential of more consistent winds in the offshore terrain quickly spread to other marine countries, Denmark's dominance over the evolving industry was fettered. To date, most development has been concentrated in North European countries: Denmark, Sweden, Ireland, Netherlands and the United Kingdom. Of these countries, the United Kingdom government and the devolved administrations of Scotland, Wales and Northern Ireland have shown a keen interest in developing the winds along their 20,000km long coastline and the vast area of the adjacent sea. This keen interest has spurred a massive growth in offshore wind energy. In 2008, the United Kingdom overtook Denmark as the world leader in installed offshore wind capacity, and continues to lead the way forward in offshore wind development.[324]

4.5 Impetus for Offshore Wind Development in the United Kingdom

Many factors have influenced the leadership and continued growth of offshore wind energy generation in the United Kingdom. This section briefly outlines some of the political factors that have encouraged offshore wind development in the UK. On one hand, international and domestic obligations to reduce GHG emissions have driven the development offshore wind in the UK. On the other hand, the desire to meet renewable energy targets at the European Union and National level has also given significant

[323] M.B. Zaaijer & A.R. Henderson, *Review of Current Activities in Offshore Wind Energy* at 1 [unpublished] online: <http://cvi.se/uploads/pdf/Kunskapsdatabas%20samhalle/planering/internationell%20planering/Review%20offshore%20wind%20energy%20-%20Zaaijer.pdf>.

[324] See, Department of Trade and Industry, *The UK Renewable Energy Strategy* (London: The Stationary Office, 2009) at 29 ¶ 1.11 [DTI, "UK Renewable Energy Strategy"].

political impetus for the development of offshore wind. Further, the ability of offshore wind to contribute to energy security is also a factor that stimulates development.

The impetus for the development in the United Kingdom is often traced to Denmark's publication of the European Wind Atlas[325] which effectively documented and mapped wind climate, magnitude and distribution of wind resources in European Community countries, both onshore and offshore. The 1989 study identified the United Kingdom as having the greatest wind resource of any European nation and, therefore, best placed for offshore wind development.[326] This finding has been echoed in recent wind capacity assessments, confirming that offshore wind power generation can contribute to wider renewable energy production, and in turn, the related policy objectives of emission reduction and security of energy supply in the United Kingdom.[327] For these reasons, offshore wind electricity generation has always formed a core part of the United Kingdom's energy policy framework for a path towards a low carbon economy.[328]

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[325] See, Stephen A. Jay, *At the Margins of Planning: Offshore Wind Farms in the United Kingdom* (Hamshire, England: Ashgate Publishing Limited, 2008) at 10 -11 [Jay, "At the Margins of Planning"]. See also, Troen, I., E.L. Petersen and Risø National Laboratory, *European Wind Atlas* (Roskilde, 1989).

[326] See, Jay, "Offshore Wind Farms in the UK", *supra* note 327 at 10 -11. at 11. See also, Godfrey Boyle, "UK Offshore Wind Potential: How Offshore Wind Could Supply a quarter of UK electricity by 2024" (2006) 7(4) Refocus 26 at 26 [Boyle, "UK Offshore Wind Potential"]. Here, the author refers to the United Kingdom as the 'Saudi Arabia of wind energy'.

[327] See generally, Environmental Change Institute, *Wind Power and the UK Wind Resource* (Oxford: Environmental Change Institute, 2005). The study also showed that wind tends to blow more strongly when demand is highest, during the day and winter months. Also, see generally, Dr. Nicholas Fichaux & Justin Wilkes, *Oceans of Opportunity – Harnessing Europe's largest domestic energy resource* (European Wind Energy Association, 2009). See also, The Offshore Valuation Group, *The Offshore Valuation – A valuation of the UK's offshore renewable energy resource* (London: Public Interest Research Centre, 2010) at 30 and 33.

[328] See, Department of Trade and Industry, *Energy White Paper: Our Energy Future – Creating a Low Carob Economy* (London: The Stationary Office, 2003) at 54 [DTI, "Energy White Paper 2003"]. See also, DTI, "UK Renewable Energy Strategy", *supra* note 326 at 10 ¶ 2.1.

The United Kingdom is bound by international and domestic obligations to reduce GHG emissions. Internationally, the *Kyoto Protocol*[329] requires that the United Kingdom cut its emissions by 12.5% below 1990 levels by the first commitment period, 2012.[330] At the domestic level, Parliament passed the *Climate Change Act 2008*.[331] The Act represents the first of its kind in the international community. It sets long-term, legally binding targets for the reduction of greenhouse gas emissions. By 2050,[332] the United Kingdom must achieve an 80% cut relative to 1990 levels, and in the interim, at least a 34% cut in emissions by 2020.[333] Because two-thirds of the United Kingdom's emissions come from energy use, the *Act* serves as a driver for large-scale adoption of low-carbon sources of energy, such as offshore wind. To meet these targets, the government published the *UK Low Carbon Transition Plan: National Strategy for Climate and Energy*[334] to serve as a roadmap to 2020 and beyond. The plan requires that 40% of electricity be generated from low carbon sources --- renewables, nuclear and carbon capture and storage --- if a 34% emission cut by 2020 is to be met.[335] Renewable energy is expected to supply 30% of the low carbon energy target (40%).[336] Finally, in recognition of the indelible role renewable energy is to play in the *UK Low Carbon*

[329] Kyoto Protocol, *supra* note 17.
[330] *Ibid*. at Annex B.
[331] *Climate Change Act 2008* (U.K.), 2000, c. 27 [Climate Change Act].
[332] Note that the 2050 target is 20% more ambitious than that recommended by the Royal Commission on Environmental Pollution. See generally, Royal Commission on Environmental Pollution, *Energy – The Changing Climate (2000)* (London: The Stationary Office, 2000).
[333] Climate Change Act, *supra* note 333 at sec 1. The UK's performance on these targets is reported as having been of "good progress". See, Department of Energy and Climate Change, *UK Low Carbon Transition Plan: National Strategy for Climate and Energy* (London: The Stationary Office, 2009) at 60 online: Department of Energy and Climate Change <http://www.decc.gov.uk> [UK Transition Plan]). Noteworthy, that "good progress" translates into a 21% reduction of GHG emissions below 1990 levels. "Good progress," at least domestically, may very well be an understatement given that the emissions cut almost double the Kyoto requirements.
[334] UK Transition Plan, *supra* note 335.
[335] *Ibid*. at 38 and 52.
[336] *Ibid*. at 4 and 60.

Transition Plan, the government developed also, a *Renewable Energy Strategy*[337] to secure its advancement. The final renewable commitment is to ensure that 15% of the total electricity supplied comes from renewable sources by 2020.[338] It is anticipated that offshore wind energy will be the prime contributor to the overall renewable energy generation target.[339] At the Community level, it is expected that by 2030, approximately half of Europe's wind electricity will be produced offshore.[340]

As well, by generating 15% of total electricity supply from renewable sources, the United Kingdom would be able to reduce "…overall fossil fuel demand by 10% and gas imports by between 20-30% against what they would have been in 2020."[341] Because offshore wind is expected to meet the bulk of the 15% target, it contributes to improving energy security in the UK by helping to recover some measure of energy self-sufficiency. Oil, gas and coal account for 90% of energy needs in the United Kingdom.[342] Over the past decade, oil and gas reserves have been on the decline.[343] Presently, the United Kingdom does not retain a secure supply of these high-demand fossil fuels. The potential

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[337] DTI, "UK Renewable Energy Strategy", *supra* note 326.
[338] *Ibid*. at 10 ¶ 1.2. This represents an increase in the share of renewables by almost a factor of seven from about 2.25% in 2008, in scarcely more than a decade. The EU 2009 Directive on the use and promotion of renewable energy also legally obligates the UK to supply 15% renewable energy to the national grid by 2020. See, *Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources* [2009] O.J. L 140/16 at 46 [Renewables Directive].
[339] See, Stephen Shergold & Jacqui O'Keeffe, "A climate for change? A case for offshore wind farm development" (2001) 12 International Energy Law & Taxation Review 261 at 262 [Shergold, "A climate for change?"]. Here, the authors note that "the main advantage enjoyed by offshore wind power at present is that the Government perceives it as one of the key sources to meet renewables obligations and hence the climate change programme." See also, Boyle, "UK Offshore Wind Potential", *supra* note 328.
[340] See, Dr. Nicholas Fichaux & Justin Wilkes, *Oceans of Opportunity – Harnessing Europe's Largest Domestic Energy Resource* (European Wind Energy Association, 2009) at 14.
[341] DTI, "UK Renewable Energy Strategy" *supra* note 326 at 26 ¶ 1.7.
[342] *Ibid.* at 105 ¶ 4.02
[343] See, Department of Energy and Climate Change, *UK Oil Reserves and Estimated Ultimate Recovery 2009*, online: Department of Energy and Climate Change <https://www.og.decc.gov.uk/information/bb_updates/chapters/Table4_3.htm>. See also, Department of Energy and Climate Change, *UK Gas Reserves and Estimated Ultimate Recovery 2009*, online: Department of Energy and Climate Change, <https://www.og.decc.gov.uk/information/bb_updates/chapters/Table4_4.htm>.

contribution that offshore wind can make to energy security is therefore a major factor that has and continues to influence development of the offshore wind industry in the United Kingdom.

4.5.1 Other Practical and Technical Advantages to Locating Wind Farms Offshore

As previously noted, moving wind farms to the offshore terrain has many practical advantages. These advantages include: (1) more development space; (2) greater turbine sizes; (3) easier delivery of turbine technology by sea; (4) less nimbyism and land acquisition complexities; and (5) greater average wind speeds. Firstly, the wide expanse of the ocean provides more development space for the construction of major projects.[344] This is especially important given the increasing technological trend to use larger wind turbines with rotor diameters of 60M or more, in order to generate more, and significantly cheaper, electricity.[345] Unlike onshore development, the wide expanse of the ocean does not restrict wind turbine size;[346] instead, it better accommodates advancements in wind generation technology. For instance, delivery of massive wind turbines to offshore sites is relatively easier by barge or ship, in comparison to delivery by land for onshore works.[347] Additionally, erection of large structures in the ocean is easily facilitated by the use of

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[344] Garrad Hassan et al., *Offshore Wind Energy Ready to Power a Sustainable Europe – Final Report* (Concerted Action on Offshore Wind Energy in Europe, 2001) at 1-1 ¶ 1.1 [Hassan et al., "Offshore Wind Energy"].

[345] John Twidell, "Fundamentals of Wind Energy" in John Twidell and Gaetano Gaudiosi, *Offshore Wind Power* (UK: Multi-Science Publishing Co. Ltd, 2009) at 23 ¶ 4 [Twidell, "Wind Energy"]. The authors note that the emerging economic and technological consensus is that 'the unit cost of electricity from wind turbines tend to decrease with increase in rotor blade length, i.e. large wind turbines produce cheaper electricity.' They note that the seas are particularly accommodating in this respect.

[346] *Ibid.*

[347] *Ibid.* Delivery of large turbine structures by road is extremely difficult and conflicts with other highway uses.

existing know-how and technology, such as cranes, which are used in the offshore oil and gas industry.[348]

Additionally, the Crown Estate, as a body corporate, is charged with the management of land, other property, and the rights and interests that are vested in the Crown.[349] The seabed extending to 12 nm from the baseline (the territorial sea) forms part of Crown "land" and is "owned" and regulated by the Crown Estate. Once declared, a coastal State also holds exclusive rights to the exploration and use of natural resources in the exclusive economic zone. Therefore, by moving offshore, developers escape land acquisition complexities and delays associated with onshore wind development.[350]

Moreover, because onshore topography negatively impacts average wind speeds,[351] the resource potential is much greater offshore, i.e., the wind strength is much stronger and less turbulent over the seas.[352] In addition, the further out to sea a turbine is built, the greater its potential to capture more wind energy.[353] As well, the further out to sea a turbine is built, the greater the potential is for noise and visual impact reduction.[354] Together, these offshore factors present a unique development opportunity for offshore wind farms to generate unlimited amounts of electricity.[355] Lastly, because land space for development is scarce, experience in offshore wind farm development has been rapidly

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[348] *Ibid.*
[349] *The Crown Estate Act, 1961*, c. 55, s,1 [Crown Estate Act]. The same is true for ownership of the seabed in other jurisdictions.
[350] Twidell, "Wind Energy", *supra* note 347 at 180 where the author notes that the principle advantage of offshore wind farm is that the planning controversy, [nimbyism], can be avoided.
[351] European Wind Energy Association, *Wind Energy – The Facts: A guide to the technology, economics and future of wind power* (London: Earthscan, 2009) at 107 [EWEA, "Wind Energy – The Facts"].
[352] Twidell, "Wind Energy", *supra* note 347 at 23 ¶ 4.
[353] Hassan et al., "Offshore Wind Energy", *supra* note 346 at 1-1 ¶ 1.1.
[354] *Ibid.*
[355] Twidell, "Wind Energy", *supra* note 347 at 24 ¶ 4.

increasing.[356] The offshore industry is, admittedly, not in its prime, but it is well beyond its infancy.

4.6 Problems Associated with Offshore Wind Development

As one might expect, the disadvantages of offshore wind farms are drastically different from their onshore counterparts. While there is less concern about noise and visual impacts,[357] there is great concern about high capital costs, increased dangers of construction at sea, collision risks to migratory birds, noise impact on marine mammals and fish, and impacts on commercial fishing and other existing uses and interests in the marine environment such as shipping and navigation. This section briefly outlines each of these problems associated with offshore wind development.

One of the biggest drawbacks to going offshore is the high capital, operation and maintenance,[358] and decommissioning costs associated with the development.[359] It is estimated that offshore wind is still some 50% more expensive than onshore wind.[360] The difference in overall cost can be traced to the complex and specialized nature of offshore wind energy development.[361] In particular, challenging weather and wave conditions,[362]

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[356] *Ibid.*

[357] Note however, that objections to offshore wind farms continue to be raised concerning their visual impact. See generally, Kira Gee, "Offshore wind power development as affected by seascape values on the German North Seacoast" (2010) 27 Land Use Policy 185.

[358] See, Florian Martini, "Tomorrow's Power Grids – Offshore Wind: High-Altitude Harvest" *Pictures of the Future – The Magazine for Research and Innovation* (Fall 2009) 16 at 18 [Martini, "Tomorrow's Power Grids"]. Here, it is noted that 'repairs on the open sea cost about ten times as much as repairs on land.' The operation and maintenance activities also include for instance, the transport of employees by ship and helicopter.

[359] Shergold, "A climate for change?", *supra* note 341 at 262.

[360] EWEA, "Wind Energy – The Facts", *supra* note 353 at 212 ¶ 111.2.

[361] Offshore wind projects are more complex than onshore ones. Offshore developments include platforms, turbines, cables, substations, grids, interconnection, shipping, dredging, associated construction activity and engineering in order to withstand harsh natural conditions in form of high winds and corrosive salt water. *Ibid.* at 336.

water depth at site location, and the distance to onshore grid systems,[363] are just a few of the factors that influence the excessive cost of developing and maintaining a wind energy industry offshore.[364] Though offshore wind is 50% more expensive than onshore wind, it is believed that the costs are offset by the ability to generate several hundred megawatts of electricity, due to high offshore wind.[365] The expected benefit of more wind is one of the prime driving forces for offshore wind development in several countries.[366] International demand for cleaner and more reliable sources of electricity is also driving developers to look at offshore wind power as viable potential energy sources despite concerns about costs. [367] In the recent past, technological developments have dramatically improved the economic viability of offshore projects. It is predicted, therefore, that continued technological learning will improve offshore wind economics in the future.[368]

Even so, the popular acceptance of offshore wind turbines as a sustainable and

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[362] Wave and weather conditions pose serious construction challenges by restricting access. See, Martini, "Tomorrow's Power Grids", *supra* note 360 at 18 where in relation to the North Sea it is noted that as a precautionary measure, as soon as the height of waves exceeds 1.5 m the installation of a wind power plant is called off. Without bad weather, an installation typically takes 6 – 8 hours. In addition, inclement weather can also restrict repair access to ensure uninterrupted operation and maintenance after construction. Therefore, the loss of generated electricity is greater offshore. Damage and corrosion related to the salt-water conditions is potentially much more serious than on land, requiring specialist designs from marine industries (therefore material constraints are higher). See, Twidell, "Wind Energy", *supra* note 347 at 24.

[363] Having generated electricity offshore, the next move is to bring it onshore so that it may be used. Sea transmission cables are used to bring the electricity onshore. If a development is located far out to sea it would need more cabling to transmit the generated electricity. More cabling means more expense. For this reason, most of the capacity has been installed in relatively shallow water (less than 20 m) and no further than 20 km from the coast. See, EWEA, "Wind Energy – The Facts", *supra* note 353 at 212 ¶ 111.2.

[364] Poul Erik Morthorst et al., "Development of Offshore Wind Power – Status and Perspectives" in John Twidell and Gaetano Gaudiosi, *Offshore Wind Power* (UK: Multi-Science Publishing Co. Ltd, 2009) at 2 [Morthorst et al., "Development of Offshore Wind Power"].

[365] EWEA, "Wind Energy – The Facts", *supra* note 353 at 217 ¶ 2. The economic viability of offshore wind farms is therefore dependant upon the more favourable wind conditions that are generally present off the coast: see, Karen N. Scott, "Tilting at Offshore Windmills: Regulating Wind Farm Development within the Renewable Energy Zone" (2006) 18(1) J. Env. L. 89 at 91 [Scott, "Tilting at Offshore Windmills"].

[366] Morthorst et al., "Development of Offshore Wind Power", *supra* note 366 at 1.

[367] See, Nicholas J. Lund, "Renewable Energy as a Catalyst for changes to the High Seas Regime" (2010) 15(1) Ocean and Coastal Law Journal 95 at 96.

[368] Smith et al., "Technological Learning", *supra* note 310 at 6431.

emission-free form of energy does not mean that the technology has no negative impacts on the marine environment and, thus, may not conflict with marine conservation initiatives. First, while data on collision mortality with offshore wind farms is limited,[369] there is some consensus that offshore wind farms fatally impact several species of seabirds, terrestrial birds[370] and migratory birds,[371] though not significantly. Apart from collision risks, other impacts include: "short-term habitat loss during construction phase; long-term habitat loss due to disturbance from wind turbines installed and from ship traffic during maintenance; barriers to movement in migratory routes; and disconnection of ecological units."[372]

Noise associated with the construction and operation of offshore wind turbines can also negatively affect marine mammals.[373] Noise pollution is produced not only from the turbines themselves, but also from the heavy helicopter and boat traffic associated with construction and operation. Noise in the marine environment ultimately distorts mammals' ability to use their hearing for communication, orientation, finding prey and echolocation.[374] Noise distortions could therefore cause stress and increased vulnerability to diseases.[375]

Potentially, noise can also affect fish species. To date, data regarding noise impacts

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[369] European Environment Agency, *Europe's onshore and offshore wind energy potential – an assessment of environmental and economic constraints* (Luxemburg: Office for Official Publications of the European Communities, 2009) at 74. Information on bird mortality is scarce due to the difficulty in detecting collisions and the difficulty in recovering dead birds at sea.

[370] 'In poor visibility conditions, large numbers of terrestrial birds could collide with offshore wind farms, attracted by their illumination. However, this occurs only on a few nights.' See, EWEA, "Wind Energy – The Facts", *supra* note 353 at 343.

[371] *Ibid*. Migratory birds have shown an ability to avoid wind farms by changing flying directions. This avoidance behaviour reduces the likelihood of collisions.

[372] *Ibid*. Note however, that 'the degree of disturbance differs between different species. The disturbance may be determined by several factors such as availability of appropriate habitats, especially roosting and feeding areas, time of year, flock size and the layout of wind farms.

[373] *Ibid.* at 342.

[374] *Ibid.*

[375] *Ibid.*

on fish are still limited.[376] Generally however, any noise impacts would be relatively short-term as they coincide with construction works.[377] In addition, though there are some negligible impacts, the installation of turbine foundations in the ocean have been found to increase general biodiversity of fish and benthos species in the wind farm area, thereby creating new local ecosystems.[378] However, though biodiversity may be boosted in wind farm areas, the very operation of wind farms in the ocean could potentially cause disruptions to commercial fishing activities.[379] The issue of concern for most fishermen is that the construction of wind turbines in fishing grounds restricts their access to those areas for the operational life of the wind farm.[380] While it is believed that commercial fisheries have not been significantly impacted by wind farms, the situation is likely to change in the future with the projected growth of offshore wind farms.[381] Already, existing offshore industries, such as oil and gas, aggregate dredging, and ports and telecommunications, legally oust and/or restrict access to fishing grounds in their development areas. Compounding the problem are designated conservation areas that also restrict the freedom to fish the seas. Therefore, an offshore wind industry that causes the same, albeit for safety purposes, will inevitably frustrate free access for fishermen and ultimately impact commercial fishing.[382] Furthermore, even in the absence of regulations that restrict access, fishermen legitimately fear the risk of collision with structural

[376] *Ibid.*
[377] *Ibid.*
[378] *Ibid.* at 340.
[379] Collaborative Offshore Wind Research Into the Environment, *Opportunities and Options for Marine Fisheries Mitigation Associated with Windfarms – Draft: 1 April 2010* (COWRIE Ltd., 2010) at v.
[380] *Ibid.* at 6 ¶ 2.3.
[381] *Ibid.* at 6 ¶ 2.3.
[382] *Ibid.* 'In contrast to UK statutory regulations for the oil and gas industry which exclude fishing activities from within 500 m of all relevant installations other than pipelines, UK legislation for offshore windfarms requires only that a 50 m exclusion zone is established around each turbine This will potentially leave significant areas open to fishing within turbine arrays.'

impediments in the sea that support turbines.[383] Impediments in the sea bottom may also restrict the types of fishing gear that may be used. For instance, bottom-set drift nets are only useable if the seabed is smooth.[384] Any cables and other structures that cannot be buried would potentially impact fishing practices.[385] The fact is that fishermen need unrestricted access to fishing grounds and between fishing grounds. Wind farms have great potential to negatively impact a fisherman's livelihood. It is predicted, however, that future wind farm layouts and turbine technology will increase maneuverability between turbines and, therefore, increase the probability of returning to fishing as usual practices.[386]

There has also been some concern about the dangers that offshore turbines pose to leisure and commercial navigation. Ship collisions with turbines are obviously real possibilities.[387] Nevertheless, collisions can be significantly mitigated by the use of radar equipment and the imposition of shipping traffic controls which prohibit navigation in a wind farm area.[388] The risk of collision can also be managed by locating wind farms in areas that do not obstruct recognized sea lanes. Lastly, offshore wind farms may also interfere with radio and radar signals which could potentially cause major difficulties for flight controllers, civil and military activity, and meteorology.[389]

Apart from outlining the problems associated with offshore wind development, this section also served to underscore a more general point made earlier in Chapter 3 of this study, that is, that renewable sources of energy, are as much associated with negative

[383] *Ibid.*
[384] *Ibid.* at 7.
[385] *Ibid.* at 7.
[386] *Ibid.* at 6.
[387] In the event of a collision, destruction and damage to ships is possible. Such destruction or damage may cause spillage of oil and other chemicals into the sea which will negatively impact the marine environment.
[388] EWEA, "Wind Energy – The Facts", *supra* note 353 at 345.
[389] *Ibid.*

environmental impact as they are associated with environmental benefits. Therefore, even though it is accepted that our energy future needs alternative sources of energy, "…which when consumed, are free of environmental impact,"[390] the installation and operation of these sources of energy are not entirely free from environmental impact. Again, for governments, it is really a matter of making appropriate choices about what combination of energy sources brings the lowest harm while providing the greatest benefit. This view aside, it is generally accepted that in comparison to conventional fossil fuel generation which contributes to the problem of global warming, renewable energy resources impose the least regrettable impacts on the environment, human health and the economy.[391] As will be seen in the next chapter, Chapter 5, the truth of this premise really depends on the manner in which governments permit renewable energy development.

4.7 Conclusion

This chapter has demonstrated that harvesting the energy potential of the wind is nothing new. The chapter began by exploring the unmistakable history of experience in onshore wind energy generation and the prevailing political and environmental impetus to increase wind energy for climate change mitigation and energy security purposes. It was noted that these agendas ensured a dramatic improvement in onshore wind energy technology. Thereafter, the chapter explored problems and barriers associated with onshore wind development. Chief among these barriers is the issue of shortages of land area with the right ingredients for a wind project: strong and steady winds, a welcoming community and easy access to transmission.' Initially, it was believed that moving wind

[390] Goodwin, "Future of Fossil Fuels", *supra* note 13 at 19 ¶ 5.
[391] *Ibid.*

development offshore provides the opportunity to evade these onshore barriers, and to continue progress towards a sustainable supply of electricity.[392] Indeed, there is less "nimbyism," stronger support from environmental NGOs, and the availability of seemingly unlimited development space. In this respect the chapter outlined reasons for moving wind development offshore and then focused on the impetus for offshore wind development in the United Kingdom. Subsequently, the chapter developed the premise that the process of harnessing the energy potential of offshore winds is generally met with gauntlet of challenges. Apart financial challenges, several legitimate concerns, constraints and conflicts from stakeholders in the marine territory were considered. Despite these challenges, the interest in the potential for offshore wind to assist in the creation of a low-carbon energy future was explored. The challenge for any regulatory regime is to develop a governance framework that respects the various stakeholder interests while ensuring continued progress towards a sustainable supply of electricity from the trade winds. Chapter 5 assesses the extent to which the United Kingdom has braved the challenge.

[392] See, Challis, "Offshore Wind", *supra* note 322. See also David Still, "Offshore Wind at Blyth" (2001) 24 Renewable Energy 545 at 548.

CHAPTER FIVE

The United Kingdom Offshore Wind Consents Regime

5.1 Introduction and Background Information

The preceding chapter noted the massive potential of the United Kingdom to develop its offshore wind resource to meet its energy objectives, and the strong European Union support for its advancement in this regard. Like any other new technology and development, the process of harnessing the energy potential of offshore winds meets with several pressing concerns and conflicts in the marine territory.[393] There has been much concern about how the offshore wind industry will be developed; where wind farms will be located; and the conditions under which they will be permitted to enter the marine territory. Already, the marine environment serves varied and competing interests, uses and/or pressures for the sustenance of modern living. These interests include fishing, dredging, shipping, transport, oil and gas, navigation and leisure for example. The introduction of a new player into the marine environment is bound to cause some conflict with these previously established and legitimate uses of the seas. Offshore wind farms also have great potential to negatively impact marine conservation initiatives, and the use of cables and pipelines which have their specific roles in economic activities. When the first offshore wind systems were deployed in the United Kingdom, the regulatory regime failed to address these concerns and conflicts in a coherent way. This is largely due to the fact that regulations concerning construction in the marine territory were never

[393] See generally, Gray et al., "Stakeholder Consultation", *supra* note 323.

formulated to facilitate offshore renewable energy generation.[394] As it relates to offshore wind, the initial consents process is described as "… a cobbling together of existing measures originally drawn up for a diverse range of other activities, including on-land electricity generation, offshore construction works, navigation and marine conservation."[395] Sections 5.3 to 5.3.3.3 below, describe the consent process in more detail. As will be obvious from these sections, the process for approving offshore wind farms is referred to as a "consents process" based on the terminology of the various legislations that require developers to seek 'consent' to carry on activity related to the development of offshore wind turbines.

Historically, the management, control and regulation of marine activities have gradually developed in an ad hoc, reactive and fragmented pattern with little integration between different sectors.[396] Piecemeal approaches to regulating activity in the marine environment are generally considered to be overlapping and confusing.[397] For decision-makers, piecemeal approaches restrict the ability to properly assess the cumulative impacts of marine activities.[398] The British story[399] is no different from that narrated in Canada,[400] the United States[401] or the Caribbean region.[402] For instance, oil and gas

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[394] Guy Linley-Adams, *All at Sea: Welsh Case Study on Marine Renewable Energy*, online: World Wide Foundation for Nature UK <http://www.wwf.org.uk> [Linley-Adams, "Case Study on Marine Renewable Energy"].
[395] Jay, "At the Margins of Planning", *supra* note 327 at 109.
[396] *Ibid.*
[397] *Ibid*. See also, Department for Environment, Food and Rural Affairs, *A Sea Change: A Marine Bill White Paper* (London: The Stationary Office, 2007) at 45 [DEFRA, "Marine Bill White Paper"].
[398] *Ibid*. at 1.
[399] See generally, European Commission, *Towards a Future Maritime Policy for the Union: A European Vision for the Oceans and Seas* (Brussels: Commission of the European Communities, 2006).
[400] See generally, *Oceans Act,* S.C. 1996, c. 31. Some writers note that the Act represented one of the first legislative commitments to integrate management of the seas in Canada. See, Nicole Schäfer, "Maritime Spatial Planning: About the Sustainable Management of the Use of Our Seas and Oceans in Timo Koivurova et al., *Understanding and Strengthening European Union-Canada Relations in Law of the Sea and Ocean Governance* (Finland: Northern Institute for Environmental and Minority Law, 2009) at 91 [Schäfer, "Maritime Spatial Planning"].

exploration, navigation, dredging, fishing and other marine activities in the United Kingdom were regulated as commercial viability necessitated or in response to the demands of international standards and obligations.[403] Generally, in the European Union "[p]olicies on, for instance, maritime transport, fisheries, energy … [and] the marine environment … have developed on separate tracks, which leads to inefficiencies, incoherencies and conflicts of use."[404] It comes as no surprise therefore, that British initiatives to realize offshore wind potential would begin by joining the tradition of piecemeal regulation-making, and further obscure an already messy marine management regime.

5.2 Chapter Overview

This Chapter is a case study of the development of the offshore wind regulatory regime in the United Kingdom. To date, there have been three identifiable regulatory attempts to establish the manner in which offshore wind technologies will be allowed to enter the marine environment. Each regulatory approach coincided with the government's decision to deploy a new round of wind projects, that is, a different consents process was used to approve Round 1, Round 2, and Round 3 projects. In chronological order, this Chapter outlines the consents approaches used to approve project applications under each round of development. Each consent process is then considered in light of Howlett et al.'s three-dimensional *new governance* framework outlined in Chapter 2. Thereafter, Gibson

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[401] See, Alejandro E. Camacho, "Adapting Governance to Climate Change: Managing uncertainty Through a Learning Infrastructures" (2009) 59(1) Emory Law Journal 1 at 26.
[402] In the United Kingdom the management of the marine environment has been described as suffering from duplication, fragmentation, sectoral interests and poor integration. See, Jay, "At the Margins of Planning", *supra* note 327 at 5.
[403] *Ibid*. at 109.
[404] Schäfer, "Maritime Spatial Planning", *supra* note 402 at 93.

et al.'s core requirements for progress towards sustainability, also outlined in Chapter 2, will be used to measure the effectiveness of the substantive outcomes of each consent process.

5.3 Round 1 – The First Consents Process for Offshore Wind

The first wind farms to enter the UK marine environment are collectively known as "Round 1". "[Round 1 wind projects were intended] to act as a 'demonstration' round [to provide] prospective developers with an environment in which they could gain technological, economic and environmental experience."[405] As a precaution, these windfarms could only be developed within 10km^2 of the seabed, and with no more than thirty wind turbines to generate a minimum installed capacity of 20 MW.[406] Proposed developments were given consent under existing marine development regulations and procedures, which were slightly modified for the purpose.[407] In 2000, the Crown Estate invited bids for the development of the offshore wind industry. Industry proponents were invited to propose site locations for Round 1 and thereafter seek development consent to begin construction. Ultimately, seventeen projects received consent.

5.3.1 First Stop: The Crown Estate Lease

Typically, a developer began the consents process by seeking pre-approval from the Crown Estate to apply for a development site. As noted in Chapter 4, the Crown

[405] The Crown Estate, *Offshore Wind Energy: Rounds 1 and 2*, online: The Crown Estate <http://www.thecrownestate.co.uk> [Crown Estate, "Rounds 1 and 2"]
[406] *Ibid*. See also, Department of Trade and Industry, *Future Offshore: A Strategic Framework for the Offshore Wind Industry* (London: The Stationary Office, 2002) at 32 ¶ 3.2 [DTI, "Future Offshore"].
[407] Jay, "At the Margins of Planning", *supra* note 327 at 24.

Estate is a body corporate charged on behalf of the Crown to manage land and other property, rights and interests vested in the Crown.[408] The seabed extending to 12 nm from the baseline (the territorial sea) forms part of Crown "land" and is "owned" and regulated by the Crown Estate. Proponents who wished to develop the marine territory within the $10km^2$ restriction were required to seek the permission of the Crown Estate. The Crown Estate evaluates the financial standing, wind turbine expertise and offshore experience of the developer and, if satisfactory, enters into an agreement for a lease with the developer.[409] The agreement materializes into a formal lease to be signed only when the developer has obtained all necessary statutory consents for the project.[410]

5.3.2 Other Statutory Consents Required for Offshore Wind Projects

The consents process allows decision-makers to determine whether a particular offshore wind proposal should be granted consent for development. The process involves a consideration of the positive and negative impacts a specific project could likely have on existing interests and uses of ocean spaces, and where necessary, the protection of same.[411] It also involves a consideration of the potential contribution a specific project, if developed, could have on the attainment of national targets and policy objectives.[412] Given the importance attached to the consents process, Round 1 developers were required to obtain several statutory consents from different government agencies which

[408] Crown Estate Act, *supra* note 351 at s. 1.
[409] See generally, The Crown Estate, *[Precedent of pro-forma Crown Estate Lease*], online: The Crown Estate <http://www.thecrownestate.co.uk/34_round_one_agreement_for_lease.pdf> [Crown Estate, "Precedent of pro-forma Crown Estate Lease"]
[410] DTI, "Future Offshore", *supra* note 408 at 32 ¶ 3.2.
[411] *Ibid.* at 32 ¶ 3.1.
[412] *Ibid.* at 64 ¶ 7.1.

represented a range of interests and users of the marine territory. Consents could be obtained either under the *Electricity Act 1989*[413] (Consent Route 1), or the *Transport and Works Act 1992*[414] (Consent Route 2). Round 1 developers could choose either consents route. This chapter will deal only with Consents Route 1 as the majority of rounds 1 and 2 consent applications have been made under this route.[415]

5.3.3 Consents Route 1

Under section 36 of the *Electricity Act 1989 (EA)*, it is an offence to construct, extend or operate a generating station with a capacity of 50 MWs or more, without the consent of the Secretary of State for Trade and Industry.[416] This section 36 consent requirement was initially legislated to enable the Government to regulate the development of onshore electricity generating facilities. However, a 2001 Order[417] extended the ambit of section 36 to include the development of offshore wind and water generating stations. Thereafter, developers needed to obtain consent from the Department of Trade and Industry to construct, extend or operate a generating station which is wholly or partly driven by wind or water, and situated in the territorial waters of England and Wales, and has a generation capacity of 1MW or more.[418] Note however, that the section does not apply to those offshore wind and wave stations that come under the purview of

[413] *Electricity Act 1989 (U.K.)*, 1989, c. 29 [Electricity Act].
[414] *Transport and Works Act 1992 (U.K.)*, 1992, c. 42.
[415] See, Emma Gibson & Peter Howsam, "The Legal Framework for Offshore Wind Farms: A Critical Analysis of the Consents Process" (2010) 38 Energy Policy 4692 at 4694 [Howsam, "Legal Framework for Offshore Wind Farms"].
[416] Electricity Act, *supra* note 415.
[417] *The Electricity Act 1989 (Required Consent for Offshore Wind and Water Driven Generating Stations) (England and Wales) Order 2001*, S.I. 2001/3642.
[418] *Ibid.* at s. 2. Note that by reducing the permitted capacity to 1MW for offshore generating stations, the Order was intended to regulate the development of all offshore wind farms.

the *Town and Country Planning Act 1990* by virtue of their site location.[419] Developers also needed to obtain a section 37 consent under the *Electricity Act* for the installation of overhead electric lines needed for electricity transmission.

Under consents route 1, a developer was also required to obtain approval for marine works that are detrimental to navigation. The very nature of offshore wind development would automatically trigger application of section 34 of the *Coast Protection Act 1949 (CPA)*.[420] Under this section, the developer must seek consent from the Department for Transportation for the construction, alteration or improvement of any works on the level of mean high water springs. Consent must also be given for the deposit or removal of any object or material from the defined area. It is to be noted that a section 34 consent is only necessary where these works will cause or are likely to result in obstruction or danger to navigation either when being carried out or subsequently. The consent therefore does not authorize these works for the protection of the environment but to ensure safety of navigation.

In addition, under Part II of the *Food and Environment Protection Act 1985* (FEPA), the developer must obtain a licence from the Department of Environment Food and Rural Affairs for any deposit of substances and articles within UK waters either in the sea or under the seabed.[421] In making a decision whether to issue a FEPA licence, the licensing authority "… shall have regard to the need to protect the marine environment, the living resources which it supports and human health; and to prevent interference with

[419] *Town and Country Planning Act 1990 (U.K.),* 1990, c. 8., s. 2 [Town and Country Planning].
[420] See, *Coast Protection Act 1949 (U.K.)*, 1949, c. 74, s. 36 [CPA]. Here, the Act makes it an offence to carry out a stated operation without having first obtained the necessary consent.
[421] *Food and Environment Protection Act 1985 (U.K.),* 1985, c. 48, s. 9 [FEPA] Here, the Act makes it an offence to perform any of the licenced activities without having first obtained a valid licence to do so.

legitimate uses of the sea…"[422] Finally, *EA*, *CPA* and *FEPA* applications must be supported by an Environmental Statement.

5.3.3.1 Environmental Impact Assessment Requirements

Since 1985, European Union legislation placed an obligation on Member States to adopt mechanisms to ensure that relevant consenting authorities take into account the direct and indirect effects of certain public and private projects that are likely to have significant impact on the environment by virtue of their nature, size, or location, before granting approval for project development.[423] An Environmental Impact Assessment (EIA) is therefore necessary for the identification, description and assessment of issues related to the proposed project for consideration in the decision-making process. Projects that seek approval to construct, extend, or operate power stations, whether onshore or offshore, are captured by the Directive.[424] For power station development, the UK has transposed the obligation on consenting authorities through various rules and regulations.

Generally, where a developer seeks consent under the *Electricity Act*, the developer is obligated to "… have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interests…" and must do what is reasonably possible to mitigate any effects on the same.[425] Recently, however, more formal EIA obligations have been fixed to offshore wind farm applications under the *Electricity Act* by the *Electricity Works Regulations*

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[422] *Ibid*. at s. 8.
[423] *Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment* [1985] O.J. L 175/40 at art. 2(1).
[424] *Ibid*. at s. 3 of Annex II.
[425] Electricity Act, *supra* note 425 at sch. 9, s. 1(1).

2000.[426] The *Regulations* explicitly prohibit the granting of development consent where the application for offshore wind development is unaccompanied by an Environmental Statement for consultation by the relevant consenting authority.[427] The Environmental Statement is a report detailing the findings of the required EIA. It should contain such information as prescribed by the regulations, including project description, size and location, the likely environmental impacts and mitigation measures.[428] The *Regulations* also enumerate procedures for applicants to engage in public consultation regarding the environmental implications of the proposed development.[429] The designated local planning authority must also be given an opportunity to consider the application.[430] Having regard to the Environmental Statement and the results of both consultation exercises, the Department of Trade and Industry must then publish a reasoned decision on the application.[431]

Additionally, under consents route 1, a developer must satisfy EIA obligations attached to a Section 34 *CPA* consent application by the *Harbour Works Regulations 1999*.[432]

Lastly, although legislation has not been enacted to transpose EIA obligations to FEPA licence applications, section 8(5) of FEPA gives the licensing authority discretionary power to demand that an applicant conduct examinations or tests 'which may be necessary to enable the authority to decide whether a licence should be issued to [that] applicant.' Under this section, the licensing authority may decide that information

[426] See, *Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000*, S.I. 2000/1927 [Electricity Works Regulations].
[427] *Ibid*. at s. 3.
[428] *Ibid*. at sch. 4, part II.
[429] *Ibid.* at sch. 4, part IV.
[430] *Ibid*. at sch. 4, part II.
[431] *Ibid*. at s. 10.
[432] *Harbour Works (Environmental Impact Assessment) Regulations 1999*, S.I. 1999/3445.

equivalent to an EIA must be supplied by the applicant to enable the licensing authority to properly consider the application. In practice, Round 1 applications have had to comply with EIA requirements under *FEPA* and *CPA*.[433]

5.3.3.2 Appropriate Assessment Requirements

In addition to general EIA requirements, offshore wind applications may also be subject to Appropriate Assessment requirements under European Union and national legislation. The EU *Birds Directive*[434] and the *Habitats Directive*[435] require Member States to designate conservation areas within the Community for the protection of listed wild birds and natural habitats respectively. Under article 6(3) of the *Habitats Directive*, any development that is likely to have a significant impact on the above-mentioned conservation areas must be subjected to an Appropriate Assessment of its implications. Additionally, the relevant national authority may only permit developments, if, in their opinion, said developments will not adversely affect the integrity of any conservation area.[436] The relevant authority may also have regard to public opinion in deciding whether to permit developments which adversely impact conservation areas.[437] These directives are given legislative force in territorial waters through several regulations: the *Birds Directive* is implemented through the *Wild Life and Countryside Act 1981*[438] and

[433] Center for Environment, Fisheries and Aquaculture Science, *Offshore Wind Farms: Guidance Note for Environmental Impact Assessment In respect of FEPA and CPA Requirements - Version 2 – June 2004* (CEFAS, 2004) at 4 online: CEFAS <http://www.cefas.co.uk>.
[434] *Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds* [1979] O.J. L 103/1.
[435] *Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora* [1992] O.J. L 206/7.
[436] *Ibid.* at 8 ,art. 6(3).
[437] *Ibid.*
[438] *Wildlife and Countryside Act 1981 (Amendment) Regulations 1995,* S.I. 1995/2825.

the *Conservation Regulations 1994*[439] while the *Habitats Directive* is transposed through the *Conservation Regulations 1994*.

5.3.3.3 Consent for Onshore Components of Offshore Wind Farms

In addition to the statutory consents and EIA requirements detailed above, the construction of offshore wind farms are likely to require construction, extension or operation of onshore works, for example, the onshore stations. Generally, planning permission is required from the relevant local planning authority for the carrying out of any development on land.[440] However, section 90(2) of the *Town and Country Planning Act 1990* allows an applicant for development consent under section 36 of the Electricity Act to simultaneously apply for 'deemed planning permission.'

5.3.4 Application of the *Howlett et al.* Three-dimensional New Governance Assessment to the Round 1 Consents Process

The preceding sections have outlined the range of possible consents and licences required for Round 1 offshore wind development in the UK. The following sub-sections apply the three-dimensional analytical framework of Howlett et al. to the Round 1 decision-making process. To recap, the first dimension created by the Howlett et al. is the political dimension. In this mode of governance, the authors were mainly concerned with one question: "whether political power – that is, the ability to make legitimate,

[439] *Conservation (Natural Habitats, & c.) Regulations 1994,* S.I. 1994/2716.
[440] Town and Country Planning, *supra* note 421 at s. 57.

authoritative decisions allocating societal resources – favours state or non-state actors."[441] It can be argued on end about what it means for political power to be vested in the state and what it means for that power to be vested in society-driven actors.[442] Earlier, in Chapter 2, it was noted that "…many people have been disappointed with the ability of government to tackle social problems."[443] At the same time, New Governance scholars argue that the social trait of non-state actors would influence more effective rules and solutions to social problems.[444] These are issues that the framework forces one to consider after having identified whether the political power in the regime favours state or non-state actors.

The other two dimensions recognize that there is more to a governance arrangement than political power. The second dimension for instance, is symbolic of the fact that "[i]nstitutions set the framework for the exercise of power."[445] In this dimension, Howlett et al. were concerned with the constitution and composition of institutional structures, i.e., are the institutions formally or informally constituted? Are the institutions composed of state or non-state actors? Essentially, in their view, these characteristics determine "…the abilities of various state and non-state actors to prevail in policy disputes and decisions, as well as the possibilities for the choice of the policy instruments used to implement the mode of governance."[446]

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[441] Howlett et al. "Government to Governance", *supra* note 44 at 385 ¶ 2.1.
[442] See for instance, Haas, "When does power listen to truth?", *supra* note 107. The author who puts forward the view that the ability of state-centered decision-makers to master new ideas has limits, and when those limits are reached, there is a need to defer or delegate to authoritative actors with a reputation for expertise. In this view, the article is a debate about what it means for political power to be vested in state versus non-state actors when scientific issues such as sustainable development are at the heart of the decision-making process.
[443] Lee, "Conceptualizing the New Governance", *supra* note 97.
[444] Above at 26 ¶ 2.2.1.
[445] Howlett et al. "Government to Governance", *supra* note 44 at 385 at ¶ 2.2.
[446] *Ibid*. at 385 – 386.

The third dimension focuses attention on the nature of the legal instruments used in the governance arrangement under study. The authors were concerned about whether the legal regime is characterized by traditional top-down hierarchical government control through laws and regulations or market-oriented regulation which are generally flexible and voluntary. In other words, the focus is on whether the regulatory practice is reflective of the hard or soft law approach to governance.

Overall, in each of the dimensions, the focus is on locating the governance arrangement, (is it State (hierarchical)? or Non-State (plurilateral)?), of each mode of governance (political, institutional, regulatory). Howlett et al. describe the key to using the framework in the following terms: "…movement along the *horizontal* 'hierarchical' to 'plurilateral' axis is seen as being associated with changes along three distinct but overlapping *vertical* dimensions: namely *institutional structures, political practices* and *regulatory techniques… ."*[447] In other words, in moving across the horizontal axis, the fundamental question is whether there is one actor or many actors in each mode of governance, and who those actors are.

5.3.4.1 The Political Dimension

The range of consents and licences required demonstrate the involvement of several actors in the decision-making process. These actors play various roles and perform various responsibilities and, thus, can be grouped by their affiliate state or non-state orientations.

[447] *Ibid*. at 384 ¶ 1.

On the state side, the central bodies involved in the development and regulation of the offshore wind industry are the Crown Estate (sea bed lease), the Department of Trade and Industry (energy policy and section 36 EA consent), the Department for Environment, Food and Rural Affairs (FEPA licence and EIA) and the Department for Transport (section 34 CPA consent).[448]

Although it may not be expressly reflected by the consents process, many non-state actors also hold an interest in the development and regulation of offshore wind. The main non-state actors include the public, industry developers, environmental pressure groups, statutory environmental consultees and trade organizations representing shipping and fishing interests. The consensus is that many State and Non-State actors hold an interest in offshore wind development and regulation. The question remains, which among these State and Non-State actors is actually charged with power to determine whether a particular offshore wind project will be given approval for development.

A quick review of the consents process would confirm that power to produce legally binding outcomes on consents applications is concentrated in the hands of State actors. However, while power to make decisions is *legally* vested in the State, legitimate questions can be raised as to whether Non-State actors influence the exercise of State power over consents applications. This question turns on two variables. The first variable concerns the identity of the Non-State actor in question. This is of particular importance because it characterizes the interest of the non-state actor in the regime, and hints to its preference of outcome on consents applications. The second variable speaks to whether

[448] See also, Julia Köller, Johann Köppel and Wolfgang Peters, *Offshore Wind Energy: Research on Environmental Impacts* (Springer-Verlag Berlin Heidelberg 2006) at 334 ¶ 19.2.2, who also identify these bodies as central to the consenting process. See also S. Shaw, M.J. Cremers and G. Palmers, *Enabling Offshore Wind Development* (Brussels: Loft33, 2002) at 9.

the non-state actor has the capacity to influence State power in the direction of their preferred outcome.

In Chapter 4, the point was made that the public has had an indisputably dominant and influential role in the decision-making process for onshore wind farms in the United Kingdom.[449] Over 150 groups have fought tirelessly against the construction of wind farms in their backyard.[450] These NIMBY protesters are consistently described as "well-organized opponents to wind farm development."[451] Essentially, they have become significant barriers to renewable energy development in local communities[452] by continually stymieing a reliable flow of projects.[453] For quite some time, the prospect of offshore wind development has won over the support of NIMBY protesters for the mere fact that locating wind projects offshore align with Not-In-My-Back-Yard initiatives.[454] Their large numbers and interests in offshore development have given them sufficient capacity to influence State action in the consents process. The same can be said for environmental pressure groups such as Friends of the Earth and Greenpeace who have welcomed British offshore wind development from its inception as a demonstration by the Government of their ambition to defeat global warming.[455] Therefore, in granting

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[449] Above at 76.
[450] Cross, "Winning over the 'Nimby blockade'", *supra* note 319.
[451] Whitehead, "NIMBY's Threat to UK Wind Power", *supra* note 318.
[452] Devine-Wright, "Beyond NIMBYism", *supra* note 321.
[453] See, Kanter, "Local Opposition Stalls British Wind Power", *supra* note 320.
[454] Gray et al., "Stakeholder Consultation", *supra* note 323 at 138.
[455] See, "Boost for Offshore Wind Power" *BBC NEWS* (14 July 2003) online: BBC News <http://news.bbc.co.uk>. The article is a brief report of the government's decision to issue licences for the development of Round 1 wind farms. Here, Greenpeace spokesman, Rob Gueterbok, is quoted as having said, "[f]or over 30 years Greenpeace has opposed the pollution of our oceans but today fully support this massive commitment [by the UK Government] to harness wind power at sea." In relation to one Round 1 offshore wind project, Kentish Flats, it was noted that "[s]ome environmental groups expressed positive support because of the contribution that the wind farm would make to renewable energy production." See, Jay, "At the Margins of Planning", *supra* note 327 at 53. Additionally, see generally, Greenpeace, *Sea Wind Europe* (London: Greenpeace, 2004) which sets out Greenpeace's vision for offshore wind energy and its potential to become a mainstay of Europe's electricity supply system.

project approvals, state actors are given the confidence that development is in the best interest of the community and environmental pressure groups that strongly support the industry.

Industry developers also exercise a strong influence on the outcome of consents applications and the development of the offshore wind regime in general. The British Wind Energy Association (BWEA) is a formally established trade body that represents industry developers who want to see offshore wind energy generation realized.[456] Politically, offshore wind energy generation must happen if the UK is meet their renewable energy targets. The nexus between BWEA and the State is the undeniable fact that their interests also align. BWEA's advocacy goes far beyond 'offshore wind energy is essential to sustain modern living,' to include advocacy for change in energy policy and legislation to facilitate development of offshore wind. For instance, in 2002, BWEA submitted an *Energy Policy Review*[457] to the DTI stressing the massive contribution offshore wind could make to the attainment of national energy goals. In the review, BWEA warned DTI that "…the prospects for offshore are zero without a swiftly implemented 'future offshore' process and consenting regime. [And that] *until such time as these are in place, there will be no further offshore development* [my emphasis]."[458] The BWEA was adamant that there needed to be a "satisfactory conclusion of negotiations" between BWEA and the Government on swifter consents processes.[459]

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[456] Adam M. Dinnell and Adam J. Russ, "The Legal Hurdles to Developing Wind Power as an Alternative Energy" (2007) 27 Nw. J. Int'l L. & Bus. 523 at 573.
[457] See for instance, Letter from Nick Goodall of BWEA to Dr. A. Parkinson of the Energy Policy Review Team (13 September 2002) on the subject of 'Energy Policy Review Submission by the British Wind Energy Association', [unpublished] online: <http://www.bwea.com/pdf/bwea_energy_review.pdf>. Note that this letter was cited by DTI, "Future Offshore", *supra* note 408. Also, BWEA's work is also cited in DTI, "Energy White Paper 2003", *supra* note 330.
[458] *Ibid at 9.*
[459] *Ibid* at 3.

Obviously, therefore, BWEA has been working closely with the relevant government institutions, and pressuring the development of policy and legislation on the offshore process and consents regime.[460] A quick review of Hansard would confirm Parliament's reliance on BWEA's organized advocacy and research. "The superior strength of the offshore wind industry…" enabled them to exercise a greater influence over the decision-making process and the outcome, in comparison to fishermen who stood to be most adversely affected by offshore wind development. [461]

There is great complexity in considering whether fishers have the capacity to influence State action. This complexity is linked to the overall 'chronic fragmentation' of the fishing industry. In *Offshore Wind Farms and Commercial Fishing: A Study in Stakeholder Consultation*, it was found that consultation views of fishers in relation to offshore wind farms were not representative of the entire fishing industry.[462] In assessing fishermen views and interests, 'consultations' were held with national fishermen's associations. These national associations represented the larger fishing vessels in the commercial industry. However, it was found that less than 20% of English and Welch fishers were members of a national fishermen's association.[463] Most fishermen belonged to local associations, which were "loose, fissiparous… and rival" - characteristics that invited easy exploitation by developers and weakened bargaining power.[464] Unfortunately, these were the category of fishermen against offshore wind development and unable to prove entitlement to compensation. The overall 'chronic fragmentation' of

[460] On the relationship between BWEA and governmental departments, see generally, Geoff Hewitt, "UK Energy Bill – The Great Wind Up?" (2004) 6 International Energy Law and Taxation Review 146 at 149.
[461] Gray et al., "Stakeholder Consultation", *supra* note 323 at 138.
[462] *Ibid.* at 127.
[463] *Ibid*. at 130.
[464] *Ibid*. at 137.

the fishing industry was found to affect the ability of fishers' opinion to prevail in the decision-making process.[465]

Another factor that characterizes the fishing industry's weak influence in the decision-making regime is the "…government's enthusiastic support for offshore wind farms."[466] It is no secret that the UK government is in full support of offshore wind development. The mandates of climate change and energy security have garnered enough political momentum to ensure that there is no turning back. Fishers' representatives argue that a fisherman's story about the loss of livelihood, and the need for compensation, would fail to measure up to a story about global climate change and needed mitigation.[467]

It is clear from the above assessment that there are many stakeholders in the offshore wind farm consents process representing many interests. It is also clear, that amongst those stakeholders power to produce legally binding outcomes on consent applications is concentrated in the State. Therefore, in the context of the Howlett framework, it would appear that the political dimension is characterized by traditional hierarchical governance. However, it was also found that in practice, this state-directed governance arrangement is vulnerable to pressures exerted by formally instituted non-State actors. Therefore, in the context of the Howlett framework, this dynamic has created movement along the horizontal axis of the political dimension, ultimately creating a de facto plurilateral governance arrangement.

[465] *Ibid.*
[466] *Ibid.* at 137.
[467] Gray et al., "Stakeholder Consultation", *supra* note 323 at 137.

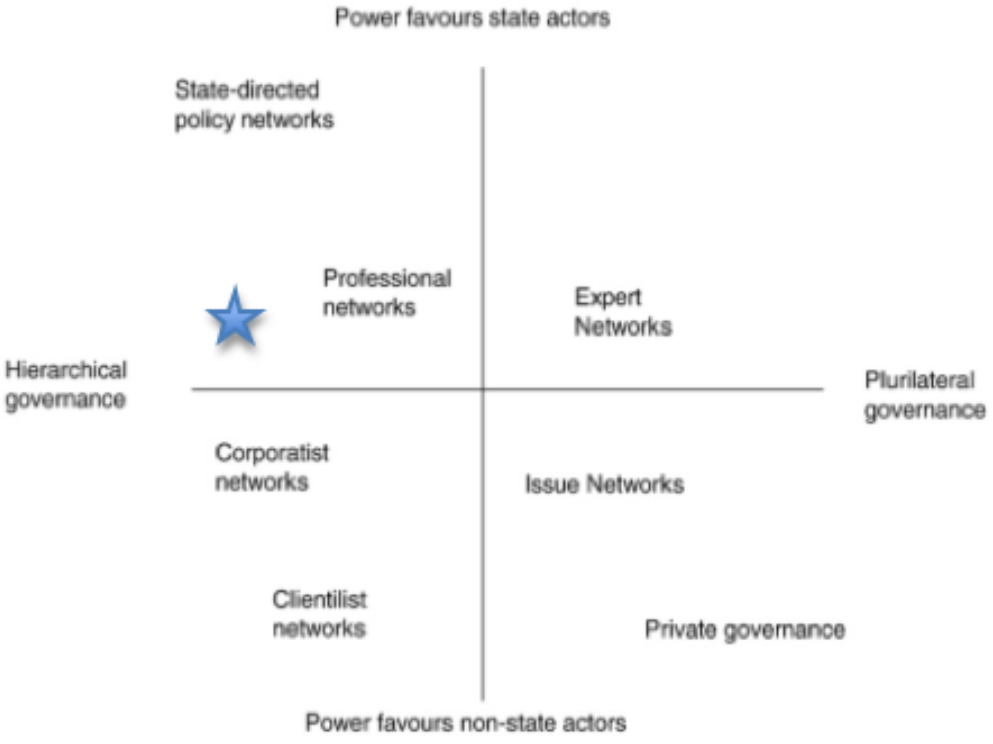

Fig. 4

Placement of the Round 1 Political Power on Michael Howlett et al.'s Political Dimension

5.3.4.2 The Institutional Dimension

The founding concept under this dimension is that "[i]nstitutions set the framework for the exercise of power."[468] Here, Howlett et al. were concerned with the constitution and composition of institutional structures used to exercise power. Institutions may be formally or informally constituted and composed of state actors, non-state actors or both. Essentially, in their view, these characteristics determine "…the abilities of various state and non-state actors to prevail in policy disputes and decisions, as well as the possibilities

[468] Howlett et al. "Government to Governance", *supra* note 44 at 2.2.

for the choice of the policy instruments used to implement the mode of governance."[469] Institutions, therefore, are linked to decision making. Based on the assessment of the political dimension in the previous subsection, the prima facie assumption can be made that the institutional arrangements that had the capacity to make legally binding decisions and influence the outcome of Round 1 consent applications are typically characterized by formal establishment.

As it relates to State actors, their power to produce binding decisions on consents applications was exercised through four main governmental departments: the Crown Estate, the Department of Trade and Industry, the Department for Environment, Food and Rural Affairs and the Department for Transport. These governmental bodies determine whether a particular offshore wind project will be given consent for development. Another characteristic of these governmental departments is that they were all established by acts of parliament. Therefore, the common trait among state actors is that their power is exercised through governmental departments that are formally established by acts of parliament, and are therefore empowered to produce legally binding outcomes on consents applications.

As noted in the assessment of the political dimension above, there is a wide range of stakeholders that hold an interest in the offshore wind consents process other than the state. In fact, diversity in institutional arrangements is borne out in how these non-state actors are organized.

Since 1978, the BWEA, a trade body, has represented industry developers. BWEA's formal establishment has afforded it the opportunity to conduct focused research, reviews and consultations which arm it with the necessary tools to convince

[469] *Ibid*. at 385 – 386.

Government that offshore wind development is in the best interests of the community at large. As noted in section 5.3.4.1 above, this formal arrangement has allowed industry developers to influence policy, legislation and consents outcomes.

By definition, the public is not, per se, formally instituted. However, its strong support for offshore wind is channeled through NIMBY organizations that have developed into formal institutions. However, outside of the public's affiliate status within NIMBY organizations, those who objected to offshore wind development retained some formal structure as "statutory consultees" where regulatory instruments require decision-makers and industry developers to consult with them. So for instance, where an application is made for consent under the *Electricity Act*, the Secretary of State for the Department of Trade and Industry must serve notice on the relevant local planning authority, which is also a governmental institution.[470] The planning process allows the general public to register their views on the application. If the local planning authority decides to lodge objections, the Secretary of State is obligated to cause a public enquiry to be held.[471] In determining whether to give consent, the Secretary of State is obligated to consider the objection and the results of the public inquiry.[472] However, where objections are received from persons other than the relevant planning authority, the Secretary of State holds a discretionary power to decide whether a public inquiry is necessary.[473] Furthermore, unlike objections received from planning authorities, there is no provision in the *Act* obligating the Secretary of State to consider objections from other

[470] Electricity Act, *supra* note 415 at sch. 8, s. 2(1).
[471] *Ibid*. at sch. 8 ¶ 2(2)(a). Note however, during the consents process planning authorities were unable to bring about public inquiries and where such inquiries were held, its findings were effectively quashed. See, Jay, "At the Margins of Planning", *supra* note 327 at 102.
[472] *Ibid*. at sch. 8 ¶ 2(2)(b).
[473] *Ibid*.

persons when deciding whether to grant development consent. This seems purposeful. Surely, to give such standing to stakeholders would open the floodgates. Nonetheless, where the general public registers their views with the local planning authority, the "…planning authorit[y] may convey local feeling as part of their consultation response."[474] Therefore, "…the involvement of local authorities [in the decision-making process], albeit limited, does provide some opportunity for public comment and representation on individual projects."[475] However, as can be seen from the above, planning authorities take a relatively peripheral role in the consents process. As to the 'peripheral role' of planning authorities, it is argued that because offshore wind farms lie wholly outside the jurisdiction of any planning authority "… there is no relevant planning authority under the terms of the *Electricity Act* (schedule 8) and therefore the power of planning authorities to object and bring about a public inquiry does not apply."[476] Causatively, this 'peripheral role' restricts the opportunity for wider public involvement in the development of offshore wind farms.[477] Alternatively, however, the public may intervene in the consents process through consultation procedures under EIAs.

Lastly, although fishers have organized themselves into formal structures, these structures are more typical of 'non-cohesive networks,'[478] whose members have failed to develop a consensus on offshore wind development. The chronic fragmentation of

[474] Jay, "At the Margins of Planning", *supra* note 327 at 24.
[475] *Ibid.* at 110.
[476] *Ibid.* at 31.
[477] *Ibid.* at 102.
[478] See, Ewa Rabinowicz, book review of *Policy Networks Under Pressure: Pollution Control, Policy reform and the Power of Farmers* by Carsten Daugbjerg (2000) 27(1) European Review of Agricultural Economics 91 at 93. Here, 'cohesive networks' are described as structures in which the "…members have developed a consensus on principles that underpin the choice of policies and on the way they handle policy problems."

fishers' structural arrangements has critically constrained their capacity to prevail in decisions that affect their livelihood.[479]

This section reviewed and characterized governmental institutional structures, non-governmental environmental agencies, the public, industry institutional structures, and the intuitional arrangement of the most affected stakeholders – fishermen. The conclusion that can be drawn from this assessment is that the institutional arrangements that had the capacity to influence the outcome of Round 1 consents applications were characterized by formal establishment. The governmental bodies and the BWEA were all characterized by formal establishment, and therefore, best placed to influence consents decisions. Most notably however, on the institutional dimension, the government retained an important structural advantage in the consents process largely due to its ownership of the sea bed and formal legislative control over activities in the marine area. On the other hand, weaker parties such as fishers suffer from such a description because of their inability to organize themselves into a cohesive network for representation. In this regard, the institutional arrangements under Round 1 retained some plurilateral features. However, the government was able to dominate the consents process by moving upwards along the vertical axis of the institutional dimension away from informality towards more formal structures. Additionally, there has been very little movement along the horizontal axis of the institutional dimension. In sum, the institutional dimension is mainly representative of hierarchical governance.

[479] See generally, Gray et al., "Stakeholder Consultation", *supra* note 323.

Fig. 5

Placement of the Round 1 Institutional Structures on Michael Howlett et al.'s Institutional Dimension

5.3.4.3 The Regulatory Dimension

Power to make decisions on consents applications is legally concentrated in the hands of the state and exercised through formally established institutions. This dynamic has influenced the creation of an offshore wind consents regime that respects traditional top-down hierarchical government control through laws and regulations. In relation to Welch waters it was found that "[t]he law governing the protection and management of the marine environment is found in a large number of statutes, regulations and orders."[480] The preceding sections, which outline the range of possible consents required for offshore

[480] Linley-Adams "Case Study on Marine Renewable Energy", *supra* note 396.

wind development, confirm this finding. Essentially, therefore, the nature of the Round 1 consents process is consistent with the notion of hard law – the upper end of the vertical axis on the regulatory dimension. Howlett et al. describe the notion of hard law as "… synonymous with a state-centric, command and control mode of regulation that imposes generally applicable obligations, articulated with a relatively high degree of precision, that are directly enforceable through the courts."[481] Again, a quick review of the consents process would confirm this finding. Generally, therefore, the hard law governance arrangement constrained the ability of non-state actors to alter the policy-making process and the eventual binding outcome. As a result, the regime is representative of hierarchical governance on the horizontal axis of Howlette et al.'s regulatory dimension.

[481] Howlett et al. "Government to Governance" *supra* note 44 at 386 ¶ 2.2.

Fig. 6

Placement of the Round 1 Regulatory Approach on Michael Howlett et al.'s Regulatory Dimension

5.3.5 Application of Gibson et al.'s Core Requirements for Progress Towards Sustainability to the Round 1 Consents Process

As the heading suggests, this section seeks to apply Gibson et al.'s core requirements for progress towards sustainability to the Round 1 Consents Process. However, before proceeding to the same it is necessary to outline a few points that offer appropriate context to the task at hand. Firstly, when Round 1 wind farms were deployed in April 2001, the sustainable development agenda had not yet formed part of energy

policy in the United Kingdom.[482] It was only in the *2003 Energy White Paper* that energy generation and supply were given a sustainable mandate.[483] Prima facie, therefore, the assumption can be made that Round 1 demonstration projects were not necessarily characterized by sustainability objectives. The consents regime supports this assumption. In granting approvals under the *EA, CPA*, or *FEPA*, decision makers were not required to consider whether or not a proposed undertaking (offshore wind) is the best option available to contribute to sustainable development, or progress towards sustainability. The laws on this point are clear. There is no mention of sustainability in any of the above-mentioned regulatory instruments. The legislative purposes of the Acts do not demand or even suggest that decision-makers consider the implications of offshore wind development on progress towards sustainability. Again, this is largely due to the later coming of sustainability as an energy development objective.

Secondly, because sustainability is a challenge to business as usual practices,[484] the very use of existing mechanisms to regulate Round 1 development goes against the core concept of sustainable development as defined by Gibson et al. As previously noted, the existing framework was developed in a fragmented pattern.[485] Curtailing the regime to accommodate offshore works adds to this culture of fragmentation, resulting in a

[482] See generally, Catherine Mitchell & Peter Connor, "Renewable Energy Policy in the UK 1990 – 2003" (2004) 32 Energy Policy 1935.
[483] See generally, DTI, "Energy White Paper 2003", *supra* note 330.
[484] Gibson et al., "Sustainability Assessment", *supra* note 123 at 90. Here, the authors note: "This insistence on clear sustainability-centred decision criteria rests in part on the arguments favouring participation, coherence, accountability and learning. But it is also driven by awareness that sustainability is a challenge to business as usual and by suspicion that if assessment proponents, practitioners and authorities are left to their own unsupervised preferences, they will slide back into the old unsustainable ways".
[485] Above at 92 – 93 ¶ 5.1.

governance system that impedes an integrated decision-making process – "a necessary element of sustainable development."[486] In this regard, Gibson et al. note that: [487]

> "…sustainability assessment processes are entering a world already heavily populated by legislated planning, review and approval requirements. These requirements are evidently insufficient for essential sustainability purposes – they are generally too narrowly focused, too short term in vision and too fragmented in application to serve sustainable purposes effectively."

So by way of example, while a developer was required to obtain an *EA* consent as well as a *FEPA* licence, each consent and licence had a different purpose, that is, they seek to regulate a specific activity. Consequently, the factors that decision-makers can consider when deciding whether to grant approval for an *EA* consent and a *FEPA* licence are limited by their respective purposes. For *EA* consents, decisions are generally confined to a consideration of factors that relate to the electricity infrastructure and supply.[488] Decisions under *FEPA* are generally confined to a consideration of factors relating to the protection of the marine environment, the living resources which it supports and human health[489] but not the wider benefits that offshore wind may bring.[490]

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[486] Biliana Cicin-Sain et al., *Integrated Coastal and Ocean Management: Concepts and Practices* (Washington D.C.: Island Press, 1998) at 85.

[487] Gibson et al., "Sustainability Assessment", *supra* note 123 at 159 – 160.

[488] However, as noted above, the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000, section 3 explicitly prohibits the granting of development consent where the application for an offshore wind development is unaccompanied by an Environmental Statement for consideration by the relevant consenting authority. Specifically, the environmental statement should contain characteristics of the development (size of the development, cumulation with other developments, etc), location of the development (the environmental sensitivity of the proposed location), and characteristics of the potential impact (the extent of the impact, probability, duration, frequency etc.) for consideration by the Secretary of State for Trade and Industry. Therefore, while *EA* consents enable a consideration of the potential environmental impact of offshore wind projects, it precludes a consideration of the benefits to be had.

[489] FEPA, *supra* note 423 at s. 8(1)(a)(i).

[490] Note however, by section 8(1)(b), in determining whether to issue a FEPA licence, decision makers "…may have regard to such other matters as the authority considers relevant." It is doubtful that this provision would extend the category of matters that may be considered to include for instance, the wider benefits to be had from offshore wind development. This assessment is based on a reading of the preamble to the Act, which in the main, restricts its purposes to the protection of the marine environment by

As a result, the decisions taken did not holistically consider the benefits of a project with its drawbacks. The same assessment can be levied against *CPA* consents which were specifically formulated to ensure a safe environment for navigation. A consideration of the potential benefit of offshore wind development to emission reduction, or the impacts on the interests of other users of the sea, are beyond its scope.[491]

All the same, taken by itself, there can be no question that the concept of renewable energy generation from offshore winds is, per se, a sustainable initiative.[492] However, the question whether it is able to maintain this cloak of sustainability in practice arises for consideration. The answer to the question depends on the manner in which it is allowed to enter the marine environment. In other words, the big question is whether the Round 1 decision-making process led to sustainable outcomes. The answer depends on whether the outcome has satisfied the eight generic requirements for progress towards sustainability identified by Gibson et al. and outlined in Chapter 2 of this study.[493] In essence, therefore, Gibson et al.'s criteria is the analytical tool chosen to evaluate the effectiveness of the Round 1 decision-making process.

The first requirement for progress towards sustainability is that decisions should be made which seek to advance the principle of socio-ecological system integrity. The principle recognizes firstly that humans are dependent on biophysical systems for the continuance of life on Earth and for the provision of a range of sufficiency demands. This dependency forms the crux of the requirement, i.e., decisions should be made which seek

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regulating, among other things, the deposit of substances on the seabed and the use of pesticides and substances.

[491] Note that EIA obligations are attached to section 34 CPA consents by the Harbour Works Regulations. See above at 99 ¶ 5.3.3.1.

[492] See generally, Hassan et al., "Offshore Wind Energy", *supra* note 346.

[493] Above at 40.

to build human-ecological relationships that favour the protection of irreplaceable life support systems. Therefore, in the first instance, the relationships should seek to reduce direct and indirect human-induced stresses on the environment and associated life support functions. Secondly, and more importantly, the objective of this requirement is "…not to prevent system change but to organize and manage [human] activities so that the changes [influenced] still preserve the system conditions and services upon which [humans] rely."[494] The focus therefore is on adjusting and reconstructing governance systems in order "… to establish a more modest, sensitive and flexible relationship with the biophysical system upon which we rely."[495] As to the substantive focus under this requirement, the fact that Round 1 projects were permitted to enter the marine environment via existing legislations is illustrative of the failure to meet this sustainability requirement. Implicitly, by curtailing existing legislations to accommodate offshore works, traditional approaches to the control, management and regulation of human activities in the marine environment were applied. Therefore, by using existing approaches to manage human activities, there was no attempt to adjust or reconstruct the manner in which humans interact with the environment in order to build 'sustainable' human-ecological relationships. The fundamental point is that curtailing existing regimes to accommodate offshore wind development applies traditional methods of control which are primarily reactive, fragmented and ad hoc. As noted at the outset of this Chapter, these characteristics restrict the ability to properly assess the cumulative impact of marine activities and therefore, they continue business as usual practices which make very little contribution to progress towards sustainability.

[494] Gibson et al., "Sustainability Assessment", *supra* note 123 at 96.
[495] *Ibid*. at 97.

In addition to socio-ecological integrity, human well-being is also dependant on material goods and services for the attainment of livelihood sufficiency and the creation of opportunities for continued development. Here, in making a determination on offshore wind consent applications decision-makers must consider the contribution the project may make to ensuring that everyone has sufficient material goods and services for a decent life and opportunities for improvements. At the outset of Chapter 3, it was noted that energy is essential for the continued development of modern economies and for the sustenance of modern standards of living. In the contemporary world, there is a high demand for energy for the execution of daily activities. The intrinsic value of energy to all human activity is borne by the International Renewable Energy Agency's proclamation of energy as a "…basic human need."[496] Broadly speaking, energy is needed to deliver adequate food, water, shelter, education, health care and employment. Indeed, without it, all human activity and development would come to a complete and instantaneous standstill.[497] By necessary interpretation, it seems that consent applications for offshore wind were not considered for their ability to increase energy affordability for the poor. This assessment is based on the fact that energy affordability only became an energy policy objective in the *2003 Energy White Paper*. Additionally, even if energy affordability had formed part of energy policy at the time, as noted above, several licences and consents were required under various Acts which confined decisions to a consideration of factors related to the purposes of those individual Acts. Possibly then, Round 1 *EA* consents might have been granted on a consideration of energy affordability had that been the policy of the day. The same theory cannot be applied to *FEPA* licences

[496] IRENA, "Background", *supra* note 157.
[497] *Ibid*.

and *CPA* consents given their specific purposes.[498] Therefore, it is doubtful that this sustainability requirement would have been otherwise adequately fulfilled given the presence of a general energy affordability policy. In any event, a quick review of licences and consents issued to Round 1 offshore wind farms would confirm that the decision-makers did not consider the potential contribution offshore wind projects could make towards livelihood sufficiency and opportunity. In this regard, Gibson et al. note that to ignore issues of destitution, oppression and desperation is as unsustainable as it is morally unacceptable.[499]

Incorporating the principle of intragenerational equity is the third requirement for progress towards sustainability. In very basic terms, the principle requires that decision makers ensure that proposed undertakings are pursued in ways that reduce dangerous gaps in sufficiency and opportunity between the rich and poor.[500] In other words, the criterion advocates that decisions should make positive contributions towards the concept of 'livelihood equality,' i.e. "…the right of all peoples within the current generation to fair access to the Earth's natural resources."[501] Therefore, when approving marine renewables, decision makers must consider whether the costs and benefits are shared equally among all users of the sea. Is the effective decision fair to all users of the sea? The answer to this question depends on the attention paid to trade-off and compensation

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[498] A quick review of Round 1 *FEPA* licences and *CPA* consents would confirm that the decisions did not consider this sustainability requirement. So for instance, see, FEPA Licence granted to Eclipse Energy Co Ltd, Licence No. 32987/07/0, online: Marine Management Organizaton <http://www.marinemanagement.org.uk/works/energy/documents/round1/ormond e.pdf>, [Ormonde FEPA Licence]. See also, CPA Consent granted to Eclipse Energy Co Ltd, Consent No. 32987/07/0/CON, online: Marine Management Organization <http://www.marinemanagement.org.uk/works/energy/documents/round1/ormonde_cpa.pdf>, [Ormande CPA Consent].

[499] Gibson et al., "Sustainability Assessment", *supra* note 123 at 99.

[500] *Ibid*. at 101.

[501] Alexandre Kiss, "Public Lectures on International Environmental Law" in Adrian J. Bradbrook et. al, *The Law of Energy for Sustainable Development* (Cambridge: Cambridge University Press, 2005) at 16.

issues. Generally, substantive trade-offs are involved whenever there are positives and negatives that must be weighed against each other.[502] Decision makers, therefore, are always in the business of deciding which objectives to emphasize and, at least implicitly, which ones to neglect.[503] There are a plethora of decision-making tools designed to assist them with these difficult trade off decisions.[504] One common approach is to apply a cost-benefit analysis to the evaluation of competing interests. While it is accepted that "[i]t may not be possible to convert from climate threatening coal thermal power plants to renewable resources without adding new ecological burdens,"[505] the question is whether the costs and benefits of offshore wind are being distributed fairly among all stakeholders.

There are several users and uses of the offshore environment. These include for instance, recreation, shipping and fishing. However, the group of users most affected by the construction and operation of offshore wind farms are fishermen, whose very livelihood is at risk.[506] Therefore, an evaluation of the experiences of the most affected group of users is a suitable means for assessing whether the costs and benefits of offshore wind are being distributed fairly. In this regard, the following series of events respecting the Kentish Flats Offshore Wind Farm is of importance in the discussion on the intragenerational requirement. In 2002, Global Renewable Energy Partners UK Marine Limited, the developers of Kentish Flats, published their Non-technical Summary of the required environmental statement in which it was noted:[507]

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[502] Gibson et al., "Sustainability Assessment", *supra* note 123 at 127.
[503] *Ibid*. at 123.
[504] *Ibid*. at 124.
[505] *Ibid*. at 123.
[506] Gray et al., "Stakeholder Consultation", *supra* note 323 at 129.
[507] See, Global Renewable Energy Partners, *Kentish Flats Offshore Wind Farm Non-Technical Summary* (Emu Ltd., 2002) at 8 [Kentish Flats Non-Technical Summary].

> Impacts on fish and shellfish species are also not expected to be significant. The loss of seabed habitat is not considered significant and does not generally affect spawning or juvenile nursery areas. Instead, fish would be expected to show some avoidance to areas of disturbance during the construction phase, particularly in response to noise generated by piling operations.
> […]
> "***The new structures could act to attract fish into the area and could even increase fish diversity and productivity in the longer-term.***"

On 7th March 2003, after considering the findings of the environmental statement, the Secretary of State for Environment Food and Rural Affairs decided to grant Global Renewable Energy Partners UK Marine Limited consent under Part II of the FEPA Act 1985 to undertake the construction of up to 30 wind turbines at Kentish Flats, off the North Kent coast.[508] In the Cover Letter to the licence the following was stated:[509]

> There are generic environmental issues associated with the construction and operation of offshore wind farms in the UK water for which *there is at present a lack of knowledge* [my emphasis] and opportunity for possible answers/solutions to be investigated.

The actual licence was granted with fish monitoring conditions in the following terms:[510]

> *Since very little is known about the potential effect of wind farms in terms of enhancing or aggregating fish populations* [my emphasis], the Licence Holder must produce proposals for adequate preconstruction baseline data and post-construction surveys of fish populations in the area of the wind farm. These surveys should, as a minimum comprise some seasonal surveys of fish populations in the region before construction and during the first year of the operational phase and should consider both demersal

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[508] See, Cover Letter of FEPA licence from Brian Hawkins, Marine Consents and Environment Unit Manager, to Global Renewable Energy Partners UK Marine Limited dated 7 March 2003 on the subject of the Construction of a Windfarm at Kentish Flats, off the North Kent Coast (MCEU reference 31780/03/0) online: Marine Consents and Environment Unit <http://www.mceu.gov.uk/mceu_local/fepa/newsitems/KFlats_letter.pdf>, [Kentish Flats Cover Letter to FEPA Licence].

[509] *Ibid.*

[510] See, FEPA Licence granted to Global Renewable Energy Partners UK, Licence No. 31780/03/0 at 12 ¶ 9.6, online: Marine Consents and Environment Unit <http://www.mceu.gov.uk/MCEU_LOCAL/FEPA/NEWSITEMS/KFlats_licence.pdf>, [Kentish Flats FEPA Licence].

> and pelagic species. The Licence Holder shall, in drawing up such proposals, canvas the views of the local fishermen. The proposals must be submitted to the Licensing Authority at least one month prior to the proposed commencement of the monitoring work.

Later, on 12th March 2003, on consideration of the findings of the environmental statement, the Secretary of State for Trade and Industry granted consent to Global Renewable Energy Partners UK Marine Limited for the construction and operation of an offshore wind farm under section 36 of the Electricity Act.[511] The Cover Letter to the consent listed the objections to the project and how the Secretary of State considered their merits. One objection listed concerned the impact of the Kentish Flats farm on fishing. In response, it was noted that:[512]

> The Secretary of State has been informed by the Department of the Environment, Food and Rural Affairs (DEFRA), which has Government responsibility for the fishing industry, *that the Development would be unlikely to have a significant impact on fishing grounds* [my emphasis]

The preceding extracts form an account of the battle for primacy between two competing interests in the trade-off/decision-making process: the maintenance of the natural capital of fisheries versus the installation of the Kentish Flats Wind Farm. Specifically, the extracts evidence the manner in which decision makers have favoured the establishment of the Kentish Flats Wind Farm over the maintenance of the natural capital of fisheries. Were the costs and benefits of the trade-off distributed fairly?

It may be helpful to note that generally, trade-offs allow some adverse effects in the interests of securing important gains,[513] such as the generation of renewable

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[511] See, Cover Letter of Electricity Act consent from Jim Campbell, Licensing and Consents Unit Director, to Global Renewable Energy Partners UK Marine Limited dated 2 March 2003 on the subject of the Application for Consent to Construct and Operate and Offshore Wind Farm at Kentish flats in the Thames Estuary (DTI reference: GDBC/C/001/00046) [unpublished], [Kentish Flats EA Consent Cover Letter].
[512] *Ibid*. at ¶ 2.4, VIII.
[513] Gibson et al., "Sustainability Assessment", *supra* note 123 at 125.

electricity from offshore winds to meet emission reduction commitments. Certainly, on this basis, it can be argued as it has by Theodoros Kolonas[514] that "[t[he development of wind power, following the provisions of the Kyoto protocol can be interpreted as an effort to establish both intra and intergenerational equity within our societies."[515] The general principle that may be extrapolated from this proposition is that any undertaking that makes an effective contribution towards reducing greenhouse gases has an intra and intergenerational benefit. Therefore, though Kolonas articulated this view in reference to onshore wind, the viewpoint is equally applicable to offshore wind development. Kolonas caveats however, that "…there are studies that advocate that the implementation of wind power on the local level might be an action against the principles of equity, referring to its intragenerational part."[516] In this regard, he cites studies which have concluded that NIMBY concerns in relation to onshore wind, "…is a result of the citizens feeling that they have been treated in an unfair way."[517] Comparatively, the offshore 'NIMBY' protestors would be the fishermen who feel that they have been similarly treated in an unfair way, i.e., fishermen have been the recipients of the negatives of offshore wind development rather than the benefit. It seems therefore, that while offshore wind is able to contribute to global intra and intergenerational equity, it conflicts with domestic gains on progress towards intragenerational equity. Again, in the midst of this conflict it would

[514] See, Theodoros Kolonas, *The Research on Public Perceptions to Wind Power Schemes: An Analysis through the 'eyes' of Sustainability* (Thesis, Lund University, 2007) [unpublished], online: Lund University International Master's Programme in Environmental Studies and Sustainability Science <http://www.lumes.lu.se>.
[515] *Ibid.* at 40 ¶ 7.4.5.2.
[516] *Ibid.*
[517] *Ibid.*

be helpful to restate the fact that generally, trade-offs allow some adverse effects in the interests of securing important gains.[518]

However, while some sacrifices may be necessary to permit gains elsewhere, no sacrifice should be made lightly."[519] It would appear from a reading of the excerpts that the decision to sacrifice the maintenance of fisheries capital was made lightly. On the one hand, the environmental statement made it clear that given the small area affected by both turbine installation and cabling, '*the impacts on fish and shellfish species and the loss of seabed habit* ***is not considered significant***.'[520] Subsequently, the Cover Letter to the FEPA licence noted that '***there was a lack of knowledge*** *on a range of environmental issues associated with the construction and operation of offshore wind farms*.' Specifically, the FEPA licence admittedly noted, albeit contrary to that which was expressed in the Environmental Statement, '***that very little was known*** *about the potential effect of wind farms in terms of enhancing or aggregating fish populations*.' Lastly, in granting the EA consent, the Secretary of State for Trade and Industry relied on the opinion of DEFRA to the effect that the '*...Kentish Flats Wind Farm* ***would be***

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[518] Gibson et al., "Sustainability Assessment", *supra* note 123 at 125.
[519] *Ibid.* at 133.
[520] As an ancillary point, it is interesting to note the manner in which the developers of the Kentish Flats windfarm presented the findings of the Kentish Flats Non-Technical Summary of the Environmental Statement. See, Kentish Flats Non-Technical Summary, *supra* note 509. As it relates to the environmental and socio-economic impact, a clear pattern is visible. The drafters purposefully outlined in bold and italicized print, the supposed positive attributes of the windfarm: "***no effects on rare species or habitats***"; "***The new structures would could act to attract fish to the area and could even increase fish diversity and productivity in the longer term***"; "***the windfarm could well provide a positive impact for tourism, acting as a new attraction for visitors to the area, attracting yachts and pleasure boat trips".*** *Ibid.* at 7 -8 respectively. In contrast, while possible negative impacts were reported, the clear focus of the environmental statement was on the proposed benefit and can properly described as a mere lobbying document. Additionally, see, Jay, "At the Margins of Planning", *supra* note 327 at 101 where it is noted that some local planning authorities felt that "…the environmental statements were not totally reliable. [Essentially.] [t]his criticism ranged from doubts about the adequacy and coverage of the EIA studies to strong disagreements with the findings presented in the statements and *claims that the effects of wind farms were being underestimated* [my emphasis]." In fact, the Kentish Flats EIA was one of the EIAs questioned in reference to the adequacy of the EIA process. See, Jay, "At the Margins of Planning", *supra* note 327 at 87.

unlikely to have a significant impact on fishing grounds.' The opinion of DEFRA that the Secretary of State for Trade and Industry relied on in granting the EA consent is dramatically different in wording, meaning and degree to the opinion expressed by DEFRA in the FEPA Licence. There is a huge conceptual difference between a statement expressing the fact that 'very little is known about the potential impacts…,' and a statement advocating that *'Kentish Flats Wind Farm would be unlikely to have a significant impact on fishing grounds.'* In sum, it is clear that, the opinions expressed as justification for favouring the Kentish Flats Windfarm over the maintenance of fishing capital in the trade-off process, were inconsistent. This finding is unsurprising. It is a direct result of the United Kingdom's attempt to regulate offshore wind through existing and fragmented regimes that were created for other purposes. In this regard, Gibson et al. note that in fragmented regimes "…trade-off judgments are made with minimal guidance, transparency or explicit rationale."[521]

Given the foregoing, it is difficult to determine whether the costs and benefits were distributed fairly in the absence of a clear, consistent and affirmative position regarding the potential positive and negative impacts the Kentish Flats Wind Farm project posed to fisheries. However, the very absence of a clear, consistent and affirmative position could necessarily lead to the conclusion that, at the outset, explicit attention was not paid to trade-off issues and implicitly, no attention was paid to the distribution of the costs and benefits of the project or more specifically, the fair distribution of the same.

Furthermore, where gains could not be made on the requirement for intragenerational equity by reducing the negative impact to a local fisherman's

[521] Gibson et al., "Sustainability Assessment", *supra* note 123 at 136.

livelihood, one alternative way in which decision-makers could have sought to make some gains on the principle was to grant consents on an active consideration of compensation for loss of livelihood. Indeed, many fishermen argued that they had "… a moral right to compensation because the siting of wind farms on fishing grounds eroded their (legitimate) opportunities to earn their livelihood."[522] Unfortunately, none of the licences reviewed explicitly focused on matters of compensation issues. In relation to the Kentish Flats WindFarm, this is particularly unfortunate given the fact that compensation issues were raised for consideration when the developers published their non-technical summary of the environmental statement. To recap, it was noted that "***[t]he new structures could act to attract fish into the area and could even increase fish diversity and productivity in the longer-term.***"[523] According to a study by Jennifer C. Wilson and Michael Elliott, "…the placement of offshore wind turbines gives the potential for habitat creation, which may thus be regarded as compensation for habitat loss."[524] The decision-makers on Round 1 consent applications did not explore the potential for habitat creation outlined in the Kentish Flats non-technical summary. Instead, it was noted in the *FEPA licence* that "…very little [was] known about the potential effect of wind farms in terms of enhancing or aggregating fish populations… ."[525] Upon acknowledgement of the same, Licence Holders were required to…

> …produce proposals for adequate preconstruction baseline data and post-construction surveys of fish populations in the area of the wind farm. These surveys should, as a minimum comprise some seasonal surveys of fish populations in the region before construction and during the first year of the operational phase and should consider both demersal and pelagic

[522] Gray et al., "Stakeholder Consultation", *supra* note 323 at 135.
[523] Above at 124 - 125.
[524] See, Jennifer C. Wilson & Michael Elliott, "The Habitat-creation Potential of Offshore Wind Farms" (2009) 12 Wind Energy 203 at 203.
[525] Above at 125.

> species. The Licence Holder shall, in drawing up such proposals, canvas the views of the local fishermen. The proposals must be submitted to the Licensing Authority at least one month prior to the proposed commencement of the monitoring work.

While fish monitoring obligations may be pressed to represent agreed means of compensation, the unadorned fact is that consent for the Kentish Flats development had been provided prior to a determination of the potential effect of wind farms in terms of enhancing or aggregating fish populations. What is in critique here is the fact that the *FEPA Licence* should have been granted on consideration of baseline data on the potential effect of wind farms on fishing populations, rather than requiring baseline data after the licence had already been granted. However, the Joint Nature and Conservation Committee and English Nature argued that "… while there are gaps, sufficient data existed for dealing with offshore proposals."[526] All the same, the conclusion is that Round 1 decisions failed to make gains on the requirement for intragenerational equity.

The requirement of intergenerational equity was briefly considered in the assessment of intragenerational equity above. It was noted that conceptually, offshore wind contributes to intergenerational equity because of its emission reduction benefit. Under this requirement, Gibson et al., advocate that decision-makers "[f]avour present options and actions that are likely to preserve or enhance the opportunities and capabilities of future generations to live sustainably."[527] The requirement forces decision-makers to make a choice between preserving or exploiting ecological systems and associated resources for the benefit of future generations. Implicitly, in making a decision, decision-makers must grapple with the principle of substitution, i.e.,

[526] Gray et al., "Stakeholder Consultation", *supra* note 323 at 136.
[527] Gibson et al., "Sustainability Assessment", *supra* note 123 at 103.

> Do we [decide that we should] retain and protect current ecological systems and resources for the continued benefit of future generations? Or do we [decide that we should] use (and in some ways degrade) these systems and resources now in the expectation that the returns will build economic, technical and/or intellectual capacity for replacing exhausted resources or improving the environment for the future?[528]

At the outset of this Chapter, it was noted that "[Round 1 wind projects were intended] to act as a 'demonstration' round [to provide] prospective developers with an environment in which they could gain technological, economic and environmental experience."[529] Also, in granting the section 36 Consent under the Electricity Act, the Secretary of State considered the important role offshore wind power could play "… in providing clean forms of energy to help provide additional security in our supplies and also help reduce emissions from the production of electricity."[530] Therefore, on the one hand, as 'demonstration projects' that carry an emission reduction benefit, Round 1 windfarms can be deemed significant investments for improving the environment in the future. On the other hand, it must also be recognized that while substitutions have been made which provided valued and lasting improvements in human well-being, "[t]he catch is that they have not had consistently positive of fairly distributed effects."[531] The failure of Round 1 decisions to prevent greater gaps in sufficiency and opportunity between the rich (the offshore wind industry) and the poor (the affected fishermen) demonstrate the truth of this. Nonetheless, this dynamic does not wholly discount the contribution Round 1 demonstration projects made towards intergenerational equity.

Moreover, according to Jeremy Firestone et al., "…the principle of intergenerational equity suggests that a future generation should not be saddled with the

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[528] *Ibid*. at 104.
[529] Crown Estate, "Rounds 1 and 2", *supra* note 407.
[530] Kentish Flats EA Consent Cover Letter, *supra* note 513 at ¶ 2.4 (ii).
[531] Gibson et al., "Sustainability Assessment", *supra* note 123 at 104.

costs of decommissioning a facility that benefited the present generation."[532] In relation to *Kentish Flats,* for instance, the *FEPA licence* requires that the licence holder ensures that any debris or temporary works placed below mean high water springs are removed on completion of the works authorized by the licence.[533] Additionally, developers are required to undertake a pre-construction survey in which all obstructions on the seabed must be plotted. Afterward, a post construction survey must be undertaken wherein any new obstructions must be removed at the developer's expense.[534] These two provisions are common among Round 1 *FEPA licences* and, interpretively, they incorporate not only the requirement for intergenerational equity but also the polluter pays principle. Additionally, the pro-forma leases that are granted by the Crown Estate to bestow tenancy rights to developers contain reinstatement covenants that also incorporate the polluter pays principle and the intergenerational equity requirement. Generally, a developer/tenant covenants with the Crown Estate Commissioners/landlord that:[535]

> … prior to the expiration or sooner determination of the Term (unless the Landlord otherwise requires in writing) to remove the Works and Supply Cables […] and to restore the Premises and Designated Areas to a safe and proper condition and in accordance with all Legal Obligations.

As well, *EA* consents also incorporate the requirement for intergenerational equity and the polluter pays principle by binding developers to decommissioning and restoration obligations very similar to those contained in Crown Estate leases.[536] It would appear

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[532] See, Jeremy Firestone et al., "Regulating Offshore Wind Power and Aquaculture: Messages from Land and Sea" (2005) 14 Cornell J. L. & Pub. Pol'y 71 at 108.
[533] Kentish Flats FEPA Licence, *supra* note 512 at 12 ¶ 9.28.
[534] *Ibid*. at 13 ¶ 9.29.
[535] See, Crown Estate, "Precedent of pro-forma Crown Estate Lease", *supra* note 411 at 21 ¶ 3.15.1.
[536] Department of Trade and Industry, Construction of a Generating Station at Kentish Flats in the Thames Estuary [Kentish Flats Electricity Act Consent], (DTI reference: GDBC/C/001/00046) at paragraph 11 and 12, [Kentish Flats EA Consent].

therefore that Round 1 consent decisions made some progress towards sustainability to the extent that they incorporated the requirement for intergenerational equity.

Additionally, for progress towards sustainability, decisions should incorporate the principle of resource maintenance. Here, decision makers must ensure that approval decisions on offshore wind projects seek to reduce threats to the long-term integrity of socio-ecological systems by reducing extractive damage.[537] In other words, decision-makers must take into consideration the existing stresses on ecosystems and associated resources, and permit development initiatives under conditions that ensure careful extraction of resources. As a starting point, it was noted in the beginning of this Chapter that European Union and National law placed obligations on offshore wind developers to carry out Environmental Impact Assessments.[538] So for instance, the *Electricity Works Regulations 2000* explicitly prohibit the granting of development consent where the application for offshore wind development is unaccompanied by an Environmental Statement for consultation by the relevant consenting authority.[539] The EIA process involves a number of steps which include project screening, scoping, description of the environmental baseline, identification of key impacts, public consultation, decision-making, post-decision monitoring, etc.[540] For present purposes the 'description of the environmental baseline' step deserves some attention. This step involves "…the establishment of both the present and future state of the environment, in the absence of the project, taking into account changes resulting from natural events and from other

[537] Gibson et al., "Sustainability Assessment", *supra* note 123 at 107.
[538] Above at 99 ¶ 5.3.3.1.
[539] Electricity Works Regulations, *supra* note 428 at s. 3.
[540] For a complete list and description of the steps involved in the Environmental Impact Assessment process see, John Glasson, Riki Therivel & Andrew Chadwick, *Introduction to Environmental Impact Assessment* 3d ed. (London: Routledge, 2005) at 4 ¶ 1.2.2, [Chadwick, "Environmental Impact Assessment"].

human activities."[541] Thereafter, this information is reported in the resulting document - the Environmental Statement. The Environmental Statement is then taken into account by the relevant decision-makers who must decide whether the proposed offshore wind project should proceed to the development stage. Therefore, the 'description of the environmental baseline' aspect of the Environmental Statement forces decision-makers to consider the existing stresses on ecosystems and associated resources. Without due regard to information contained in the description of the environmental baseline, it would be difficult for decision makers permit offshore wind development under conditions that ensure careful extraction of offshore wind energy. In sum, EIA requirements ensured that Round 1 decisions made positive gains on the requirement of resource maintenance.

As another core requirement for progress towards sustainability, Gibson et al. propose that decisions incorporate the principle of socio-ecological civility and democratic governance, i.e., there should be a greater focus on better governance and developing better governance arrangements. This criterion is reflective of the notion that sustainability is a challenge to conventional thinking and practice. And so, Gibson et al. argue that if the other core requirements are to be met, decision-makers must begin by recognizing that current decision-making structures and processes are ineffective.[542] Essentially, what is needed to secure progress towards sustainability on this requirement is governance thinking and arrangements that "… move away from development for the people to development with and by the people."[543] Therefore, central to this criterion is the application of sustainability principles through more transparent and better publicly informed deliberations. There can be no mistake in concluding that Round 1 decisions

[541] *Ibid.* at 5.
[542] Gibson et al., "Sustainability Assessment", *supra* note 123 at 108.
[543] *Ibid*. at 109.

failed to meet this requirement. First, as noted at the outset of this section the very use of existing regulatory mechanisms to pursue Round 1 development is against the core concept of sustainability, i.e., that sustainability is a challenge to business as usual practices. Curtailing existing legislations to accommodate new uses such as offshore wind is characteristic of the conventional practice of managing and regulating marine activities through ad hoc, responsive and fragmented ways. This culture of fragmentation impedes an integrated decision-making process; a process that is considered a mode of better governance. Secondly, the use of traditional governance arrangements to regulate offshore wind means that the decision-making process was reminiscent of traditional, top-down control through laws and regulations that concentrate political power in the hands of the State. Evidence of the same is noted in the new governance assessment above. The new governance assessment shows that governmental departments built up relations with industry (BWEA) but failed to build up strong relations with the full range of potentially interested groups like fishermen, especially at the local level. Additionally, the regulatory mechanisms for marine activities, which were adopted for the purposes of offshore wind development, offered relatively few opportunities for public representation and consultation.[544] These instances are inconsistent with a governance arrangement that moves away from development *for* the people to development *with* and *by* the people.

Gibson et al.'s seventh requirement for progress towards sustainability is that decisions should seek to adopt the principles of precaution and adoption. Specifically, the guidance given to decision-makers is to "[r]espect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability,

[544] Jay, "At the Margins of Planning", *supra* note 327 at 110.

plan to learn, design for surprise and manage for adaptation."[545] Generally, the conditions attached to the *FEPA* licences granted to Round 1 projects such as *North Hoyle,*[546] *Kentish Flats,*[547] *Rhyl Flats*[548] *and Scroby Sand*[549], demonstrate that decision-makers were concerned with minimizing the impact of the development on the surrounding environment. In doing so, the licences sought to regulate the type of chemicals that may be used during construction;[550] ensure efficient storage, handling and transportation of fuels and other chemicals to prevent releases into the marine environment;[551] and prevent accidental release of wet cement into the marine environment.[552] *FEPA* licences also imposed strict obligations on developers to monitor impacts of project development over the course of construction and, thereafter, during operation.[553] Generally therefore, precautionary and anticipate-and-prevent approaches were adopted by decision-makers. Interpretively, because precautionary and anticipatory approaches aid in ensuring the

[545] Gibson et al., "Sustainability Assessment", *supra* note 123 at 111.
[546] See generally, FEPA Licence granted to NWP Offshore Ltd., Licence No. 31579/03/0, online: Marine Consents and Environment Unit http://www.mceu.gov.uk/MCEU_LOCAL/FEPA/NEWSITEMS/NHoyle_licence.pdf, [North Hoyle FEPA Licence].
[547] See generally, Kentish Flats FEPA licence, *supra* note 512.
[548] See, Generally, FEPA Licence Granted to Celtic Offshore Wind Ltd., Licence No. 31640/02/0, online: Marine Consents and Environment Unit <http://www.mceu.gov.uk/MCEU_LOCAL/FEPA/NEWSITEMS/Rhyl_licence.pdf>, [Rhyls Flats FEPA Licence].
[549] See generally, FEPA Licence granted to Powergens Renewables Offshore Windfarm Ltd., Licence No. 31272/03/0, online: Marine Consents and Environment Unit http://www.mceu.gov.uk/MCEU_LOCAL/fepa/NewsItems/Scrobyconsent2.pdf>, [Scroby Sands FEPA licence].
[550] North Hoyle FEPA Licence, *supra* note 548 at 9 ¶ 9.19. All chemicals used in operations must be selected from a List of Notified Chemicals assessed for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002. In accordance with paragraph 9.20, the developer will also require prior consent from the Licensing Authority for the use of chemicals not contained in the afore-mentioned list. As well, the licence holder must ensure that all protective coatings; paints etc used are suitable for use in the marine environment and, where necessary, are approved by the Health and Safety Executive. See ¶ 9.21.
[551] *Ibid.* at 10 ¶ 9.22. Section 9.23 further imposes an obligation on the licence holder to produce a Marine Pollution Contingency Plan for spills and collision accidents during construction and operation.
[552] *Ibid.* at 10 ¶ 9.27.
[553] *Ibid.* FEPA at 13 - 15.

careful extraction of resources, progress on this requirement ensured conformity with the core requirement of resource maintenance outlined above.

Lastly, for progress towards sustainability, Gibson et al. note that decisions should seek to incorporate the principle of immediate and long-term integration. Essentially, this requirement sets the policy objective for meeting all the other core requirements. The policy objective is that decisions should "[a]ttempt to meet all requirements for sustainability together as a set of interdependent parts, seeking mutually supportive benefits."[554] In other words, the goal of sustainable decision-making is to effect decisions that seek to pursue all of the requirements at once in order to make gains in each area. This requirement recognizes the fact that because requirements overlap and are interdependent, failure or gains on one requirement will affect progress on others.[555] So for instance, Gibson et al. note that "[g]ains in livelihood sufficiency and opportunity will collapse if the integrity of supporting socio-ecological systems is compromised and key ecological functions are not maintained."[556] The application of the core requirements to the decision making process demonstrate the truth of this proposition. Of the seven (7) core requirements outlined above, the Round 1 consents process failed four (4) of those requirements. Inescapably, this means that the Round 1 consents process also failed this requirement. Overall, therefore, the consents decisions failed five (5) core requirements for progress towards sustainability. This supports the assumption at the outset of this section that Round 1 offshore wind projects were developed without due regard to the principle of sustainable development.

[554] Gibson et al., "Sustainability Assessment", *supra* note 123 at 113.
[555] *Ibid.*
[556] *Ibid.*

In sum, according to Gibson et al.'s generic requirements for sustainability, the decisions made to deploy Round 1 offshore wind turbines did not produce sustainable outcomes or, rather and more importantly, maximum gains on all requirements. Generally, the substantive outcomes were strong on the requirements for precaution and adaptation, intergenerational equity and resource maintenance. In other words, Round 1 consent decisions satisfied only three of eight requirements for progress towards sustainability. The few gains made on the requirements can hardly be considered dedicated efforts towards sustainable development. In fact, the few gains were effected haphazardly through the use of existing regulatory instruments. Again, this demonstrates the unsuitability of existing regimes for sustainability purposes.

Several reasons explain the unsustainable outcome. For the most part, the reasons are inextricably linked to the decision-making arrangements outlined in the previous sections. In relation to the political dimension, the first conclusion drawn was that power to make legally binding decisions that determine whether a particular offshore wind project will be given approval for development was legally vested in the State. On a proper examination of the regime, it was found that in practice, the State-directed governance arrangement was especially vulnerable to pressures from one particular non-state actor, the BWEA (industry). Meanwhile in relation to the institutional dimension, it was found that the institutions that had the capacity to influence the outcome of Round 1 consents applications were typically characterized by formal establishment (State actors and industry). Irrespective of whether it is decided to acknowledge the de jure or de facto placement of power in the political dimension, the difficulty to be considered is that, given the unsustainable outcome, what motivated the exercise of power in favour of

approval? One immediate but myopic answer is that "[Round 1 wind projects were intended] to act as a 'demonstration' round [to provide] prospective developers with an environment in which they could gain technological, economic and environmental experience."[557] A more prudent response would reference the environmental benefit to be had from harnessing clean, renewable energy from offshore winds. By all accounts, it can be conclusively stated that in the exercise of their power to determine whether offshore wind farms would be allowed to enter the marine environment, the State treated Round 1 consent applications differently because of the perceived benefit.[558] So for instance, when the Government asked the Canterbury City Council Planning Authority to consider the merits of the Kentish Flats Wind Farm application, "…Canterbury's response was to support the wind farm in principle, on the basis that it 'represents the development of a clean, sustainable and renewable energy source.'"[559] Stephen A. Jay describes the underlying political issues behind planning authorities' preference and support for offshore wind in the following words:

> … planning authorities may themselves look favourably on offshore wind as a preferred alternative to on-land schemes in their areas. By supporting offshore schemes, they can demonstrate their backing for renewables whilst protecting their territories from intrusion of on-land wind farms and avoiding conflicts that might arise onshore. In other words, planning authorities themselves can benefit from the advantages of offshore

[557] Crown Estate, "Rounds 1 and 2", *supra* note 407.
[558] See, David Toke, "Wind Power in the UK: How Planning Conditions and Financial Arrangements Affect Outcomes" (2003) 23(4) International Journal of Sustainable Energy 207 and 208 where it is noted that: "In recent times […] local planning officers have become more positive about windfarm planning applications. This is at least partly the result of the expectation that the Government is tasking a more pro-windfarm policy which would influence the Planning Appeal system."
[559] Jay, "At the Margins of Planning", *supra* note 327 at 54 citing Canterbury City Council, *Development Control Committee Agenda,* 15 October 2002, [unpublished] document at Agenda Item No. 8 ¶ 7, online: Canterbury City Council Online <http://www2.canterbury.gov.uk/committee/Data/Development%20Control%20Committee/20021015/Agenda/Agenda.htm>.

> locations as perceived by the industry. This may be an explanatory factor in the interest they have shown in offshore wind farms.[560]

In the context of this assessment, it appears as though planning authorities did in fact demonstrate their preference for offshore wind development in the consenting process. In similar fashion, the Secretary of State for Trade and Industry also weighed in on the "…potential of offshore wind farms for delivering a significant contribution to meeting its renewable targets,"[561] during the decision-making process.

Though it is argued here that decision makers may not be inclined to reject offshore wind projects, they are, nevertheless, seized with ability to determine the manner in which they are to be deployed. This is particularly important because, prima facie, there can be a range of impacts on coastal and marine areas, depending on how wind farms are being deployed, and the number of wind farms being deployed under these conditions. At some point the impact of deploying more wind farms and/or deploying more wind farms with less focus on progress towards sustainability, is going to push offshore wind energy to become more intrusive, inequitable and harmful than conventional methods of energy generation. The concentration of power in the hands of state and industry whose primary focus in the trade-off process has been on the benefit to be had from offshore wind, is restricting the issuance of decisions that may ensure that offshore wind does not cause any more harm than good.

Given the foregoing, how then could decision-makers ensure that offshore wind does not cause any more harm than good? The simple answer would be to effect more gains on Gibson et al.'s core requirements. More specifically, however, the new governance assessment above has shown that the main feature of the Round 1 consents

[560] Jay, "At the Margins of Planning", *supra* note 327 at 121 – 122.
[561] See, Kentish Flats EA Consent Cover Letter, *supra* note 513 at ¶ 2.4, (ii).

process is that it was a state-centered, top-down governance arrangement. In particular, this hierarchical governance arrangement prevented any gains on the requirement for socio-ecological civility and democratic governance. It means then that the consent decisions mainly reflected the interests of the Government, but also the BWEA. The interest of both actors in the consents process is the rapid development of the offshore wind industry and the potential benefit to be had. Perhaps therefore, this dynamic is one of the main causes of the unsustainable outcomes on consent applications. In Chapter 2, it was noted that "…many people have been disappointed with the ability of government to tackle social problems."[562] The unsustainable outcomes are one example of the inability of State-centered governance arrangements to effectively tackle social problems. It was also noted in Chapter 2, that the cause of New Governance scholars has been motivated by these inabilities.[563] In the main, these scholars seek to destabalize the priority of traditional modes of governance. Their proposition is that the social trait of non-state actors would influence more effective rules and solutions to social problems.[564] So for example, Gibson et al. suggest that "…greater [intergenerational] equality is unlikely to be achieved or to be lasting unless it is accompanied by greater political equality, in the broad sense of power to participate effectively in decision-making in a context of real choices"[565] Essentially therefore, progress towards sustainability will remain vulnerable if democratic governance and customary civility are underdeveloped. At its base, this discussion is an apt exemplar of the significance of the requirement for integrating the principle of immediate and long-term integration.

[562] Lee, "Conceptualizing the New Governance", *supra* note 97
[563] Above at 26 ¶ 2.2.1.
[564] *Ibid.*
[565] Gibson et al., "Sustainability Assessment", *supra* note 123 at 103.

Compounding the problem of concentrating political power in the hands of the State is the regulatory mode of governance. The new governance assessment concluded that the regulatory regime was consistent with traditional top-down hierarchical government control through existing laws and regulations. Earlier, it was noted that the use of existing regimes with sectoral focus, is fundamentally at odds with the principle of sustainability, which, in theory and in practice, challenges business as usual. It is beyond challenge that "[s]ometimes, existing mechanisms have simply been adapted for new purposes even though they may not be ideally suited to the matter in hand. [As a result, the] only step towards the integration of different interests has been through consultation procedures."[566] This is precisely the case with the Round 1 regulatory regime, the only difference being, that the consultation procedures were inadequate for integrating different interests. Additionally, given the primacy placed on the need to rapidly develop the offshore wind industry, the consents regime was really a quick response to effect government policy.[567] Above all, and if anything, the regulatory governance arrangement is an explicit demonstration of the notion that "[t]he law of the land cannot swim,"[568] that is, regulations passed to govern activity onshore are ill-suited for regulating activity in the marine environment.

[566] Jay, "At the Margins of Planning", *supra* note 327 at 109.
[567] *Ibid.* at 110.
[568] See, E. Mann Borgese, *The Oceanic Circle: Governing the Seas as a Global Resource* (Tokyo: United Nations University Press, 1998) at 6.

5.4 Round 2 – The Reformed Consents Process and Strategic Environmental Assessment

Despite the foregoing assessment, the UK Government considered the Round 1 consents process to be 'adequate' for offshore wind purposes.[569] Consequently, the consents process for Round 2 wind farms marginally differed from the Round 1 process.[570] One major critique of the Round 1 consenting process was that it was duplicating and complex.[571] A slight reform was effected through the enactment of the *Energy Act 2004*.[572] Section 99 of the *Energy Act* attempts to streamline the consenting process by trumping the need for a separate permit under the *Coast Protection Act 1949* to extinguish rights of navigation. Section 99 also inserted two new provisions (Section 36A and 36B) into the *Electricity Act 1989*. By section 36A, where the Secretary of State for Trade and Industry receives an application under section 36 of the *Electricity Act 1989* for the construction, etc. of an offshore renewable energy station, he may simultaneously, make a declaration extinguishing rights of navigation.

Another change in the regime was the extension of the ability to exploit the sea for energy production to areas outside the territorial sea. At some point in time, if development continues to be limited to territorial waters, the lack of available seabed will become a real issue for continued development[573] and as a result, will impede the ability of offshore wind to deliver its emissions reduction promise. As well, the cumulative impacts of developments in territorial waters may reach levels where no further

[569] DTI, "Future Offshore", *supra* note 408 at 66 ¶ 7.4.1.
[570] Jay, "At the Margins of Planning", *supra* note 327 at 110.
[571] DTI, "Future Offshore", *supra* note 408 at 66 ¶ 7.4.1.
[572] *Energy Act 2004* (U.K.), 2004, c. 20.
[573] DTI, "Future Offshore", *supra* note 408 at 34 ¶ 3.4.1.

development is possible.[574] These difficulties, along with industry interests for larger projects, encouraged the Government to develop a legislative basis for offshore wind development beyond territorial waters.[575] For this purpose, section 84 of the *Energy Act* was drafted to establish a 200 nautical mile Renewable Energy Zone (REZ) around the United Kingdom territory, within which it can exercise sovereign rights in relation to the production of energy from the water, currents and waves.[576] Having established the REZ, section 93 of the *Energy Act* goes on to extend the section 36 consent requirement for construction etc. of generating stations to the territorial sea and the REZ.

Furthermore, the *Energy Act* also introduced two new schemes to the consenting regime. Firstly, sections 95 – 98 established safety zones around offshore renewable energy installations. Secondly, Chapter 3 Part II of the Energy Act established a comprehensive statutory scheme for decommissioning offshore renewable energy installations.

The final modification to the Round 1 consents regime was the passage of the *Electricity (Offshore Generating Stations) (Applications for Consent) Regulations 2006*.[577] Pertinent to this assessment, Regulation 5 now makes it mandatory for applicants to serve notice of offshore proposals on a list of state and non-state agencies representing varied interests. Missing from that list however, is the agency that represents the interests of the most affected users in the marine environment – the fishers. Possibly still, fishing interest may be captured under regulation 5(k) where the Secretary of State for DTI holds

[574] *Ibid.*
[575] *Ibid.*
[576] See, Phillips, "Ocean Renewable Energy", *supra* note 36 at 175 ¶ 7.3.8 where the REZ is described as a novel concept in ocean renewable energy development.
[577] *The Electricity (Offshore Generating Stations) (Applications for Consent) Regulations 2006*, S.I. 2006/2064 [Electricity Regulations 2006].

a discretion to decide such other persons that notice of application is to be served upon. Additionally, Regulation 6 requires offshore wind developers to serve notice of their application on any planning authority that "…is likely to have an interest in the development… ." By necessary interpretation, what this section does is to elevate planning authorities to the role of 'statutory consultees'. On the other hand, the *Regulations* also preserved the power of planning authorities to object, but on the other hand, the *Regulations* removed the power to force a public inquiry. Causatively, therefore, this fetter on planning authorities' power only serves to further restrict the opportunity for wider public involvement in the consents process.

As with Consents Route 1, the Round 2 application process began by seeking tenancy rights from the Crown Estate. While the Crown Estate was able to offer leases to Round 1 projects because they were constructed within territorial waters, Round 2 projects developed beyond the territorial limit could only be awarded licences as the UK does not retain ownership of the seabed beyond the territorial limit.

One striking feature of Round 1 was that the State and proponents greatly influenced the development of offshore wind energy, particularly the decision-making process. Therefore, before awarding sites for Round 2, the Government published *Future Offshore* in which it was proposed that a strategic planning framework be adopted as a basis for the expansion of the offshore wind industry.[578] For this purpose, in 2002, the Department commissioned a Strategic Environmental Assessment (SEA) designed to empower actors other than the State and the proponent. The SEA focused on three strategic regions – the Thames Estuary, the Greater Wash and the North West. These

[578] DTI, "Future Offshore", *supra* note 408 at 8.

regions were pre-selected by the Crown Estate and the DTI as areas appropriate for development. The SEA was completed on 29th April 2003.

In *Future Offshore*, the Government adopted Threrivel et al.'s[579] 1996 definition of strategic environmental assessment which reads:[580]

> The formal, systematic and *comprehensive process of evaluating the effects* [my emphasis] of a proposed policy, plan or programme or its alternative, including the written report on the findings of that evaluation, and using the findings in publicly accountable decision making.

Despite the Government's good intention to develop a strategic framework for the offshore wind industry, many believed that the SEA process was far from 'comprehensive'. Consequently, it has often been considered a failure.[581] Many of the reasons that ground this assessment stem from the fact that the SEA process was rushed[582] and "…that the issue of cumulative impact had not been addressed in enough depth and detail."[583] The entire SEA process was completed in five (5) months. At first glance, the rushed outcome could be considered surprising for the very reason that the general impression given by the Government in *Future Offshore* was that due care would be taken during the commissioning stage of the SEA because of the newness of applying SEAs to marine renewables. So, for instance, when introducing the practice of conducting SEAs in *Future Offshore*, the Government noted that SEAs were not new practices to its

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[579] See, Riki Therivel & Maria do Rosário Partidário, *The Practice of Strategic Environmental Assessment* (London: Earthscan, 1996) at 4.
[580] DTI, "Future Offshore", *supra* note 408 at 58 ¶ 6.1.
[581] See generally, *Round 2 Offshore Wind Energy SEA Consultation Report Responses*, online: Department of Energy and Climate Change Offshore SEA <http://www.offshore-sea.org.uk/consultations/Wind_R2/Wind_responses.pdf>, [Round 2 Response to SEA Consultation].
[582] See, Chadwick, "Environmental Impact Assessment", *supra* note 542 at 282 ¶ 9.8.5.
[583] Round 2 Response to SEA Consultation, *supra* note 583 at ¶ 6. A key characteristic of any SEA is that it should deal with potential cumulative impacts associated with the development, not only on a sectoral basis (in this case offshore wind farm development) but also in combination with other marine activities and uses. See, Carolyn Heeps, "The Race for Offshore Renewables" in Hance D. Smith & Jonathan Potts, *Managing Britain's Marine and Coastal Environment: Towards a Sustainable Future* (London: Routledge, 2005) at 87 [Heeps, "The Race for Offshore Renewables"].

management regimes, but had been previously been applied by the Department of Trade and Industry to the oil and gas sector.[584] Since the same department would have been charged with the responsibility of conducting the SEA for marine renewable energy purposes, this was a clear statement by the Government that they had the capacity and the know-how to properly commission a SEA. In this respect, it was noted that "[t]here is relevant experience to be gained from the application of the SEA to the UK Oil and Gas sector… ."[585] Specifically, however, it was singled out for mention that:[586]

> …there are some fundamental differences to be appreciated when comparing the application of the SEA to the oil and gas sector. *The oil and gas sector is a mature industry in contrast to the offshore wind industry which has different impacts and issues, many of which are relatively unknown and cannot currently be predicted with any certainty as there is no monitoring information available* [my emphasis].

The above extract clearly indicates that the Government was well aware of the need to apply extra care when seeking to strategically assess the three development areas. According to Tim Gray et al., "[t]he SEA has a number of critical requirements including the consultation of stakeholders. It is therefore clear that the permitting process is a long and complicated one, and that a key part of it is stakeholder consultation."[587] Among those stakeholders, is "the public, including the public affected or likely to be affected by, or having an interest in the decision-making of the plan or programme, comprising several non-governmental organizations."[588] Essentially, therefore, one of the main purposes of SEAs is to empower non-state actors.[589] By completing the SEA process in

[584] DTI, "Future Offshore", *supra* note 408 at 59 ¶ 6.3.
[585] *Ibid.*
[586] *Ibid.*
[587] Gray et al., "Stakeholder Consultation", *supra* note 323 at 129.
[588] See, Gernot Stoeglehner & Gerald Wergerer, "The SEA-Directive and the SEA-Protocol adapted to spatial planning – similarities and differences" (2006) 26 Environmental Impact Assessment Review 586 at 589, [Stoeglehner, "The SEA-Directive"].
[589] *Ibid.* at 595.

five months, many respondents, such as the Council for National Parks, the Countryside Council for Wales, several Sea Fisheries Committees, the Joint Nature Conservation Committee, the Marine Conservation Society, and the Royal Society for the Protection of Birds, expressed concern that as a direct consequence, the consultation period was rushed.[590] In relation to fisheries, a study in stakeholder consultation found that "[t]he undue speed of some of the consultation processes with fishers was also criticised; indeed, the [Joint Nature Conservation Committee] member highlighted that the four weeks for the SEA consultation compared unfavourably with the 12 months allowed for oil and gas project consultations."[591] It appeared surprising, therefore, that given the above-quote highlighting the immaturity of the offshore wind industry, that the Government would fail to proceed on standards akin, or even higher than those afforded to the oil and gas sector. Even worse, according to Threrivel's definition of a SEA, the findings of the SEA were to be 'used in publicly accountable decision making.' It seems, however, that business efficacy was more important to the Government than a '*comprehensive process of evaluating the effects'* of offshore wind farms in the identified strategic regions. While noting that '[t]here is relevant experience to be gained from the application of the SEA to the UK Oil and Gas sector…'[592] it seemed as though the experience only inspired short-cuts in the interests of business efficacy:

> Although the two sectors will have a different approach to SEA, the oil and gas SEA work does provide the offshore wind energy sector with a number of potential opportunities and cost and time savings. In particular considerable data and information collection has been undertaken for the oil and gas SEA areas and, where appropriate, these data will be used to

[590] See, Round 2 Response to SEA Consultation, *supra* note 583 at ¶ e.
[591] See, Gray et al., "Stakeholder Consultation", *supra* note 323 at 133.
[592] DTI, "Future Offshore", *supra* note 408 at 59 ¶ 6.3.

support offshore wind SEA work.[593]

It is necessary to make the distinction that the need to rapidly develop the offshore regime to meet climate change agendas is not in question. What is in critique, however, is the manner in which the Government has sought to meet that end. In *Future Offshore*, the Government was sure to mention "…that the rapid development of the offshore wind farm industry must not be at the expense of unacceptable risks to the environment or to other users of the sea. It should not be undertaken in a manner which is inefficient..."[594] It was also noted in *Future Offshore* that "[a]part from economic considerations, the extent to which this resource can be exploited needs to be determined through a comprehensive planning framework which properly weighs the benefit of the development against the potential adverse impacts."[595] Notwithstanding recognition of the same, the Government's insistence on rapid development launched and concluded a SEA in a manner void of efficiency and comprehensiveness. It was also explicitly noted in *Future Offshore* that:[596]

> The planning framework […] needs to allow potential impacts and considerations to be fully assessed, at a strategic level, through a strategic environmental assessment, as well as locally, to ensure full confidence in the reliability of the planning process.

Again, despite the statement and recognition of the need to ensure and/or restore transparency and confidence in the reliability of the planning process, the SEA process failed miserably to effect positive gains on either end.

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[593] *Ibid*. In addition, see also Heeps "The Race for Offshore Renewables" *supra* note 585 at 87 [Heeps, "The Race for Offshore Renewables"]. Here, it was noted that the "…SEA was a desk-based study, [that] did not include any new surveys or studies to fill known gaps and uncertainties. This was a different approach to the oil and gas SEA programme where new data was collected to inform the SEA and subsequent decision-making."
[594] DTI, "Future Offshore", *supra* note 408 at 16 ¶ 1.5.
[595] *Ibid.* at 12 ¶ 1.1.
[596] *Ibid.* at 13.

Notably, some developers were also critical of the short time-scale allotted for consultation and argued that the SEA process should have taken twelve (12) months and not five.[597] BWEA's position on the SEA process and outcome is inconsistent. At one point, they state that there were "…a number of instances within the Report in which assertions were made and implications drawn, on the basis of limited information and minimal consultation."[598] They further state that the analysis of the cumulative impacts was not comprehensive.[599] On the other hand, BWEA also viewed the rapid completion of the SEA process as "…vital to retain the momentum established on Round 1 by moving quickly to begin Round 2."[600] Indeed, it has already been noted that BWEA's main interest in the development of the licensing regime has been to accelerate the speed at which licences can be procured.[601] The Government was equally "…keen to maintain the pace of development in the offshore wind industry… ."[602] In this regard, it was found that "…the government's rush to implement wind farms meant it sometimes rode roughshod over environmental considerations."[603] The procedural inefficiency of the SEA process is rather unfortunate. This assessment can be considered flagrantly euphemistic given the fact that the Government passed the *Electricity Regulations 2006,*[604] the effect of which was to remove the power of planning authorities to force a public inquiry. Cumulatively, the procedural inefficiency of the SEA process and the

[597] See, Gray et al., "Stakeholder Consultation", *supra* note 323 at 132.
[598] See, Round 2 Response to SEA Consultation, *supra* note 583 at ¶1 d.
[599] *Ibid.* at ¶ *6.*
[600] *Ibid.* at ¶1 e.
[601] Above at 93 and 118-119.
[602] See, Chadwick, "Environmental Impact Assessment", *supra* note 542 at 276 ¶ 9.8.2. and also at 285 ¶ 9.86 where it is noted that the "UK Government's commitment to large-scale development of offshore wind energy to meet international obligations to reduce CO2 emissions dictated that a tight timescale for this SEA."
[603] See, Gray et al., "Stakeholder Consultation", *supra* note 323 at 132
[604] Electricity Regulations 2006, *supra* note 579.

Regulations only ensured that wider public involvement in the consents process was kept at a minimum.

Apart from the procedural inefficiency of the SEA process, many also felt that the SEA process had been seriously flawed from start.[605] First, it was argued that the SEA process was "…flawed for not looking at the UK as a whole, but choosing three areas and doing a SEA on them."[606] This was considered to have foreclosed many options for the development having little user conflict.[607] As well, that the process for identifying the strategic areas in which Round 2 development would be permitted was flawed because the areas were selected based on favourable wind conditions and provisional indications from BWEA.[608] Some authors have expressed the view that "environmental constraints [did] not appear to have influenced the choice of strategic areas."[609] In fact, the key features which ultimately influenced area selection included "…proximity to grid connections serving important markets and offshore siting criteria conducive to cost-effective construction, operation and maintenance of wind farms."[610] That aside, marine industries raised concern over the fact that it appeared that the selection process was "…limited to the DTI, the Crown Estates and the wind farm developers – or their consultants."[611] Others have also noted that it appeared as though DEFRA had not been

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[605] House of Commons Transport Committee, *Navigational Hazards and the Energy Bill: Ninth Report of Session 2003- 04* (London: The Stationary Office, 2004) at 6 ¶ 12, [House of Commons, "Navigational Hazards"].
[606] See, Gray et al., "Stakeholder Consultation", *supra* note 323 at 132.
[607] *Ibid*. The Marine Conservation Society also identified the lack of consideration of alternatives to the three strategic areas as a key weakness. See, Round 2 Responses to SEA Consultation, *supra* note 583 ¶ 6.
[608] BMT Cordah Limited, *Offshore Wind Energy Generation: Phase 1 Proposals and Environmental Report For consideration by the Department of Trade and Industry* (BMT Cordah Limited, 2003) at 2.
[609] See, Chadwick, "Environmental Impact Assessment", *supra* note 542 at 276 ¶ 9.8.2.
[610] *Ibid.*
[611] House of Commons, "Navigational Hazards", *supra* note 607 at 6 ¶ 12

consulted in the process of selecting the development sites.[612] The unsurpassed irony of the strategic assessment process is that it began its attempt to form an integrated approach to offshore wind development by using sectoral decision-making practices. The potential for current sectoral marine management approaches to act as hindrances to effective delivery of sustainability has already been noted.[613]

Future Offshore acknowledges that "[t]here is no single process for conducting SEA, but there is a broad agreement as to the overall approach and the methodological principles to be used."[614] For the United Kingdom, information regarding the same can be located in the *SEA Directive*.[615] When the Government decided to "…carry out a *formal SEA* … [to] provide helpful support to the development and refinement of plans and programmes for expansion of the offshore wind industry,"[616] the *Directive* had not been transposed into UK law. All the same, the Government decided to be proactive and apply the SEA. Indeed, there can be no question about the nobility of this initiative. However noble, the preceding paragraphs have shown that in the rush to deliver offshore wind energy the Government failed to follow specified SEA procedures during its preparation.[617] The *Directive* makes it unmistakably clear that one of its purposes is to be integrative and to empower non-state actors. The preamble provides:[618]

> In order to contribute to more transparent decision-making and with the aim of ensuring that the information supplied for the assessment is comprehensive and reliable, *it is necessary to provide that authorities with*

[612] See, Gray et al., "Stakeholder Consultation", *supra* note 323 at 133.
[613] Above at 107.
[614] DTI, "Future Offshore", *supra* note 408 at 58 ¶ 6.1.
[615] EC, *Commission Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment,* [2001] O.J. L 197/30 [SEA Directive].
[616] DTI, "Future Offshore", *supra* note 408, at 59 ¶6.2.
[617] However, see, Chadwick, "Environmental Impact Assessment", *supra* note 542 at 278 ¶ 9.8.3 where it is argued that "[t]he SEA was commissioned by the DTI voluntarily, in accordance with the requirements of the EU SEA Directive (although this had not yet been implemented at the time)."
[618] SEA Directive, *supra* note 617 at 5.

> *relevant environmental responsibilities and the public are to be consulted during the assessment of plans and programmes, and that appropriate time frames are set, allowing sufficient time for consultations, including the expression of opinion [my emphasis].*

Article 6 of the *Directive* provides further detail to the obligation to consult. Specifically, Article 6(2) provides that the public…

> …shall be given an *early and effective* opportunity within *appropriate time frames* [my emphasis] to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme or its submission to the legislative procedure.

The standard set for consultations with the public is clear. Such consultations must provide early and effective opportunities within appropriate time frames for the public to express its opinion. It is an unchallengeable assumption to suppose that the UK intended to follow some standard for consultations as they sought to "…carry out a *formal SEA.*" Though the *Directive* had not been transposed, given the fact that "[t]he government [decided] to act within the spirit of the *Directive*,"[619] it is also an unchallengeable assumption to suppose that in carrying out a "formal SEA" the standard for consultations can be located within the text of the *Directive*. The foregoing paragraphs demonstrate a failure to meet these standards in the commissioning stage of the SEA. It is extremely doubtful that these assumptions can be challenged, but even if they can be challenged there are no other processes for conducting SEAs that would support the incomprehensive manner in which the Round 2 SEA was conducted. The consensus is that "[p]lanning authorities [must provide] reasonable time frames for the invitation and the handing in of statements and for dealing with the statements in a traceable way."[620]

Apart from 'the formal, systematic and comprehensive process for evaluating the

[619] DTI, "Future Offshore", *supra* note 408 at 59 ¶ 6.2.
[620] See, Stoeglehner, "The SEA-Directive", *supra* note 590 at 596.

effects of a proposed policy, etc.,' Threrivel's definition indicated that the findings of the SEA be used "… in publicly accountable decision making." Several respondents to the consultation report for the round two SEA stated that they were unclear as to how the Environmental Report would influence the consents process for Round 2.[621] Specifically, the Countryside Council for Wales noted that "… the assessment was currently too general. It gave no indication of the 'carrying capacity' of each of the strategic areas other than the physical seabed space available."[622] In similar fashion, Le Secretariat General de la Mer (France) noted that "…the Report did not present firm pointers to areas where wind farms might/might not be permitted. Instead it just gave general observations on additional studies needed."[623]

In sum, although the *Energy Act 2004* made a few changes to the consenting process by attempting to streamline the process, the changes did not displace the political, institutional and regulatory dimensions of the Round 1 governance arrangement. Therefore, a thorough new governance assessment would be redundant. As well, the concept of the SEA was a well-welcomed move on progress towards sustainable development of the marine environment, and would have gained favour with Gibson et al.'s criteria but for the negligent, inefficient and incomprehensive manner in which it was conducted. In this regard, the Royal Yachting Association noted in their response to the SEA that "…the Report should admit that it was "a start" and by no means complete."[624] Additionally, the Royal Society for the Protection of Birds noted that "[t]he absence of recommendations to DTI on the most appropriate strategic plan for Round 2

[621] See, Round 2 Responses to SEA Consultation, *supra* note 583 at ¶ 1(b)
[622] *Ibid.*
[623] *Ibid.* The Countryside Council for Wales also agreed. *Ibid.* at ¶ 6.
[624] *Ibid.*

was a major weakness in the SEA."[625]

Finally, the adoption of the SEA process "…was intended to influence decisions on which areas of the sea should be offered to developers (and which should be excluded) as well as to guide decisions on bids submitted by individual developers."[626] This is consistent with Threrivel's SEA definition which advocates that the findings of the SEA process are to be used in publicly accountable decision making. However, the Government proceeded to invite and accept bids for offshore wind developments prior to the completion of the SEA Environmental Report and the receipt of the consultation responses to the same.[627] In essence, it appeared as though the Government started their decision making process prior to a consideration of any guidance or benefit to be had from the SEA process. This raised legitimate concerns among stakeholders in the *SEA Consultation Report Responses* about how the Environmental Report would influence Round 2.[628] In response to these concerns the Government stated: "…*developers have been advised to consider other impacts discussed in the Environmental Report in selecting the sites for which they will bid."*[629] The Government's response is unmistakable odd given the fact that the Government set a deadline for developers to submit bids by March 2003 when the Environmental Report was completed two months later. Most of all, the situation gives credence to those who view the entire process as a cosmetic exercise.

[625] *Ibid*. at ¶ 6.
[626] See, Chadwick, "Environmental Impact Assessment", *supra* note 542 at 276 ¶ 9.8.1.
[627] *Ibid.* at 276 ¶ 9.8.2.
[628] See, Round 2 Responses to SEA Consultation, *supra* note 583 at ¶1(b)
[629] *Ibid.*

5.5 Round 3 – The New Model of Governance for Regulating Offshore Wind and Other Marine Activities

At the beginning of this Chapter, it was noted that the management, control and regulation of the uses of ocean spaces gradually developed in a reactive and fragmented pattern. As Round 1 demonstrates, British initiatives to realize offshore wind potential began by joining in this tradition of piecemeal regulation-making. The observations were predictable: over-regulated consenting regimes with obscure consenting processes that led to unsustainable outcomes. Round 2 proved that the ocean governance arrangements, though slightly reformed with integrative decision-making objectives, have still failed to break away from the culture of sectoral decision-making. For the third round of deployments, the Government made another attempt at trying to impose a better-integrated system for regulating the marine environment. At present, the *Planning Act 2008*[630] and the *Marine and Coastal Access Act 2009*[631] represent the new legal frameworks within which decisions will be made. Both pieces of legislation symbolize an innovative model of integrated and sustainable ocean governance in the United Kingdom.

5.5.1 The Planning Act 2008

The Planning Act received Royal Assent on 26th November 2008. Parts 1 to 8 of the Act create a new system of development consent for Nationally Significant Infrastructure Projects (NSIPs) in England and Wales that is 'fairer, faster and more

[630] *Planning Act 2008 (U.K.),* 2009, c. 29 [Planning Act].
[631] *Marine and Coastal Access Act 2009* (U.K.), 2009, c. 23 [MCAA].

transparent.'[632] Under the Act, consent is required for development to the extent that it is, or forms, part of a NSIP.[633] NSIPs cover a wide range of infrastructural developments, chief among them being, projects that seek to construct or extend generating stations.[634] Offshore generating stations are only considered NSIPs if their generating capacity is more than 100 megawatts,[635] and are located in territorial waters[636] or in a REZ, except any part of a REZ in relation to which the Scottish Ministers have functions[637]. A quick review of the *Round 3 Map*[638] and *Round 3 Developers*[639] will confirm that the bulk of the proposed Round 3 wind projects will meet these criteria.[640] Generally, it is an offence for a person to carry out, or cause to be carried out, any development for which development consent is required.[641] Therefore, developers desirous of constructing or expanding offshore generating stations are now required to apply for development consent under this Act. For this purpose, the Act creates a body corporate, the Infrastructure Planning Commission (IPC),[642] and vests it with power to examine and determine applications for development consent for NSIPs. Though the IPC must discharge these responsibilities on behalf of the Crown, it is not to be regarded as a servant or agent of the same, nor does it enjoy any status, immunity or privilege of the

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[632] See, Michael Pitt, "Infrastructure Planning Commission: Fairer, Faster and more transparent decision-making for national infrastructure in England and Wales" (Paper presented to the Offshore Wind 2009 Conference, 25 June 2009) [unpublished], [Pitt, "Infrastructure Planning Commission"].
[633] Planning Act, *supra* note 632 at s. 31.
[634] *Ibid.* at s. 14(1)(a).
[635] *Ibid.* at s. 15(3)(b).
[636] *Ibid.* at s. 15(4)(a).
[637] *Ibid.* at s. 15(4)(b).
[638] See generally, The Crown Estate, *Round 3 Map*, online: The Crown Estate <http://www.thecrownestate.co.uk>.
[639] See generally, The Crown Estate, *Round 3 Developers*, online: The Crown Estate <http://www.thecrownestate.co.uk>.
[640] See also, Tim Norman, "The Crown Estate: Planning and Consenting Issues for Marine Renewables" (paper presented to the Offshore Wind 2009 Conference, 24 June 2009) [unpublished].
[641] Planning Act, *supra* note 632 at s. 160.
[642] *Ibid.* at s. 1.

same.[643] Consent for development will be given in the form of an order[644] which generally imposes requirements in connection with the development for which the consent is granted.[645] As well, once obtained, development consent under the Act replaces the requirement for development consent under other regimes. Thus, in relation to offshore wind projects, development consent under section 36 and 37 of the *Electricity Act 1989* is no longer required,[646] nor is planning permission under the *Town and Country Planning Act 1990* required.[647] Additionally, an order granting development may include provision deeming consent to have been given under section 34 of the *CPA*.[648] The order may also include provision deeming a licence to have been given under Part 2 of the *FEPA* to have been given.[649] Consequently, by reducing the number of applications and permits that were once required for offshore wind projects under the Round 1 and 2 regimes and shifting the decision-making power from a variety of local authorities to a central national authority, the Act has successfully created a new system of development consent which is consistent, simple, streamlined and integrated.

In making a determination on the applications received, the IPC will have due regard to National Policy Statements (NPSs) where these are in force. In relation to energy, the Secretary of State for Energy and Climate Change is given authority to designate a statement as a National Policy Statement.[650] This new feature, "…forces governments to think ahead [and set] out clearly, in black and white, what the national

[643] *Ibid.* at sch. 1, s. 21
[644] *Ibid.* at s. 37 and 114.
[645] *Ibid.* at s.120.
[646] *Ibid.* at s. 33(1)(h).
[647] *Ibid.* at s. 33(1)(a).
[648] *Ibid.* at s. 148.
[649] *Ibid.* at s. 149.
[650] *Ibid.* at s. 5(1).

priorities are."[651] Notably, NPSs can only be designated where the Secretary of State has carried out an appraisal of the sustainability of the policy set out in the statement;[652] where there has been a public consultation;[653] and parliamentary requirements have been met[654]. These requirements advance the theme of integration and transparency which permeates the Act. The Secretary of State has a very wide discretion to determine the content of the policy. Specifically, he or she may decide to:[655]

> (a) set out, in relation to a specified description of development, the amount, type or size of development of that description which is appropriate nationally or for a specified area;
> (b) set out criteria to be applied in deciding whether a location is suitable (or potentially suitable) for a specified description of development;
> (c) set out the relative weight to be given to specified criteria;
> (d) identify one or more locations as suitable (or potentially suitable) or unsuitable for a specified description of development;
> (e) identify one or more statutory undertakers as appropriate persons to carry out a specified description of development;
> (f) set out circumstances in which it is appropriate for a specified type of action to be taken to mitigate the impact of a specified description of development.

It is noteworthy that where a NPS is designated, it must detail the reasons for the policy contained in it.[656] In particular, the reasons must include an explanation of how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change.[657] If that were not clear enough, section 10 of the Act makes it mandatory for the Secretary of State to designate NPSs with the objective of achieving sustainable development and having regard to the desirability of

[651] See, Pitt, "Infrastructure Planning Commission", *supra* note 634.
[652] Planning Act, *supra* note 632 at s. 5(3).
[653] *Ibid.* at s. 5(4).
[654] *Ibid.*
[655] *Ibid.* at s. 5(5).
[656] *Ibid.* at s. 5(7).
[657] *Ibid.* at s. 5(8).

mitigating and adapting to climate change and achieving good design.[658] Essentially, once formulated, NPSs set the framework for decision-making by the IPC.[659] This means, therefore, that the objective of focusing development on progress towards sustainability and mitigation of climate change is indirectly transferred to the decision-makers. While the focus on sustainability would generally find favour with Gibson et al.'s assessment criteria, it has been argued that "… the need to mitigate climate change implies a predisposition to decisions in favour of offshore wind."[660] While this possibility is not disputed, it should be noted that the Act establishes a right to judicially review a national policy statement or anything done, or omitted to be done, by the Secretary of State in the course of preparing the statement.[661]

Another novel improvement in the Round 3 consents regime is that it places structured consultation duties on applicants that must be performed before submitting applications to the IPC. These are, indeed, novel improvements, as Round 1 and Round 2 developers were only encouraged to consult with local authorities and communities in their own interests. Under section 42 of the *Planning Act*, there is a duty to consult specified local authorities about the proposed application.[662] Additionally, there is a wider

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[658] *Ibid.* at s. 10.

[659] Note however, that where the Secretary of State has not designated or has revoked a NSP, he or she will be responsible for determining an application for development consent. In such a situation, the IPC will still have the duty of examining the application but can only make recommendations to the Secretary of State as to the decision to be made on the application. *Ibid.* at s. 74.

[660] See, Howsam, "Legal Framework for Offshore Wind Farms", *supra* note 417 at 4696 ¶ 3.2.1.

[661] Planning Act, *supra* note 632 at s. 13. The substantive decision may also be subject to judicial review. See, s. 118.

[662] See, U.K., H.L. *Parliamentary Debates,* vol. 704, col. 871 (16 October 2008) (Baroness Andrews) at col. 869, online: UK Parliament <http://www.publications.parliament.uk/pa/ld200708/ldhansrd/text/81016-0008.htm> [Baroness Andrews]. According to Baroness Andrews, "local authorities can give detailed guidance on how to undertake local consultation, in light of the proposals and of the nature of the local community. That could include which bodies and groups should be referred to and what timescales are appropriate and so on."

and more onerous duty placed on applicants to consult local communities.[663] Specifically, before consulting local communities on the proposed application, the applicant is required to prepare a statement setting our how the applicant proposes to conduct the consultation.[664] Thereafter, the applicant is required to publish the statement in a newspaper circulating in the vicinity and in such other manner as may be prescribed.[665] At this point, the applicant is bound to carry out the consultation in accordance with the proposals set out in the statement.[666] While these duties frontload the planning process onto the applicants, they are considered "… crucial to the success of the planning process."[667] However, concerns have been raised about the effectiveness of the consultation process. For one, nowhere in the Act is the word "consultation" defined. Therefore, the consultation process may be subject to an applicant's interpretation which could lead to different approaches by different developers and, subsequently challenges to the process.[668] Also, regarding the duty to consult local communities, no where in the section is there a stated minimum time frame for consultation. Again, this could pose similar difficulties to the consenting process as experienced in Round 1 and Round 2. Possibly, however, the run-up to the Act provides conceptual answers to these potential difficulties. In 2007, the Government published *Planning for a Sustainable Future: White Paper*[669] in which it set out a wide-ranging package of reforms for the planning system. It was advocated that there be "full and fair opportunities for public consultation and

[663] Planning Act, *supra* note 532 at s. 47.
[664] *Ibid.* at s. 47(1)
[665] *Ibid.* at s. 47(6)
[666] *Ibid.* at s. 47(7)
[667] Pitt, "Infrastructure Planning Commission", *supra* note 634.
[668] Howsam, "Legal Framework for Offshore Wind Farms", *supra* note 417 at 4696.
[669] Department for Communities and Local Government et al., *Planning for a Sustainable Future: White Paper* (London: The Stationary Office, 2007).

engagement."[670] Apart from recommending that the principles of 'early engagement and effective' consultation be preserved,[671] the recommendations never specifically defined what was meant by 'full and fair opportunities for public consultation and engagement'. For what it is worth however, it was envisioned that the duty to consult would be "… the means of ensuring high standards of engagement."[672] According to one author, "[a] fundamental aspect of the new regime is the over-arching role of the IPC both in providing guidance on consultation and in vetting each applicant's approach to it." [673] In other words, the commission would need to satisfy itself that such consultation had been properly carried out. Baroness Andrews seems to have cleared the uncertainty best: "[the IPC] must be satisfied that this consultation has been conducted properly, impartially, fully and inclusively…"[674] In any event, when the consultations are completed, there is an added duty placed on applicants to take account of the responses to the consultation and the publicity.[675]

By purposeful design, the IPC was created as a body corporate, independent of the Government of the day. Rounds 1 and 2 demonstrate that a decision-makers' independence from governmental influence is crucial to an impartial decision-making process. By way of example, it was regarded as unusual for the Secretary of State for Transport to set the policy for highways, make the applications for road improvements and, thereafter, decide whether or not the highway would be approved and consented

[670] *Ibid.* at 20 ¶ 1.42.
[671] *Ibid.* at 20 ¶ 1.43.
[672] *Ibid.* at 20 ¶ 1.43.
[673] See, Paul Thompson, "Consultation and the Authorization of Major Infrastructure Projects" (2009) 2 Journal of Planning and Environment Law 174 at 187.
[674] Baroness Andrews, *supra* note 664.
[675] Planning Act, *supra* note 632 at s. 49.

to.[676] Such processes inevitably confuse objectors as there is no identifiable separation of powers.[677] The situation was slightly different in relation to offshore wind farms. The Secretary of State for Trade and Industry performed all the afore-mentioned functions except regarding the application process. As has been demonstrated by Rounds 1 and 2, the State has increasingly exerted its commitment to offshore wind energy development in the consenting process by trumping objectors. In essence, the system was not transparent. What the Planning Act sought to do was to introduce the IPC as an independent body so as to restore transparency and accountability.[678] As well, the purpose of the IPC was to "… champion the rights of objectors and local authorities and other organizations."[679] Unfortunately, these welcome contributions to the consenting process are fast approaching abolishment. One of the major criticisms of the IPC was that it failed to make any decisions on NSIPs over its two years of operation and exhausted a budget of £16 million.[680] Having failed to approve any projects, the IPC in turn failed to deliver on its promise of a fast-track consenting system for major infrastructure developments. Consequently, the IPC is set to be abolished, and its decision-making powers would revert to the Secretary of State. The IPC's successor is described as "…a new rapid and accountable system where Ministers, not unelected commissioners, will take decisions on new infrastructure projects critical to the country's future economic growth."[681]

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[676] Pitt, "Infrastructure Planning Commission", *supra* note 634.
[677] *Ibid.*
[678] *Ibid.*
[679] *Ibid.*
[680] See, Tim Shipman, "Labour planning quango which spent £16 million of public money and achieved nothing is abolished" *Daily Mail* (30 June 2010), online: <http://www.dailymail.co.uk>.
[681] See, Communities and Local Government, "Planning Quango Closes" (29 June 2010), online: Communities and Local Government <http://www.communities.gov.uk>. Note however, that the IPC will

5.5.2 The Marine and Coastal Access Act 2009

The *Marine and Coastal Access Act 2009* received Royal Assent on 12th January 2009. Similar to the Planning Act, it also created a new system of decision-making for Round 3 consent applications. However, the jurisdiction of the MCAA is not as wide as the *Planning Act* which permits a range of NSIPs both onshore and offshore. As the title suggests, the MCAA's jurisdiction is limited to the management, control and regulation of the uses in the UK marine area. The "UK marine area" encompasses the area of sea within the seaward limits of the territorial sea, any area of sea within the limits of the EEZ, the area of sea within the limits of the UK sector of the continental shelf, and includes the bed and subsoil of the sea within those areas.[682] For the purposes of the Act "sea" includes any area submerged at the mean high water spring tide, and the waters of every estuary, river or channel, so far as the tide flows at the mean high water spring tide.[683]

Part 1, Chapter 1 of the Act establishes a body corporate[684] known as the Marine Management Organization (MMO). The MMO is charged to manage the UK marine area on behalf of the Crown, but is not to be regarded as a servant or agent of the same nor does it enjoy any status, immunity or privilege of the same.[685] It is the general objective and duty of the MMO to ensure that MMO functions are so exercised, that the carrying on of activities by persons in the MMO's area is managed, controlled or regulated with the objective of making a contribution to the achievement of sustainable development,

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continue to consider and determine applications until primary legislation is passed to secure its abolishment.
[682] MCAA, *supra* note 633 at s. 42(1).
[683] *Ibid.* at s. 42(3).
[684] *Ibid.* at sch. 1, s. 1.
[685] *Ibid.*

taking into account all relevant facts, and in a manner which is consistent and coordinated.[686]

The Act prohibits any individual from carrying on a licensable marine activity, or causing or permitting any other person to carry on such activity except in accordance with a marine licence granted by the MMO.[687] It necessarily follows that it is an offence for any person to engage in a licensable activity without the requisite licence.[688] The licensable marine activities captured by the Act are listed in Section 66 and are those that were previously under the purview of Part II of the *Food and Environment Protection Act* and Section 34 of the *Coast Protection Act*. Essentially, what Section 66 does is to modernize, streamline and simplify the consents process by consolidating into a single licensing decision consideration of environmental, human health and navigational safety factors.[689] Additionally, Chapter 2 of Part 1 of the Act transfers functions relating to sea fisheries, nature conservation, and the power to grant consents under section 36 of the Electricity Act, as well as functions relating to renewable energy installations, directly to the MMO. The transfer of these functions draws together into a single licensing decision consideration of the interests of other users of the sea. For present purposes, the transfer vests power in the MMO to grant consent for offshore renewable energy installations in the UK marine area that have a capacity less than 100 megawatts.[690] Furthermore, the MMO will assume responsibilities for assessing environmental impacts under the *Conservation (Natural Habitats, & c) Regulations 1994* and under the *Electricity Works*

[686] *Ibid.* at s. s. 2(1).
[687] *Ibid.* at s. 65.
[688] *Ibid.* at s. 85
[689] Department of Environment Food and Rural Affairs, *Consultation on secondary legislation for England and Wales under the Marine and Coastal Access Bill: Part 4 Marine Licensing* (London: DEFRA, 2009) at 8.
[690] Note that any generating stations with a capacity over 100megawatte fall under the jurisdiction of the IPC.

(Environmental Impact Assessment) (England and Wales) Regulations 2000.[691] In sum, by reducing the number of applications and permits that were once required for offshore wind projects under the Round 1 and 2 regimes, and shifting the decision-making power from a variety of local authorities to a central national authority, the Act has created a new system of development consent which is consistent, simple, streamlined and integrated.

Part 3 of the Act introduces a new marine planning system, which establishes a proactive marine management system. Similar to the *Planning Act*, Chapter 1 of Part 3 of the MCAA establishes the first stage in the marine planning process. The section makes provision for the preparation of a Marine Policy Statement (MPS) which articulates Government goals, objectives, policies and priorities for the sustainable development of the UK marine area. The MPS may also consolidate all UK policies that impact the marine environment and its resources.[692] Unlike the Planning Act, the preparation of an MPS is not discretionary. It therefore forces the Government of the day to proactively plan its national priorities for contributing to the achievement of sustainable development of the seas. The MCCA outlines specific requirements that must be met before an MPS may be laid before parliament for passing. Generally, a Statement of Public Participation must accompany the MPS; a sustainability appraisal must be effected; and a consultation

[691] The marine license will also replace requirements under the *Marine Works (Environmental Impact Assessment) Regulations 2007*, S.I. 2007/1518; the *Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) Regulations 2007,* S.I. 2007/1067; and remove the need for separate approval under the *Electronic Communications Code (Conditions and Restrictions) Regulations 2003*, S.I. 2003/2553 for cable in tidal waters.

[692] MCAA, *supra* note 633 at s. 44(2) and (3). Traditionally, marine policy has been developed sector by sector. As with the culture of fragmentation onshore, fragmented policies obscure the regime by making it difficult for decision-makers and users of the sea to locate the defining marine policies. In this respect, MSPs present an opportunity for consolidating the various policies to better facilitate the delivery of integrated outcomes. Licensing decisions are the principal means by which policies in marine planning areas are given real effect and therefore represent the most significant means through which policy objectives for that area can be achieved.

draft of the MPS must also be prepared and publicized.[693] The preparation of MPSs in England is the responsibility of the Secretary of State for Environment, Food and Rural Affairs.[694] In sum, MPSs will "…create the framework for consistent and evidence based decision making offering certainty about government policy intentions."[695]

The second stage of the marine planning process is the preparation of a series of Marine Plans by the MMO.[696] The marine plan is created to document all the uses of ocean space and the resources of the area to which it applies. Further, marine plans seek to outline how the policies and objectives contained in the MPS should be applied to the marine plan area. The preparation of the marine plan is subject to similar requirements as the MPS.[697] Once both documents are completed, the MMO and other relevant licensing authorities become duty-bound to further authorization or enforcement decisions in accordance with the relevant marine plans and policy statements, unless relevant considerations indicate otherwise.[698] The duty to pursue the objectives of the MPS and marine plans also apply to any decisions which relate to the exercise of any function that could affect the whole or any part of the UK marine area but which is not an authorization or enforcement decision.[699] Similar to the Planning Act regime, sections 62 and 63 of the MCAA establish means by which a person aggrieved by an MPS or marine plan may challenge its validity.

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[693] *Ibid*. at sch. 5.
[694] On 21st July 2010, the UK began the consultation process to formulate the Marine Policy Statement in accordance with the MCAA. The process is expected to be completed on 13th October 2010. See, HM Government, *UK Marine Policy Statement: A draft for consultation* (London: The Stationary Office, 2010).
[695] See, Marine Management Organization, *Marine Planning: The Marine Policy Statement*, online: Marine Management Organization: <http://www.marinemanagement.org.uk/marineplanning/index.htm>.
[696] To date, the MMO has only been charged with the duty to prepare marine plans for England but not for the other devolved administrations of the United Kingdom.
[697] MCAA, *supra* note 633 at sch. 6.
[698] *Ibid.* at s. 58. Note that subsection 2 of this section provides that if a public authority takes an authorization or enforcement decision otherwise than in accordance with the appropriate marine policy documents, the public authority must state its reasons.
[699] *Ibid*. at s. 58(3).

Lastly, in determining an application for a marine licence for offshore wind farms, the MMO must have regard to the need to protect the environment, human health, and the need to prevent interference with legitimate uses of the sea.[700] This is a clear duty to consider all the factors relevant to projects simultaneously, enabling a decision to be made about the project as a whole, but more specifically, about a project's contribution to progress towards sustainability.

5.5.3 Marine Planning

In very basic terms, marine planning is planning for the different uses of spaces in the ocean. The practice of planning how ocean spaces are used has been slowly emerging in ocean governance regimes around the world and is often referred to as marine spatial planning (MSP). Chapter 2 outlined how growing pressures on the marine environment have created increased potential for user conflict, and how these pressures and conflicts, along with climate change, are negatively impacting the long-term viability of the oceans. It was also noted that these concerns highlight the need to revise and improve the current uncoordinated practices respecting management, control and regulation of the uses of ocean spaces.[701] Against this backdrop, marine spatial planning has emerged as an important means for securing coordinated approach to the allocation of marine spaces.[702] More definitively, marine spatial planning refers to

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[700] *Ibid*. at s. 69.

[701] See, Charles N. Ehler & Fanny Douvere, *Marine Spatial Planning: A Step-by-Step Approach toward Ecosystem-based Management* (Paris: UNESCO, 2009) at 18 [Ehler et al., "Marine Spatial Planning", *supra* note 703]. In this respect, it was noted that when attempting to resolve conflicts between users and users and conflicts between users and the environment, the only thing that regulators can do is to 'plan and manage human activities in the marine areas, not marine ecosystems or components of ecosystems.'

[702] See generally, Oran R. Young et al., "Solving the Crisis in the Ocean Governance: Place-based Management of Marine Ecosystems" (2007) 49(4) Environment 20 [Young et al, "Solving the Crisis in Ocean Governance"].

> …a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve, economic, ecological and social objectives that are usually specified through a political process.[703]

The objective of marine spatial planning is to create an integrated place-based or area-based plan in the marine environment to inform how ocean zoning maps[704] are to be constructed and implemented.[705] In turn, the zoning maps and marine spatial plans lend guidance to individual permit decisions made within individual sectors.[706] Implicitly, therefore, MSP does not replace current practices of single sector management; there is still single sector management, authorities, plans and policies for fisheries, energy, tourism, transportation, etc. In relation to the MCCA, the regime integrates sectoral consenting processes by transferring a number of marine management functions to the MMO.[707] Instead, MSP identifies key challenges within a marine planning area and determines priorities within that area by reducing conflicts through the redistribution of uses, or reducing conflicts through the amalgamation of compatibilities.[708] Simply, 'priorities' refer to the development objectives (sustainable development, precaution, integration, polluter-pays, etc.,) set for the marine planning area. Therefore, through the process of identifying key challenges and setting priorities in a marine planning area, MSP is able to "…provide guidance for a range of decision-makers responsible for

[703] See, Ehler et al., "Marine Spatial Planning", *supra* note 703 at 18.
[704] Though it may seem that marine spatial planning performs the same function of ocean zoning, they are not same. The major difference is that zoning is based on an incremental approach to planning that allocates uses of the ocean without having regard to other uses and nature, while MSP allocates uses through an integrated approach to planning which focuses on the human uses of marine spaces.
[705] See, Ehler et al., "Marine Spatial Planning", *supra* note 703 at 22.
[706] *Ibid.*
[707] The impact of marine spatial planning on MCAA decision-making process is that the MMO must make decisions in accordance with the relevant marine plans and policy statements.
[708] By way of further explanation, a spatial planning process increases management's focus on "places." Therefore, there is a direct improvement in the recognition of natural systems used to delineate their relationships to human uses.

particular sectors, activities or concerns, so that they will have the means to make decisions confidently in a more comprehensive, integrated and complementary way."[709] In other words, the benefit of MSP to sectoral consenting processes is that when an application is made for a particular activity or conservation initiative, agreed marine spatial plans have already allocated spaces for them wherein their impacts on other human uses and nature have already been identified and assessed. This makes it possible for the permitting process to be accelerated while still producing comprehensive outcomes that address all user interests.[710] Rounds 1 and 2 have shown that without an integrated framework, there are problems with identifying existing the conflicts and the equitable management and resolution of those conflicts. As well, because MSP focuses on human uses of the marine spaces, the process of planning and redistribution of uses in marine planning areas pays explicit attention to trade-off/cost and benefit issues before the decision-making stage is reached. This underscores a key feature of MSP: it facilitates proactive management over reactive management. Together, attention to trade-offs and forward-looking planning are aspects of democratic governance consistent with Gibson et al.'s criteria of sustainability. Also, the process of redistributing uses ensures that decisions taken to allow developments seek to permit those decisions in a manner that incorporates all eight of Gibson et al.'s core principles for progress towards sustainability. Further, by creating marine spatial plans with the aim to identify areas of ecological importance as a basis of planning, decision-makers will consider those areas as

[709] See, Ehler et al., "Marine Spatial Planning", *supra* note 703 at 22. See also, Young et al, "Solving the Crisis in Ocean Governance", *supra* note 704 at 22 where it is noted that: "[b]y focusing on the distinctive features of individual places, tailoring management and regimes to regional circumstances, and encouraging adaptive management and social learning, place-based management of marine ecosystems offers a constructive means for dealing with uncertainties associated with complex, heterogeneous and dynamic systems."

[710] In this regard, MSP would find special favour with industry developers, such as the BWEA, who have always been concerned about the lengthy process in which permits have been issued.

high priority for conservation during the decision making process and, will produce decisions that seek to maintain the natural capital at or near current levels in those areas.[711] Therefore, in this way biodiversity objectives are incorporated into planned decision-making.[712] For Gibson et al.'s criteria, this is desirable.

In addition, consistent with Gibson's criteria, MSP helps decision-makers to avoid rendering decisions that convert ocean space uses from less intensive to more intensive varieties. While MSP as a sea use management tool does not restrict increase in ocean uses per se, the creation of plans in particular areas guide what level of development may be permissible, i.e., what intensities a particular marine planning area can sustain.

The consensus in the literature is that the area-based, integrated, strategic, anticipatory, participatory and adaptive characteristics of MSP enable governments to convert their commitments to sustainable development and other policy goals and objectives into action. To secure movement towards achieving stated goals and objectives, MSP was not designed to create a one-time plan for the management of a marine planning area. Instead, MSP's adaptive feature requires that it be updated periodically to reflect developments in science and technology. In this regard, the MCAA makes provision for marine policy statements[713] and marine plans[714] to be kept under review.

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[711] However, it is to be noted that marine spatial planning is not conservation planning per se. In the process of creating a marine spatial plan, a network of protected areas might indeed be one of the outcomes. Principally, these networks seek to balance economic development and environmental conservation, and not focus on only the goals of conservation or protection. "MSP therefore reaches beyond managing and protecting the environment. Its main objective is to allocate marine space in a rational manner and thus arbitrate between different sectoral and user interests." See, Schäfer, "Maritime Spatial Planning", *supra* note 402 at 95 ¶ 5.2.2.

[712] See, Ehler et al., "Marine Spatial Planning", *supra* note 703 at 21.

[713] MCAA, *supra* note 633 at s. 45.

[714] *Ibid.* at s. 54.

5.6 The New Regime at a Glance

The emerging characteristics of the marine planning and consents regime established under the *Planning Act 2008*, and the MCCA, represent a more strategic and streamlined approach to marine management. One of the key characteristics is the adoption of a more structured approach to consultations wherein better engagement of non-State actors can be achieved. Together, these characteristics denote a clear departure from Round 1 and Round 2 consenting processes, which lacked much needed gains on the principle of democratic governance. A brief assessment according to new governance thinking confirms the same. First, both Acts have effectively displaced the location of power under the political dimension of Howlett's framework. Both Acts have removed from the State the legal power to make binding decisions on consent applications, and have vested it in central body corporates that were created to be independent of the Government. In relation to the *Planning Act*, legal power was transferred to the Infrastructure Planning Commission, while the MCAA transferred legal power to the MMO. The purposeful vesting of power in independent establishments serves to insulate the new decision-makers from the pressures of industry, thereby weakening industry's influence over the process. There is now one identifiable actor under both Acts. It is important to note however, that a proper consideration of the realities of the regime in practice may blur the conclusion that the newly established body corporates are actually independent. So by way of example, the cozy relations between the MMO and the Secretary of State do not make the MMO as independent as the analysis concludes. By sections 14 and 15 of the MCAA, the Chief Executive of the MMO is appointed by the Secretary of State, as ell as the Scientific Adviser. Additionally, the membership of the

MMO are to be not fewer than 5, nor more than 8 other persons who are to be appointed by the Secretary of State[715] and serve a term not more than 5 years[716]. Though the MMO is to be funded by the Government, it is authorized by section 33 to borrow money from the Secretary of State or from private sources as it may require for meeting its obligations and carrying out its functions. However, the MMO may only borrow from private sources if the Secretary of State consents. In practice, these realities have the potential to reflect government commitment to promote wind energy development in the consents process. Interpretatively, this means that there is also a great possibility of strong industry influence in the consents process. In other words, the process of assessment of eligibility of projects may likely continue to experience a balance of influence that may still favour those with the stronger leverage. Again, it is to be recalled at this time, that each government, through the Marine Policy Statements, prioritizes its goals for sustainable development; a concept that is economic-development oriented as it is environmental and resources protection and conservation-minded. On the other hand, it is submitted here that the structure of the Act which centralizes, essentially, the overall use of the marine area under the MMO gives the organization tremendous power. Ironically, the MMO is also authorized to enter into agreement with other agencies, including private agencies, to have them carry out its mandates as set out in the Marine Policy Statements and Marine Plan. A conclusion inclusive of practical realities would state that the MMO's power is very huge but also potentially unwieldy.

Meanwhile, the institutional and regulatory dimensions have experienced little change. Institutionally, the IPC and MMO are established by Acts of Parliament. Thus,

[715] *Ibid*. at sch. 1, s. 3.
[716] *Ibid*. at sch. 2, s. 7.

the institutional structures are still enmeshed with the formal establishment. However, the onerous and structured duties under the Planning Act seek to diversify the institutions that have the capacity to influence outcomes, by empowering a range of non-state actors to have some leverage under the exercise of its institutional jurisdiction. Even so, the regulatory dimension is still characterized by top-down hierarchical control through laws and regulations, except that the diversity in the regime comes via are the duties to consult at many points of the consents process.

The question whether these new arrangements have produced outcomes sufficient to satisfy Gibson et al.'s criteria cannot be dealt with at present. This is because the regimes are fairly new and have not yet subjected offshore wind applications to their processes. However, given the clear mandate to achieve sustainable development articulated under both legislations and so long as the implementation of the regime operates as it should, it is doubtful that future licensing decisions will fail Gibson et al.'s criteria. This conclusion is informed as it is speculative. Indeed, more so given that the implementation of these two Acts must necessarily pitch two central authority-wielding body corporates against each other in some way, a specter which is also duplicative of their functions in this issue area.

The following table summarizes the evolution of the consents regime over the three Rounds of offshore wind deployments and their contributions towards sustainability.

		Round 1	Round 2	Round 3
Political Dimension	New Governance Assessment	Power to make legally binding decisions concentrated in the hands of the State, the exercise of which was influence by BWEA.	Same as Round 1	Power to make legally binding decisions shifted to Independent Body Corporates: the IPC and MMO respectively.
	Contribution to Sustainability	Negative Contribution	Negative Contribution	Positive Contribution
Institutional Dimension	New Governance Assessment	• Formal institutions have the capacity to influence outcomes. • Informal institutions are the weaker parties and most affected by development.	Same as Round 1	The introduction of duties to consult strengthen the leverage of informally established institutions.
	Contribution to Sustainability	Negative Contribution	Negative Contribution	Positive Contribution
Regulatory Dimension	New Governance Assessment	Binding and Fragmented	Same as Round 1	Binding and Integrated
	Contribution to Sustainability	Negative Contribution	Negative Contribution	Positive Contribution

Table 1 – Summary of Findings and their Contribution towards Sustainability

5.7 Conclusion

Freedom-Kai Phillips has noted in reference to European Union countries that the United Kingdom "…is clearly ahead of most in terms of legislation pertaining to renewable energy broadly and ocean-based renewables particularly."[717] In relation to the advancements in the consents process, this chapter has reflected the truth of this assertion. The chapter began with an assessment of the first consents regime used to deploy offshore wind farms in the UK. It was found that the regime failed to produce sustainable outcomes. The assessment of the Round 2 regime came to a similar conclusion. The chapter ended with a review of the new consenting regimes under the Planning Act 2008 and the Marine and Coastal Act 2009. The assessment demonstrated that the new regimes remedied the weaknesses of the Round 1 and Round 2 regimes. Therefore, the Round 3 model of governance is best placed to produce sustainable decision outcomes for ocean-based energy developments.

Overall, what this Chapter demonstrates, is that there is something to be had, something very core, in plurilateral governance arrangements for regulating marine renewables. Rounds 1 and 2 failed Gibson et al.'s criteria for progress towards sustainability largely because the regimes conformed to the tradition of hierarchical governance. The Round 3 model of governance, by design and effect, shifts away from governance arrangements that conform to the tradition of hierarchical control. Among other things, it incorporates participatory decision-making. This plurilateral arrangement, finds favour with New Governance scholars who argue that the social trait of non-state actors would influence more effective rules and solutions to social problems

[717] See, Phillips, "Ocean Renewable Energy", *supra* note 36.

CHAPTER 6

Adopting Lessons from the United Kingdom's Approach to Offshore Wind to the Development of an Effective Governance Arrangement for Renewable Ocean Resources in the Organisation of Eastern Caribbean States

6.1 Chapter Overview

This Chapter seeks to apply the governance lessons learnt from the UK's many attempts to regulate offshore wind to the development of an effective governance arrangement or offshore renewables in the OECS. The Chapter begins by outlining the energy supply and consumption context in the OECS region. Thereafter, the Chapter describes the energy strategy and legal requirements of the region. The remaining sections are dedicated to justifying the transposition of lessons from the UK case study through a new governance assessment of marine development practices in the region. The findings of the assessment are then discussed in relation to their similarities and differences to the UK experience. The chapter ends with a discussion of lessons policy-makers in the OECS could adopt in attempting to formulate a governance framework for the regulation of marine renewables in the OECS.

6.2 The Energy Supply and Consumption Context in the Organisation of Eastern Caribbean States

Like the case of many other Small Island Developing States (SIDS) around the world, the Caribbean energy story, particularly that of the OECS region, is one that must

begin with a description that is testament to its high-dependence on imported fossil fuels.[718] This dependence is directly linked to the lack of oil, natural gas and coal resources in the region.[719] Statistically, the 'high-dependence' situation means that more than 90% of power supply in the region is dependent on imported fossil fuels.[720] Unsurprisingly, the region remains the most import dependant globally where petroleum is concerned.[721] The grim consequences of chronic dependence on imported energy in the OECS countries, is reflected in the fact that some governments have had to spend as much as half of their export revenues on imported fossil fuels.[722] For the most part, such expenditure is necessary to supply energy for efficient business operations, particularly, in the tourism industry which has become the economic mainstay for many Caribbean countries.[723] On the other hand, meeting modern energy standards through oil import has diverted much financial resources away from progress on health, education and other

[718] See, Donald Hertzmark, *OECS Energy Issues and Options* (Washington, D.C.: The World Bank, 2006) at 4 ¶ 10.

[719] Note however that the same is not true of at least one island in the Caribbean, Trinidad and Tobago. Trinidad and Tobago has been blessed with abundant sources of oil and gas, which have earmarked it as a major fossil fuel suppler in the region. In recent years, there have been negotiations to establish a political and economic union between the OECS and the Republic of Trinidad and Tobago. The establishment of a common regime for the procurement of fossil fuels for energy production and transportation was a key aspect of the proposed OECS economic union which Trinidad had agreed to join by 2011. See, OECS, *Organisation of the Eastern Caribbean States: Draft of the New Treaty*, at 49 ¶ 28.2(a), online: Organisation of Eastern Caribbean States <http://www.oecs.org>. However, the new administration in Trinidad and Tobago of 24 May 2010 has decided not to go ahead with the proposed union. See, VonDez Phipps, "OECS union to be formed with or without TT" *Saint Kitts-Nevis Online News Paper* (28 June, 2010), online: Saint-Kitts Nevis Online Newspaper <http://www.sknvibes.com>.

[720] Angelika Wasielke, *Energy-policy Framework Conditions for Electricity Markets and Renewable Energies: 23 Country Analyses* (Eschborn, Germany: Deutsche Gesellschaft für, 2007) at 2, [Wasielke, "Energy-policy Framework"].

[721] See, Williams, "A Strategic Regional Approach", *supra* note 31.

[722] See, Wasielke, "Energy-policy Framework", *supra* note 722 at 2. The same is true for most small island developing states: oil imports consume the largest percentage of their gross national income and foreign exchange earnings. See, Frank C. Shaw, "Renewable Energy Essential for the Well-Being of Small Island Developing States, Commission on Sustainable Development Told" (2009) 7 Industry Journal 30 at 30 [Shaw, "Renewable Energy"].

[723] See, Glenn J. Berger & J. Alexander Cooke, "Procuring Cost-Effective and Climate-Friendly Electrical Generation in the Caribbean: A Primer" (2009) 7 Industry Journal 14 at 14, [Berger et al., "Climate-Friendly Electrical Generation"].

developmental agendas.[724] An added burden of import dependence is the risk of supply disruptions and the inability to escape volatile fossil fuel prices[725]. In 2008 Caribbean economies suffered several burdensome oil shocks as a direct consequence of their high dependence on oil imports. Economists in the region now argue that these economies "…will not be able to survive many more oil shocks similar to that experienced in 2008."[726] Additionally, for quite some time governments in the region have been raising concern over the negative environmental impact of current power generation practices.[727] Whether taken individually or collectively, these concerns have led to an increasing recognition that what the countries in the OECS need desperately is a lowered reliance on imported fossil fuels through the development of indigenous sources of energy.[728] As noted in Chapter 3, this need to develop indigenous sources of energy accords with current government policy around the world.[729] As such, countries around the world are in the ongoing process of developing their renewable and non-renewable sources of energy. However, for many Caribbean countries, particularly those in the OECS,

[724] In this regard, some OECS countries view energy independence as an important stepping stone for progress towards national development. See, Dr. Vaughn Lewis, "VINLEC's perspective on Sustainable Energy Opportunities in SVG" (slideshow presented to Caribbean Renewable Energy Forum, 15 October 2009) online: CREF <http://www.caribbeanenergyforum.com>. Specifically, it has been recognized that high energy prices stifle economic growth in the Caribbean region, especially in light of the trade policies where the region needs to maintain competitiveness in the production of goods and services. In this regard, renewable energy is viewed as a long-term solution. See, Maxine Nestor, "Energy Policy in the Caribbean" (2009) 1 CARICOM Energy 4 at 4 [Nestor, "Energy Policy in the Caribbean"].

[725] "During the past couple of years, Caribbean utilities have witnessed unprecedented volatility in commodity prices: The price for a barrel of crude oil soared over US$140 on June 16, 2008, plummeted soon after, and now is becoming more dear again, closing at approximately US$70 on June 15, 2009." See, Berger et al., "Climate-Friendly Electrical Generation", *supra* note 725 at 14. It has been estimated that each US$10 increase in crude oil prices, could negatively impact Caribbean economies by about 2%. See, Istaván Ponsot, "The Necessity of Cheaper and Safer Energy in the Caribbean" (2008) 5 Industry Journal 45 [Ponsot, "Cheaper and Safer Energy in the Caribbean"] .

[726] See, Nestor, "Energy Policy in the Caribbean", *supra* note 726 at 4

[727] Gerner, "Towards a Regional Caribbean Energy Market", *supra* note 33.

[728] Reducing the dependence on fossil fuels will have a direct effect on the balance of payments deficit in a country. It will also reduce the vulnerability of the energy system in light of the international geopolitical climate. See, David Ince, "The Use Regulation in Promoting the Development of Renewable Energy Technologies in the Caribbean" (2006) Industry Journal 13 at 14 [Ince, "The Use of Regulation"].

[729] Above at 51.

renewable energy is the only indigenous supply option. Potentially, the region can make use of wind power, solar energy, hydropower, biomass, and geothermal renewable energy technologies.[730] These supply options have been identified as realistic economic alternatives to fossil fuels in the region.[731] At present, the region has utilized wind power, hydropower, geothermal and solar energy technologies.[732] To date, of the nine Member States of the OECS only two Member States, Dominica and Saint Vincent and the Grenadines, have fed renewable energy into their electricity grid supply.[733] A 1999 study, *Renewable Energy in the Caribbean; Where we are; Where we should be,* found that the current amounts of electricity generated from these renewable sources are nowhere near the region's potential.[734] The fact that only two Member States have been able to feed renewable energy into their grid system supports the proposition that the 1999 finding is still a defining characteristic of the region's energy profile today.

Recently, governments, policy-makers, utilities, renewable energy developers and other stakeholders in the region have directed much of their attention towards the possibility of tapping into the Caribbean's ocean energy (wave, tidal, ocean thermal) potential.[735] Discussions have also raised the possibility of harnessing the renewable energy potential of the offshore trade winds in the region.[736] Where onshore wind is concerned, the Caribbean energy sector has long recognized the potential of their trade winds to offer competitive and reliable electricity in amounts significant enough to supply

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[730] Scheutzlich, "Existing and Future Opportunities" *supra* note 25.
[731] Ray Robinson, "Building A Sustainable Future: The Emera Experience" (slide show presented to the Caribbean Renewable Energy Forum, 15 October 2009) at 6, online: CREF <http://www.caribbeanenergyforum.com>.
[732] Scheutzlich, "Existing and Future Opportunities" *supra* note 25.
[733] See generally, Caribbean Information Platform on Renewable Energy, online: <http://cipore.org>.
[734] Caribbean Council for Science and Technology, "Renewable Energy In the Caribbean", *supra* note 26.
[735] Murphy, "Caribbean's Ocean Energy Potential", *supra* note 28.
[736] *Ibid.*

the needs of electrical utilities.[737] Like many other countries around the world, onshore wind development in the region faces significant challenges: accessibility, connectivity, land availability, environmental effects, etc.[738] It is no surprise therefore, that offshore wind has made its way on energy agendas in the region as it has in other jurisdictions. Other drivers for the integration of offshore energy into the Caribbean/OECS energy mix include: energy security, greenhouse gas emission reductions, job creation opportunities, and opportunities for saving foreign exchange.[739] Apart from the potential benefits to be derived from the utilization of wave, tidal, ocean thermal energy conversion and offshore wind energy, the use of these technologies have great potential to impact current ocean use and management practices.[740] Currently, the focus on renewable energy sources in the region has been on overcoming financing and other capacity challenges. However, if the objective of "…moving the ocean energy industry forward in the Caribbean"[741] is to be met, then in addition to recognizing ocean energy as a viable renewable energy resource and targeting funding support, industry developers and policy-makers argue that there needs to be a "review of pertinent policy and regulatory framework from an ocean energy perspective."[742] The remainder of Chapter 6 is dedicated to the latter cause.

6.3 Energy Strategy in the Organisation of Eastern Caribbean States

Chapter 2 of any Caribbean energy story must outline the pertinent policies and strategies for energy management and development in the region. At present, most

[737] See, Ponsot, "Cheaper and Safer Energy in the Caribbean", *supra* note 72. See also, Henk Hutting, "The Challenge of Converting the Caribbean's Significant Wind potential into a Cost-effective and Reliable Energy Source", (slide show presented to the Caribbean Renewable Energy Forum, 15 October 2009) online: CREF <http://www.caribbeanenergyforum.com> [Hutting "The Challenge"].
[738] Hutting, "The Challenge", *supra* note 739.
[739] Murphy, "Caribbean's Ocean Energy Potential", *supra* note 28.
[740] In relation to offshore wind see Chapter 4 above.
[741] Murphy, "Caribbean's Ocean Energy Potential", *supra* note 28.
[742] *Ibid.*

Caribbean countries do not have an established national energy policy, long-term energy strategy or energy action plan.[743] Many authors relate the occurrence of this trend to the practice of privatizing State-owned electrical utilities prevalent in most Caribbean countries.[744] Typically, privatization practices were "…motivated by budgetary pressures, the desire to attract private capital for expansion, and the need to improve operational efficiency."[745] Privatization meant that the responsibility for energy forecasting and policy shifted from the authority of the State to privately-owned utilities.[746] Beyond any doubt, policy-makers have noted that energy strategies, policies, legislation and regulation are critical tools through which governments are able to deliver alternative energy resources.[747] Without these, the accepted need to diversify energy sources will continue to assume the status of a gentleman's agreement.[748]

Noteworthy, the absence of energy strategies and policies on the national and regional levels has spawned identifiable characteristics, which further define the energy context in the OECS. So for instance, the lack of energy policies and strategies directly hampers private sector participation, which is a heralded and necessary framework condition for renewable energy investment and development.[749] This dynamic has created energy governance arrangements in the OECS with ill-defined rules on Independent Power Producers and ill-defined rules on support measures of government.[750]

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[743] See, Detlef Loy, "Energy Policy and Planning Approaches Throughout the Region" (slide show presented to the Caribbean Renewable Energy Forum 15 October 2009) online: CREF <http://www.caribbeanenergyforum.com>.
[744] Shaw, "Renewable Energy", *supra* note 724.
[745] *Ibid.*
[746] Loy, "Energy Policy", *supra* note 745. See also, Scheutzlich, "Existing and Future Opportunities", *supra* note 25.
[747] See, Nestor, "Energy Policy in the Caribbean", *supra* note 726 at 4.
[748] *Ibid.*
[749] Scheutzlich, "Existing and Future Opportunities", *supra* note 25.
[750] *Ibid.*

Consequently, therefore, with the exception of one OECS Member State, Dominica, there is a universal monopoly for electrical utilities in OECS countries.[751] Furthermore, the lack of regional energy policies and strategies prevents the development of arrangements that seek to export surplus renewable energy within and outside the OECS region.[752] The ramifications are significant. The absence of interconnections among islands and thus regional power markets, fail to improve the economics for renewable energy development and investment in an already small market.[753] In sum, these instruments, especially policies, must be implemented at the national and regional levels as they "…set the framework and establish realistic targets for increased exploitation and utilization of alternative energy sources."[754] The foregoing has given rise to the following recommendations:[755]

> Governments need to:
> - Formulate and Implement sustainable energy policies and action plans
> - Regain control over the energy sector
> - Reform and liberalize the energy sector

The dynamics outlined above are generally true for OECS countries. To remedy the policy deficit, World Bank specialists have urged OECS countries to pursue the establishment of a regional energy institution, the Eastern Caribbean Energy Planning and Regulation Authority.[756] In the interim, however, some OECS Member States have

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[751] *Ibid*
[752] *Ibid.*
[753] Gerner, "Towards a Regional Caribbean Energy Market", *supra* note 33.
[754] *Ibid.*
[755] Scheutzlich, "Existing and Future Opportunities", *supra* note 25.
[756] "OECS warned to prepare for high fuel prices again" *Caribbean 360* (23 March 2009), online: Caribbean 360 <http://www.caribbeanthreesixty.com >.

begun to formulate national energy policies. Presently, these policies are at various stages of drafting and completion.[757]

In sum, the growing consensus in the region has long been that "…significant policy and institutional changes are necessary if we are to derive the benefits of clean energy. Radical if not revolutionary changes must take place if we are to protect both our society and nature."[758]

6.4 Legal Requirements in the Organisation of Eastern Caribbean States

Chapter 3 of this study outlined some of the concerns that encourage shifts towards renewable energy generation practices. Chief among those concerns was the issue of climate change. It was also noted that the *United Nations Framework Convention on Climate Change* and its *Kyoto Protocol* were formulated to promote and effect urgent and massive reductions in carbon dioxide emissions to achieve climate stability. In this regard, specified parties (Annex I) to these treaties were legally bound to mitigate climate change by limiting anthropogenic emissions of greenhouse gases. Unlike the United Kingdom and other Annex I Parties, Member States of the OECS are not bound to effect emission reductions under the international climate change regime. It is therefore unsurprising that a perusal of the law books of Member States of the OECS would show that there is no legislation in force, or in draft, akin to the United Kingdom's *Climate Change Act 2008*.[759] That *Act* sets long-term, legally binding targets for the reduction of

[757] See generally, Caribbean Information Platform on Renewable Energy, online: <http://cipore.org>.
[758] See, Clarence Pilgrim, "Renewable Energy, CARICOM, and Fossil Fuels Part (2)" *Caribbean Net News* (23 August 2005), online: Caribbean Net News <http://www.caribbeannetnews.com/2005/08/23/energy.shtml>.
[759] Climate Change Act, *supra* note 333.

greenhouse gas emissions and by so doing, provides incentive through sanctions for utilities to explore and exploit renewable energy.

Unlike Annex I State Parties of the climate change regime, the members of the OECS produce extremely low levels of greenhouse gas emissions.[760] In context, this means that these states will suffer disproportionately from the damaging impacts of climate change.[761] As noted above, their geophysical sensitivities also make them most susceptible to climate change. It is against this backdrop that some writers have suggested that Caribbean States establish a regional emission reduction target.[762] To date, however, there are no established targets or attempts to establish the same.

6.5 Adopting Lessons from the United Kingdom's Approach to Regulating Offshore Wind to the Development an Effective Governance Arrangement for Renewable Ocean Resources in the Organisation of Eastern Caribbean States

Taken by itself, there can be no question that the concept of marine renewables is a sustainable initiative.[763] However, the question whether it is able to maintain this cloak of sustainability in practice arises for consideration. The answer to the question depends on the manner in which it is allowed to enter the marine environment. Chapter 5 reviewed the UK governance arrangements that have been employed to regulate offshore wind development. Through the application of the three-dimensional Howlett et al. analytical framework, and the application of Gibson et al.'s criteria for measuring sustainability,

[760] See, Dr. Graham Sem, *Vulnerability and Adaptation to Climate Change in Small Island Developing States* (Background paper for the Expert Meeting on Adaptation for Small Island Developing States, 7 February 2007) [unpublished] at 4 ¶ 2, online: United Nations Framework Convention on Climate Change <http://unfccc.int/files/adaptation/adverse_effects_and_response_measures_art_48/application/pdf/200702_sids_adaptation_bg.pdf>.
[761] *Ibid.*
[762] Ince, "The Use of Regulation", *supra* note 730 at 14.
[763] Hassan et al., "Offshore Wind Energy", *supra* note 346.

conclusions were made as to the effectiveness of each governance arrangement employed. Specifically, the exercise identified what modes of governance were ill suited for the purposes of regulating offshore wind and what combinations of governance arrangements proved effective, i.e., what combinations of governance arrangements made positive contributions towards sustainable development. Ultimately, Chapter 5 concluded that in light of the Gibson et al. criteria, the current regime under the UK *Planning Act 2008* and the MCCA holds the greatest potential for making positive contributions towards the sustainable development of the offshore wind industry. In other words, Chapter 5 concluded that the Round 3 model of governance arrangement was effective because it held the greatest potential for ranking high on the Gibson et al. criteria for sustainability.

In seeking to propose an effective governance arrangement for the regulation of renewable ocean resources in the OECS, the new governance framework is a good device for challenging policy-makers to think about what governance arrangement might possibly work in the OECS and what governance arrangements might not work. By challenging policy-makers to think about the local circumstances, it provides a rational basis for transposing lessons learnt in other regimes. This is important, as one of the most common pitfalls of comparative research is the fruitless exercise of comparing legal solutions in one jurisdiction to legal problems of another jurisdiction where the socio-cultural, political and economic contexts of those jurisdictions differ dramatically. In other words, are the political, institutional and regulatory contexts in the OECS sufficiently similar to justify transposing lessons from the UK offshore wind governance arrangements?

One way to begin answering this question is to look at the current governance arrangement for regulating renewable ocean resources in the OECS region and make a determination as to whether it bears similarities with the UK case study. However, as noted at the outset of this study, there is no governance arrangement in place for the regulation of these resources in the OECS. Additionally, there are no draft proposals, bills or policies that seek to regulate the same. This is unsurprising because thus far, there have been no projects in any of the OECS territories that seek to harness the power of renewable ocean resources. As noted earlier, harnessing the power of renewable ocean resources is a recent policy objective for the region.[764] Alternatively, however, policy-makers can justify transposition in the absence of issue-specific governance arrangements, from practices in related areas. Prima facie, it would appear from an examination of other governance practices that the political, institutional and regulatory contexts in the region are akin to the Round 1 and 2 experiences in the United Kingdom. Prima facie, therefore, this makes a strong case for justifying the transposition of governance lessons from the UK to the OECS region. Additionally, the similarity in governance arrangements is unsurprising as many of the OECS member states were once colonized by Britain, and have therefore, adopted many of their governance practices.[765]

By way of example, Chapter 5 demonstrated that during the Round 1 and Round 2 consents processes, the Government held the legal power to make decisions on consent applications. The decisions made favoured the development of the offshore wind industry over the maintenance of other natural capital for instance, because of the perceived benefit of offshore wind power and strong industry pressure for development. In the

[764] Above at 181 – 182.
[765] See generally, Rose-Marie Belle Antoine, *Commonwealth Caribbean Law and Legal Systems*, 2d ed. (London: Routledge-Cavendish Publishing, 2008).

OECS region the likelihood of such a situation recurring is great. The manner in which other projects in the region are being approved evidences the truth of this assertion. The following sections seek to highlight, by way of example, some existing marine projects in the region. Specifically, the section will make a detailed reference to the governance arrangements used to regulate the development of a dolphinarium industry in the Island of Anguilla, an Associate Member State of the OECS.

6.5.1 Case Study: The Governance Arrangements used to Regulate the Development of a Dolphinarium Industry in Anguilla

In 2001, the Government of Anguilla (GOA) gave developers permission to construct a dolphinarium at Meads Bay located in the west of the island. Primarily, the developers and the GOA intended that the facility "…provide high quality, educational, entertaining interactive experiences to its guests."[766] Moreover, the dolphinarium was also meant to serve as a "…substantial contributor to the tourist-based Anguilla economy."[767] In 2002, the Government of Anguilla published the *Anguilla Visitor Expenditure Survey*[768] which covered the period 24th February to 9th March. The survey sought to profile visitors to the country by referencing the purposes of their visit. The survey found that 6.3% of day visitors answering the survey indicated that Dolphin Fantaseas was the main purpose of their visit.[769] The survey also profiled visitors based on the activities they engaged in while on the island. The results were that 12% of stay-

[766] See, Applied Technology and Management, *Draft Environmental Impact Assessment: Construction of Dolphin Facility, Sandy Point Anguilla* (2007) at 3-5 ¶ 3.2.1, online: The Anguilla Weather Site <http://www.anguilla-weather.com/Dolphin%20Discovery%20EIS.pdf>.
[767] *Ibid.* at 2-9 ¶ 2.4.3.
[768] Government of Anguilla, *Anguilla Visitor Expenditure Survey February 2002* (Anguilla: Statistics Department, Ministry of Finance, July 2002), online: Government of Anguilla <http://www.gov.ai>.
[769] *Ibid.* at 5 ¶ 1.1.

over visitors engaged in activities offered by Dolphin Fantaseas.[770] The property on which the facility was built was later sold to a hotelier. As the maintenance of the facility depreciated, the water in the dolphinarium became polluted causing concern to spread throughout the island and internationally about the unhealthy conditions that the dolphins were now being subjected to. Initially, the decision was made to relocate the dolphins to Road Bay, Sandy Ground, an area which houses the main industrial port on the island. However, after much protest from the residents of the community, construction at Road Bay halted. The residents were mainly concerned about the environmental impact of the development on the Road Bay beach, which is a popular tourist attraction. The residents were also concerned about the impact of the heavy-duty marine traffic from the nearby shipping port on the health of the dolphins. In fact, after demanding to see the Environmental Impact Assessment (EIA) for the project, the residents discovered that the Government neglected to carry out one. This caused further alarm that eventually forced the Government to cease work. There is some speculation as to the chain of events that 'forced' the government to allow construction in the ocean without having first carried out an EIA. Catherine Orchard, a resident of the Sandy Ground Community wrote a letter to the editor of *The Anguillian*[771] in which she detailed the strong opposition to the project in her community. She also stated that the Government failed to consult any of the residents of Sandy Ground or the Department of Fisheries or the Anguilla National Trust, even though the Government maintains that it had consulted with the latter

[770] *Ibid.* at 7 ¶ 1.6.
[771] See, Catherine Orchard, Letter to the Editor, *The Anguillian* (10 June 2007) online: The Anguillian Newspaper <http://www.festival.ai/article/articleview/4797/1/146>, [Orchard, "Letter to the Editor"].

organizations.[772] However, as to why construction proceeded without an EIA, Catherine Orchard wrote:[773]

> Furthermore, Mr. Proctor [the Director of Physical Planning] said that an environmental study would have taken time and that his department had to consider the Dolphin's timetable, they were under pressure to move from the present location. There is only one interpretation possible here: the needs and timetables of a foreign owned corporation are more important than the Anguillian.

The facts as presented by Catherine Orchard after doing her own investigations into the matter are nothing short of deplorable. In addition to failing to comply with EIA regulations, the letter also references the fact that the Government of Anguilla gave the developers permission to construct on the seabed without the requisite licences and permits. Given the foregoing and the pending calamity, the Government decided to relocate the dolphins to Sandy Point, Blowing Point where a new dolphinarium would be constructed, but this time in the open sea.[774] It meant that Dolphin Discovery, the new developers, had to seek permission to carry out works on the seabed at Blowing Point for the new dolphinarium.

As is the case with Round 1 and Round 2 offshore wind developments, the developers had to obtain a range of consents and licences from different governmental departments to carry out works on the seabed and related onshore works. The specifics of the development and its location brought it within the ambit of the *Beach Control Act*,[775] the *Beach Protection Act*,[776] the *Ports, Harbours* and *Piers Act,*[777] the *Building Act*[778] and

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[772] *Ibid.*
[773] *Ibid.*
[774] At the previous location in Meads Bay, the dolphins were accommodated in a concrete pool constructed on the sea rocks. The pool held approximately1.5 million gallons of sea water that was changed daily by means of 2,000-gallon per minute pump.
[775] *Beach Control Act,* Revised Statutes of Anguilla 2000, c. B20.
[776] *Beach Protection Act*, Revised Statutes of Anguilla 2000, c. B25.
[777] *Ports, Harbours & Piers Act*, Revised Statutes of Anguilla 2000, c. P55.

the *Land Development Control Act*[779]. Again, this is representative of the fragmented approach to the regulation of the marine environment common to the Round 1 and Round 2 offshore wind regimes in the UK. On 12 June 2007, the developers applied for permission to construct a dolphin pier in the water at Sandy Point, Blowing Point, in respect of a parcel of land forming part of the property of the Crown. Pursuant to the *Land Development (Control) Act,* the Land Development Control Committee gave planning approval on 12 December 2007. The Anguilla Building Board also gave approval for the construction of a building to be located in the area pursuant to the *Building Act*. In addition to these approvals, the developers also needed a licence to permit any use of the foreshore and the floor of the sea under section 3 of the *Beach Control Act*. As well, developers needed to obtain written permission from the relevant Minister for the construction of any pier on any part of the foreshore pursuant to section 36 of the *Ports, Habours and Piers Act*. However, construction of a pier and dolphinarium was commissioned within the waters without the necessary licences and permits under the *Beach Control Act* and the *Ports, Habours and Piers Act*. Additionally, while the project received planning approval, it commenced work without the requisite tenancy rights in violation of the *Registered Lands Act*.[780] The events caused nine applicants to make a claim for judicial review of the various decisions of the governmental bodies or persons giving rise to the construction of the pier and/or dolphinarium. Even in the face of clear uncontroverted evidence that construction was underway at the site location without the required licences and permits, Counsel for the Government of Anguilla argued that there was no basis for the applicants to make a claim

[778] *Building Act*, Revised Statutes of Anguilla 2000, Revised Statutes of Anguilla 2000, c. B56.
[779] *Land Development (Control) Act*, Revised Statutes of Anguilla 2000, c. L15.
[780] *Registered Lands Act*, Revised Statutes of Anguilla, c. R30.

for judicial review.[781] The High Court disregarded Counsel's argument and ordered interim relief as follows:[782]

> (1) That all construction of all piers or structures or any encroachment on the foreshore or floor of the sea in whatever manner at the Sandy Point Beach or in the waters forming the Port at Blowing Point by any persons whether by themselves, their servants or agents, in violation of the requisite licensing provisions of the Beach Control Act and the Ports, Harbours and Piers Act cease forthwith until further order.
> (2) The Respondent shall perform all acts and do all things as may be necessary to ensure compliance with the terms of this order.
> (3) It is further ordered and directed that this order be served upon Dolphin Fantaseas Anguilla, being a person appearing to the Court to be directly affected by the making of this order.

Noteworthy, the work continued for three days after the grant of the *Order*. Work eventually ceased when a Senior Crown Counsel of the Attorney General's Chambers visited the site and verbally ordered that the works come to a complete stop.[783] This act alone gave an inescapable opportunity for political comment and criticism in respect of 'the power of the Attorney-General's Chambers':[784]

> The way I heard it said, the A-G's Chambers have power. When the Queen says, "Stop", you can ignore her. When the Governor says it, you can pretend you did not hear. When the Court says it, you can keep right on going. But, when the A-G's Chambers say it, you better comply. Or else!

Further, it is noteworthy that during the judicial review proceedings, the Attorney General referred the Court to the affidavit of Vincent Proctor, the Director of Physical Planning wherein "…Mr. Proctor allude[d] to information passed on to him by the

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[781] See, *Paul Webster et. al. v. Attorney General of Anguilla* Claim No. AXA HCV 2008/0015 (Judgment) at 2 ¶ 3, online: The Eastern Caribbean Supreme Court <http://www.eccourts.org/judgments/decisions/2008/PaulWebster-v-AG(Oct08).pdf>, [Webster v. AG of Anguilla Judgment].
[782] See, *Paul Webster et. al. v. Attorney General of Anguilla* Claim No. AXA HCV 2008/0015 (Transcript of Decision dated 6th May 2008) [unpublished] cited by Don Mitchell CBE QC, "Dolphin Park: Dolphin Discovery Relocation at Sandy Point to be Investigated", online: Corruption-free Anguilla <http://corruptionfreeanguilla.blogspot.com>, [Webster v. AG of Anguilla Transcript].
[783] See, Don Mitchell CBE QC, *A-G's Chambers: The Power of the Attorney-General's Chambers*, online: Corruption-free Anguilla <http://corruptionfreeanguilla.blogspot.com>.
[784] *Ibid.*

Permanent Secretary, Ministry of Lands to the effect that "the Ministry of Lands gave the Developer permission to commence building the pier" and that "the licence to use the beach is a new concept, the details of which is still being developed."[785] This is significant because it demonstrates the manner in which the Government of Anguilla approached the regulation of a new marine industry. Arguably, it is worse than the UK experience. Instead of adapting existing legislation to suit the development, the Government decided not to follow its own procedures and laws for permitting activity on the foreshore and the floor of the seabed. In making the *Order*, Justice Janice George-Creque noted that despite the breaches of the laws of the land, "…no steps [were] taken to bring such activities which are being carried out in plain sight to halt."[786] She then noted that "…such a derelection or abdication of responsibility [cannot] be permitted to the detriment of public interests."[787] Furthermore, in making the *Order* Justice George-Creque posed a very interesting question that is particularly relevant for the present purpose of ascertaining the character of marine governance arrangements in the OECS:

> How could such activities which attract criminal sanctions, in the absence of the requisite licences and permissions, simply be allowed to occur and proceed unabated without the necessary intervention by the relevant servants or agents of the Crown?

The simple answer is that the Government of Anguilla treated the construction of the dolphinarium differently because of the perceived benefit to be had. As noted in Chapter 5, this was one of the reasons the UK Government made poor decisions

[785] Webster v. AG of Anguilla Transcript, *supra* note 784.
[786] *Ibid.*
[787] *Ibid.*

respecting Round 1 and Round 2 deployments.[788] To add insult to injury, in proceedings to discharge the *Order*, the Government argued that…[789]

> …maintaining the Order causes prejudice and that the balance of convenience lies with the Attorney General representing the Government of Anguilla and Dolphin Discovery in the non-continuation of the Order and says that the Dolphinarium project is substantially completed and thus would cause no additional hardship to the Property Owners.

In addition:

> Reliance [was] further placed on the losses which Dolphin Discovery may suffer from the loss of visits of cruise ship guests to the Dolphinarium as well as loss of income and employment opportunities to other ancillary service providers who are Anguillians, of the Dolphin Discovery business which it is said results in a loss of revenue to the Government of Anguilla. Counsel also urges that I take judicial notice of the general slow down in the world economy and that of Anguilla. On this basis, counsel argues that the Order is currently having an oppressive effect on the people and government of Anguilla and should be discharged on this basis.

Unsurprisingly, nowhere in the proceedings did the Government attempt to advance an argument to the effect that there had been no negative environmental impact. Nonetheless, Justice George-Creque concluded that the line of argument advanced by the Government did not "…afford a proper basis for the discharge of the *Order* granted."[790] The example of the dolphinarium and the line of argument advanced by the Government, demonstrate how governments sometimes favour business efficacy and the interests of industry developers over the protection of public interest and the letter of the law.

It is necessary to single out for mention the Government's argument "…that the *Order* is currently having an oppressive effect on the people and [G]overnment of Anguilla and should be discharged on this basis." It is interesting that the Government could confidently advance and seek to rely on this argument when the general population

[788] Above at 141.
[789] Webster v. AG of Anguilla Judgment, *supra* note 783 at 5 ¶ 10.
[790] *Ibid.*

blatantly opposed the relocation and in some instances, the dolphinarium itself. According to Anguillian blogger, Don Mitchell CBE QC, "[t]he **Anguilla Hotel and Tourism Association** is in the process of conducting a poll among its members. Preliminary results indicate that upwards of 90% are opposed to it, on the ground that none of Anguilla's tourists and few Anguillian residents visit it."[791] What is more, since the Anguilla Revolution in 1967, three dolphins became the National Emblem on the revolutionary flag, representing the tenets of Friendship, Wisdom and Strength. As Anguilla is now a British Overseas Territory, the dolphins form the crest on its British Flag. Therefore, there is a general feeling among Anguillians that to degrade a symbol of national pride by proceeding with the construction of the dolphinarium is a mistake that should not be repeated. In the letter to the editor of *The Anguillian,* Cathrine Orchard began by asking one fundamental question that embodies the heartfelt sentiments of the Anguillian people. She asks; "When did the Dollar Sign replace the Dolphin as our National Emblem?"[792]

In the end, the Government argued that since the making of the *Order*, the issued the requisite licences and permissions to the developers and as such, there had been a material change in factual circumstances that warranted a discharge of the Order.[793] However, the licences as issued in August 2008 were made to commence retroactively in an effort to legalize the previous construction built in violation of the Laws of Anguilla. Given the foregoing, it is interesting to note that the later issuance of the licences were so effected for the sole purpose of 'correcting the illegality' and not for the purpose of

[791] See, Don Mitchell CBE QC, *Blowing Point: Dolphinarium Construction Begins at Blowing Point*, online: Corruption-free Anguilla <http://corruptionfreeanguilla.blogspot.com>.
[792] Orchard, "Letter to the Editor", *supra* note 773.
[793] Webster v. AG of Anguilla Judgment, *supra* note 783 at 8 ¶14.

permitting the development under the terms, conditions and processes of the *Beach Control Act* and the *Ports, Habours and Piers Act*. It is to be remembered that the legislation intended to protect the foreshore and the floor of the seabed by regulating the activities that may be carried out there. This observation aside, the Court relied on the well-settled principle of law established in the case of *Sovfracht v. Van Udens Scheepvaart*[794] to hold that the developers had not actually obtained the requisite licences, as licences could not operate retrospectively.[795] In closing, Justice George-Creque noted: "[t]his is a sad state of affairs and highlights the pitfalls when activities are undertaken without due regard for the regime of laws governing such activity.[796]

While there is no marine renewable governance arrangement regarding renewable marine resources in the OECS, the above case study of the dolphinarium in Anguilla demonstrates that the political, institutional and regulatory governance arrangements for new marine developments are akin to the Round 1 and Round 2 governance arrangements in the UK.

6.5.2 New Governance Assessment of the Dolphinarium Governance Arrangement

The dolphinarium case study in the previous section outlined the range of possible consents and licences required for development in the marine environment. The following sub-sections apply the three-dimensional analytical framework of Michael Howlett et al. to the OECS decision-making process for marine works in the context of the dolphinarium. To recap, the first dimension created by the Howlett et al. is the political dimension. In this mode of governance, the authors were mainly concerned with

[794] [1943] AC 218.
[795] Webster v. AG of Anguilla Judgment, *supra* note 783 at 8 ¶ 17.
[796] *Ibid.* at 9 ¶19.

one question: "whether political power – that is, the ability to make legitimate, authoritative decisions allocating societal resources – favours state or non-state actors."[797] It can be argued on end about what it means for political power to be vested in the state and what it means for that power to be vested in society-driven actors.[798] For instance, earlier, in Chapter 2, it was noted that "many people have been disappointed with the ability of government to tackle social problems."[799] Because of this, New Governance scholars argue that the social trait of non-state actors would influence more effective rules and solutions to social problems.[800] These are issues that the framework forces one to consider after having identified whether the political power in the regime favours state or non-state actors.

The other two dimensions recognize that there is more to a governance arrangement than political power. The second dimension for instance, is symbolic of the fact that "[i]nstitutions set the framework for the exercise of power."[801] In this dimension, Howlett et al. were concerned with the constitution and composition of institutional structures, i.e., are the institutions formally or informally constituted? Are the institutions composed of state or non-state actors? Essentially, in their view, these characteristics determine "…the abilities of various state and non-state actors to prevail in policy

[797] Howlett et al. "Government to Governance", *supra* note 44 at 385 ¶ 2.1
[798] See for instance, Haas, "When does power listen to truth?", *supra* note 107. The author who puts forward the view that the ability of state-centered decision-makers to master new ideas has limits, and when those limits are reached, there is a need to defer or delegate to authoritative actors with a reputation for expertise. In this view, the article is a debate about what it means for political power to be vested in state versus non-state actors when scientific issues such as sustainable development are at the heart of the decision-making process.
[799] Lee, "Conceptualizing the New Governance", *supra* note 97.
[800] Above at 27 ¶ 2.2.1.
[801] Howlett et al. "Government to Governance", *supra* note 44 at 385 ¶ 2.2.

disputes and decisions, as well as the possibilities for the choice of the policy instruments used to implement the mode of governance."[802]

The third dimension focuses attention on the nature of the legal instruments used in the governance arrangement under study. The authors were concerned about whether the legal regime is characterized by traditional top-down hierarchical government control through laws and regulations or market-oriented regulation which are generally flexible and voluntary.

Overall, in each of the dimensions, the focus is on locating the governance arrangement, (is it State (hierarchical)? or Non-State (plurilateral)?), of each mode of governance (political, institutional, regulatory). Howlett et al. describe the key to using the framework in the following terms: "…movement along the *horizontal* 'hierarchical' to 'plurilateral' axis is seen as being associated with changes along three distinct but overlapping *vertical* dimensions: namely *institutional structures, political practices* and *regulatory techniques*… ."[803] In other words, in moving across the horizontal axis, the fundamental question is whether there is one actor or many actors in each mode of governance, and who those actors are.

6.5.2.1 The Political Dimension

The range of consents and licences required for the dolphinarium demonstrate the involvement of several actors in the decision-making process for development on the foreshore and the floor of the sea. These actors play various roles and perform various responsibilities and, thus, can be grouped by their affiliate state or non-state orientations.

[802] *Ibid*. at 385 – 386.
[803] *Ibid*. at 384 ¶ 1.

On the state side, the central bodies involved in the development and regulation of the marine territory are: the relevant ministers under the *Beach Control Act,* the *Beach Protection Act* and the *Ports, Harbours and Piers Act;* the Building Board (*Building Act)*; the Land Development Control Committee (*Land Development Control Act);* and the Department of Lands and Surveys (*Crown Lands Act)*.

Although it may not be expressly reflected by the consents process, many non-state actors also hold an interest in the development and regulation of marine environment. The main non-state actors include the public, industry developers, environmental pressure groups, and fishers. The consensus is that many state and non-state actors hold an interest in marine development and regulation. The question remains, which among these State and Non-State actors is actually charged with power to determine whether a particular marine project will be given approval for development.

A quick review of the dolphinarium case study would confirm that power to produce legally binding outcomes on consents applications is concentrated in the hands of State actors. However, while power to make decisions is *legally* vested in the State, legitimate questions can be raised as to whether non-state actors influence the exercise of state power over consents applications. This question turns on two variables. The first variable concerns the identity of the non-state actor in question. This is of particular importance because it characterizes the interest of the Non-State actor in the regime, and hints to its preference of outcome on consents applications. The second variable speaks to whether the non-state actor has the capacity to influence state power in the direction of their preferred outcome.

As noted above, there is no doubt that the public has had an indisputably dominant and influential role in the decision-making process for marine work. The active involvement/protest of the residents of Sandy Ground prevented the initial relocation of the dolphinarium in their community. The residents were concerned about the environmental impact of the development and about the impact of the heavy-duty marine traffic from the nearby shipping port on the health of the dolphins. After demanding to see the EIA for the project, the residents discovered that the Government neglected to carry out one. This caused further alarm that spread throughout the island. Eventually, the alarm forced the Government to cease works. Like the case of many other OECS territories, Anguilla is a tourism-based economy. This dependence has birthed a people very protective of their tourism product: sun, sand and sea. Their large numbers and interests in the marine environment gave them sufficient capacity to influence State action in the development of the dolphinarium. Therefore, although there were no formally instituted NIMBY organizations, the public outcry became a significant barrier to the marine development of the dolphinarium in Road Bay, Sandy Ground.

However, the second relocation to Sandy Point, Blowing Point seemed to have been immune to public opposition. In contrast to the Road Bay, Sandy Ground area, the Sandy Point, Blowing Point area is a much smaller with fewer residents. This perhaps, explains why public opposition was not on the same scale as it had been on in the Road Bay, Sandy Ground community. Nonetheless, the unscrupulous manner in which the Government of Anguilla consented to the construction of the pier and/or dolphinarium in Sandy Point, Blowing Point, caused nine residents in the area to apply for judicial review. Note that at the time when proceedings for judicial review began, construction had

already commenced on the foreshore and the floor of the sea at the Sandy Point location without all the necessary permits. Though, the applicants were successful at obtaining an injunction, they were only able to affect the decision-making process after construction had begun. To date, there has been no attempt to assess the environmental impact of the works carried out up until the grant of the injunction. All the same, the point remains that the public has some capacity to affect the decision-making process.

It seems however, that though public opposition is strong, its capacity to influence the decision-making process is weakened by the interests of the state and industry in the development of the marine industry. Evidence of this strong influence over the decision-making process was hinted to earlier in the preceding section. The preceding section noted that in proceedings to discharge the *Order*, the Government of Anguilla argued that…[804]

> *...maintaining the Order causes prejudice and that the balance of convenience lies with the Attorney General representing the Government of Anguilla and Dolphin Discovery in the non-continuation of the Order* [my emphasis] and says that the Dolphinarium project is substantially completed and thus would cause no additional hardship to the Property Owners.

In addition:

> *Reliance [was] further placed on the losses which Dolphin Discovery may suffer from the loss of visits of cruise ship guests to the Dolphinarium* [my emphasis] as well as loss of income and employment opportunities to other ancillary service providers who are Anguillians, of the Dolphin Discovery business which it is said results in a loss of revenue to the Government of Anguilla. Counsel also urges that I take judicial notice of the general slow down in the world economy and that of Anguilla. On this basis, counsel argues that the Order is currently having an oppressive effect on the people and [G]overnment of Anguilla and should be discharged on this basis.

As noted earlier, nowhere in the proceedings did the Government attempt to advance an argument to the effect that there has been no negative environmental

[804] Webster v. AG of Anguilla Judgment, *supra* note 783 at 5 ¶ 10.

impact.[805] Nonetheless, Justice George-Creque concluded that the line of argument advanced by the Government did not "…afford a proper basis for the discharge of the Order granted."[806] The example of the dolphinarium and the line of argument advanced by the Government of Anguilla, demonstrate how governments favour business efficacy and the interests of industry developers over the protection of public interest, the environment and the clear letter of the law. This clear abdication of public responsibility caused much unrest amongst Anguillians. In relation to these events, an anonymous blogger posed the following questions:[807]

> Why is it that the Gov't appears to place more interest in the ambitions and aspirations of these foreign businesses or businessmen [than] concern for the welfare of its own people? Money is not an end unto itself and should be treated as a means to facilitate continued economic growth. In this respect, we need to carefully consider the various programs and projects that are sent our way. […] Who is profiting from these unilateral decisions? Is this another corruption scheme where the GOA is again being used as pawns in a crooked business venture to the detriment of Anguilla and its people?

In essence, the blogger has answered the very questions he/she posed. Therefore, there is no need to satisfy the same. Noteworthy, several bloggers have also voiced similar concerns under the same blog.[808] Clearly then, there is at least some portion of the population who hold the belief that political power to allocate resources has continuously been exercised inappropriately by the Government.

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[805] Note that this observation is not to suggest that such an argument would have persuaded the court otherwise. The observation merely demonstrates that environmental concerns were not a priority for the Government. The observation seems much more dismal when construed in light of the fact that the government decided not to follow its own procedures and laws for permitting activity on the foreshore and the floor of the seabed. It is to be remembered that these laws, like all other laws, were created for a specific purpose. So for instance, the purpose of the *Beach Control Act* and the *Ports, Harbors and Piers Act* was to protect the foreshore and the floor of the seabed by requiring prospective developers to seek development consent. As well, there is the *Beach Protection Act*, which by its very title is self-explanatory.
[806] *Ibid.*
[807] Mitchell, "Blowing Point", *supra* note 793.
[808] *Ibid.*

The *Ashton Marina Project* in Saint Vincent and the Grenadines is another example that gives some context to the picture of the OECS political governance arrangement painted by the dolphinarium case study. The Ashton Lagoon is located on the south coast of Union Island, a small island in the Grenadines. It supports a range of important habitat types, which include mangroves, coral reefs, mudflats, seagrass beds and salt ponds.[809] These habitats supported several commercially important fish and vertebrae and a variety of important flora and fauna including several rare or endangered species.[810] Together, the lagoon and the nearby Frigate Island provided habitat for wintering and migrating populations of seabirds, waterbirds, shorebirds and landbirds.[811] On 5 January 1987, the Ashton Lagoon was designated a Conservation Area under schedule 11, regulation 20 of the *Fisheries Act*[812] in recognition of its rich biodiversity and ecological importance. Despite the protected status of the area, the government of Saint Vincent and the Grenadines permitted the construction of a massive marina, hotel and golf course project. Specifically, the project proposed to build a 300-boat marina in the midst of the lagoon, a large condominium to be built on top of the outer reefs, and a 50 acre golf course to be laid over the mangrove.[813] As well, to complete this new tourism development, a causeway was to be constructed connecting Union Island to Frigate Island. As one might image the specifics of the project proposal required extensive land reclamation.

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[809] Centre for Resource Management and Environmental Studies (CERMES), *Restoration and Sustainable Use of Aston Lagoon: Phase II*, at 3, online: CERMES < http://www.cavehill.uwi.edu/cermes/SusgrenPublications/Ashton_Lagoon_Proposal_NMBCA.pdf>, [CERMES, "Ashton Lagoon"].
[810] *Ibid.*
[811] *Ibid.*
[812] *Fisheries Act 1986,* Laws of Saint Vincent and the Grenadines, Revised Edition 1990, c. 52, Act 8 of 1986.
[813] CERMES, "Ashton Lagoon", *supra* note 811..

Prior to construction, it was recommended that an EIA of the area be carried out.[814] Although the Government's EIA gave extensive detail of the permanent and irreversible damage to the Ashton Lagoon Conservation Area, the Government of Saint Vincent and the Grenadines nevertheless gave consent for works to commence.[815] In fact, the decision to permit development was made even though "…the developers presented no environmental impact assessment in support of [the] project… ."[816] In the context of this subsection, political power to permit development of the Ashton Lagoon area is legally vested in the State. Like the dolphinarium case study in Anguilla, the *Ashton Marina Project* was also permitted in the face of strong local opposition, especially from fishers, who felt that the project "...would cause irreparable environmental and social harm to their community.[817] The inescapable description of the political reality of the *Ashton Marina Project* is that the consents process was dominated by the interests of the developers and the potential economic benefit to the Government. Specifically, the Government gave the developers permission to begin construction in an area of ecological importance, against the will of the people, and regrettably, against the better advice of their own EIA. In actuality, soon after construction began, the developer declared bankruptcy and disappeared thereafter leaving behind a severely damaged lagoon. And possibly, as a lesson to the Government of Saint Vincent and the Grenadines

[814] Nigel Mca. Scott & Julia A. Horrocks, *Sea Turtle Recovery Action Plan for Saint Vincent and the Grenadines: CEP Technical Report No. 27* (Jamaica: UNEP Caribbean Environmental Programme, 1993) online: The Caribbean Environmental Programme <http://www.cep.unep.org>.
[815] CERMES, "Ashton Lagoon", *supra* note 811.
[816] See, Letter from Thomas J. Goreau & Nicholas letter to Ministers of Government and various stakeholders (14 July 2003) on the subject of "Water Quality in Ashton Harbour, Union Island, St. Vincent and the Grenadines: Environmental Impacts of Marina and Recommendations for Ecosystem and Fisheries Restoration," online: Global Coral Reef Alliance <http://www.globalcoral.org/Water%20Quality%20in%20Ashton%20Harbour.htm>.

[817] *Ibid.*

the developers also disappeared leaving the Government to service a massive loan which the developers tricked the Government into guaranteeing financially. In relation to the dolphinarium and noted above, an anonymous blogger asked: "…is this another corruption scheme where the GOA is again being used as pawns in a crooked business venture to the detriment of its people?" Perhaps therefore, the Ashton Marina fiasco was an illustration of governments 'being used as pawns in a crooked business venture to the detriment of the people.'[818] All that aside, today the Ashton Lagoon Conservation Area is the subject of many restoration efforts.

It is clear from the above assessment that many stakeholders hold an interest in the development of marine areas in the OECS region. It is also clear, that amongst those stakeholders power to produce legally binding outcomes on consent applications is concentrated in the hands of the State. Therefore, in the context of the Howlett framework, it would appear that the political dimension in OECS countries is characterized by traditional hierarchical governance. However, in practice, this State-directed governance arrangement is vulnerable to pressures exerted by formally instituted Non-State actors (industry developers). Therefore, in the context of the Howlett framework, this dynamic has created movement along the horizontal axis of the political dimension, ultimately creating a de facto plurilateral governance arrangement. This governance arrangement is consistent with that of the UK Round 1 and 2 offshore wind experience.

[818] Above at 204.

6.5.2.2 The Institutional Dimension

The founding concept under this dimension is that "[i]nstitutions set the framework for the exercise of power."[819] Here, Howlett et al. were concerned with the constitution and composition of institutional structures used to exercise power. Institutions may be formally or informally constituted and composed of state actors, non-state actors or both. Essentially, in their view, these characteristics determine "…the abilities of various state and non-state actors to prevail in policy disputes and decisions, as well as the possibilities for the choice of the policy instruments used to implement the mode of governance."[820] Based on the assessment of the political dimension in the previous subsection, the prima facie assumption can be made that the institutional arrangements that had the capacity to make legally binding decisions and influence the outcome of applications for marine development are typically characterized by formal establishment.

As it relates to State actors, their power to produce binding decisions on consents applications was exercised through several governmental bodies or persons. In relation to the dolphinarium, the governmental bodies and persons included: the relevant ministers under the *Beach Control Act,* the *Beach Protection Act* and the *Ports, Harbours and Piers Act;* the Building Board (*Building Act)*; the Land Development Control Committee (*Land Development Control Act);* and the Department of Lands and Surveys (*Crown Lands Act)*. These governmental bodies and persons determine whether a particular dolphinarium project will be given consent for development. By extension, these governmental bodies and persons would also preside on consent applications for other marine works. Another characteristic of these governmental departments is that they were

[819] Howlett et al. "Government to Governance" *supra* note 44 at 2.2.
[820] *Ibid*. at 385 – 386.

all established by acts of parliament. Therefore, the common trait among state actors is that their power is exercised through governmental departments that are formally established by acts of parliament, and are therefore empowered to produce legally binding outcomes on consents applications.

As noted in the assessment of the political dimension above, there is a wide range of stakeholders that hold an interest in the development of the marine area other than the state. In fact, diversity in institutional arrangements is borne out in how these non-state actors are organized.

Most obvious industry developers, like Dolphin Fantaseas, are typically formally established institutions (corporate bodies). The company is a subsidiary of a larger company which operates dolphinariums in other countries in the Caribbean and the rest of the world. This formal establishment backed by financial capital and industry experience has given Dolphin Fantaseas significant capacity as an institution to influence the decision-making process.

By definition, the public is not, per se, formally instituted. Unlike the case in the UK, there are no NIMBY organizations in the OECS region. However, as noted in the political assessment above, the public has the potential to play an influential role in the decision-making process for marine development through public protest and judicial review. All the same, as was demonstrated by the *Ashton Marina Project*, the potential of public protest is sometimes unable to match the strong influence of industry developers and political priority. This becomes even more apparent on a simple review of the influence of the public as statutory consultee during the EIA process for the marina. As noted, there was strong public opposition to the *Ashton Marina Project* that was reflected

in the government's EIA of the proposal. Nevertheless, the perceived benefit to be had and the strong industry influence, trumped those concerns. In Anguilla, the initial relocation of the dolphinarium to Road Bay, Sandy Ground was 'approved' and was allowed to begin construction without the commissioning of an EIA, which by law would have required public consultation. Therefore, had it not been for the environmental consciousness of the people of Sandy Ground, the public as a 'statutory consultee' would have never had an impact on that project. Even worse, as noted above, many criticized the EIA process for the second dolphinarium relocation on the ground that it failed to adequately involve the public. In sum, even if the public is given some semblance of formal establishment as 'statutory consultees,' it seems as though the EIA practice has been to turn blind eyes to public concerns in furtherance of the benefit to be had from the industry. Related to this point, in the *Notice of Application*[821] for judicial review, the applicants noted what they believed a flagrant irregularity in the EIA process. They note that the EIA "… was not compiled by a disinterested source. The EIA was compiled by Applied Technology & Management, Inc. They are, it would seem, a reputable company, but they build dolphinaria for commercial gain and cannot, therefore, be considered independent."[822]

This section reviewed and characterized governmental institutional structures, non-governmental environmental agencies, the public and industry institutional structures in the context of the dolphinarium and Ashton Lagoon case studies. The conclusion that can be drawn from this assessment is that formal establishment characterized the

[821] *Paul Webster et. al. v. Attorney General of Anguilla* Claim No. AXA HCV 2008/0015 (Notice of Application) [unpublished].
[822] *Ibid* at 11 ¶ 36(a).

institutional arrangements that had the capacity to influence the outcome of consent applications for development in the marine area. The governmental bodies and the industry developers were all formally established, and therefore, best placed to influence consents decisions. Most notably however, on the institutional dimension, the government retained an important structural advantage in the consents process largely due to its ownership of the sea bed and formal legislative control over activities in the marine area. In practice, this structural advantage and legislative control tends to overpower much of the capacity the general public and fishermen have as 'statutory consultees'. Taken by themselves, fishers in the region are much like those in the UK: some belong to a national fisheries organization, but the majority of them are simply lone fishers. In this regard, the institutional arrangements retain some plurilateral features. However, the Government was able to dominate the consents process by moving upwards along the vertical axis of the Howlett et al. institutional dimension away from informality towards more formal structures. Additionally, there has been very little movement along the horizontal axis of the institutional dimension. In sum, the institutional dimension is mainly representative of hierarchical governance. This governance arrangement is consistent with that of the UK round 1 and 2 offshore wind experience.

6.5.2.3 The Regulatory Dimension

Power to make decisions on consents applications is legally concentrated in the hands of the state and exercised through formally established institutions. This dynamic has influenced the creation of a marine development consents regime that respects traditional top-down hierarchical government control through laws and regulations. First,

as is most obvious, the regulation of the dolphinarium was effected through existing regimes that respected top-down hierarchical control through laws and regulations. This fact remains despite the decision taken by the Government of Anguilla not to follow its own procedures and laws for permitting activity on the foreshore and the floor of the seabed. As noted by the Minister of Lands, "…the licence to use the beach [for the construction of a dolphinarium] is a new concept, the details of which is still being developed."[823] In relation to the *Ashton Marina Project*, the Government of Saint Vincent and the Grenadines also used existing laws and regulations to permit the development. Moreover, for quite some time, Dominica has been using existing laws and regulations to permit hydropower development. Even today, hydropower is still comes under the purview of the *Electricity Supply Act*.[824] There has been no attempt to pass specific legislation for the regulation of hydropower renewables. Essentially, therefore, the nature of the regulatory regime is consistent with the notion of hard law – the upper end of the vertical axis on the regulatory dimension. To recap, Howlett et al. describe the notion of hard law as "… synonymous with a state-centric, command and control mode of regulation that imposes generally applicable obligations, articulated with a relatively high degree of precision, that are directly enforceable through the courts."[825] Noteworthy, the respective EIAs by design and purpose were intended to incorporate some measure of non-state actor participation in the consent process for offshore works. However, as has been seen in the case of the dolphinarium, the Government neglected to carry out an EIA for the Sandy Ground relocation. Further, in the preparation of the EIA for the second

[823] Above at 194.
[824] *Electricity Supply Act*, Laws of the Commonwealth of Dominica, Act 10 of 2006, online: Government of the Commonwealth of Dominica <http://www.dominica.gov.dm/laws/2006/act10-2006.pdf>..
[825] Howlett et al., *supra* note 44 at 386.

relocation at Blowing Point, many allege that the EIA failed to consult with stakeholders. Nonetheless, the GOA accepted the EIA. In essence, governments do not always follow its own procedure and rules pertaining to development in the marine area. Further, the Ashton Lagoon illustrated that governments may at whim decide to ignore the EIAs altogether even when completed for the specific purpose of aiding the decision-making process. In sum, the hard law governance arrangement constrained the ability of non-state actors to alter the policy-making process and the eventual binding outcome. As a result, the regime is representative of hierarchical governance on the horizontal axis of Howlette et al.'s regulatory dimension.

6.5.3 Discussion of Findings and Adoption of Governance Lessons from the UK

In seeking to propose an effective governance arrangement for the regulation of renewable ocean resources in the OECS, the new governance framework is a good device for challenging policy-makers to think about what governance arrangement might possibly work in the OECS and what governance arrangements might not work. By challenging policy-makers to think about the local circumstances, it provides a rational basis for transposing lessons learnt in other regimes. This is important, as one of the most common pitfalls of comparative research is the fruitless exercise of comparing legal solutions in one jurisdiction to legal problems of another jurisdiction where the socio-cultural, political and economic contexts of those jurisdictions differ dramatically. In other words, are the political, institutional and regulatory contexts in the OECS sufficiently similar to justify transposing lessons from the UK offshore wind governance arrangements?

As noted at the outset of section 6.5 above, one way to begin answering this question is to look at the current governance arrangement for regulating renewable ocean resources in the OECS region and make a determination as to whether it bears similarities with the UK case study. However, it has already been noted that there is no governance arrangement in place for the regulation of these resources in the OECS. This is unsurprising because thus far, there have been no projects in any of the OECS territories that seek to harness the power of renewable ocean resources. As noted earlier, harnessing the power of renewable ocean resources is a recent policy objective for the region.[826] Alternatively, however, policy-makers can justify transposition in the absence of issue-specific governance arrangements, from practices in related areas. The previous subsections primarily outlined the governance arrangement used to develop the dolphinarium industry in Anguilla. The new governance assessment also drew principles from the political context of the *Ashton Marina Project* in Saint Vincent and the Grenadines. In addition, the assessment also referenced the regulation of hydropower in Dominica in support of a description of the OECS regulatory dimension. In essence, the findings of the new governance assessment demonstrate that the political, institutional and regulatory contexts in the OECS are akin to the Round 1 and 2 experiences in the UK.

Firstly, it was found that the political dimension in OECS countries is characterized by traditional hierarchical governance. Further, it was also found that, in practice, this State-directed governance arrangement is vulnerable to pressures exerted by formally instituted non-state actors (industry developers). Therefore, in the context of the Howlett framework, this dynamic has created movement along the horizontal axis of the

[826] Above at 181 – 182.

political dimension, ultimately creating a de facto plurilateral governance arrangement.[827] A review of Chapter 5 would confirm that the OECS political arrangement is consistent with the Round 1 and 2 political arrangements. Secondly, as with Round 1 and 2 of the British consents process, the institutions that have the capacity to exert influence over the consent process in the OECS are formally established. Finally, consistent with Round 1 and 2 of the UK consents process, the nature of the regulatory dimension is also representative of hard law approaches to governance. In other words, the OECS regulatory regime is also representative of hierarchical governance on the horizontal axis of Howlett et al.'s regulatory dimension. Taken together, the similarities in each mode of governance provide a rational basis for transposing legal approaches and solutions in the UK to the development of a governance regime for regulating renewable ocean resources in the OECS.

As noted earlier in this Chapter, in 2009 OECS countries directed energy discussions towards the possibility of tapping into their ocean energy potential. Added to this focus, the region has had the principle of sustainable development as their defining developmental objective for quite some time. Clearly then, if sustainable development is the defining objective for all OECS Member States, the political, institutional and regulatory efforts to tap into the offshore energy potential cannot begin as it has in the UK. As Chapter 5 demonstrates, the British experience is that the Round 1 and 2 political, institutional and regulatory efforts to regulate offshore wind produced unsustainable outcomes. It follows then, that because the governance arrangements in the OECS and the UK are similar, if the same arrangement is used for regulating renewable ocean resources in the OECS, there is a high probability that the regime would not make

[827] Above at 109.

positive contributions towards sustainability. In other words, the OECS Member States would need to adopt a different governance approach to Round 1 and 2, if the intention is to develop renewable ocean resources in furtherance of the principle of sustainable development. The issue that must now be dealt with is whether the British Round 3 regime as is, is wholly appropriate for the OECS or whether the Round 3 regime would require some modification, if it is to fare well as an effective governance arrangement in the OECS.

It would be helpful to recount the transitions in the governance arrangements from Round 1 to Round 3 as they properly explain why the Round 3 regime would be most appropriate for contributing towards sustainable development. Among other things, the transitions from Round 1 to Round 3 demonstrate one fundamental point, i.e., hierarchical governance of offshore renewable resources does not seem to work. The dolphinarium case study demonstrates the unsatisfactory effects of hierarchical arrangements. As with Round 1 and 2, where political power is concentrated in the hands of the state, the reality has been that industry developers are easily positioned to influence the exercise of that power to the detriment of the environment and the people who rely upon it. Chapter 2 made mention of the argument by New Governance scholars that the social trait of non-state actors would influence more effective rules, approaches and solutions to the allocation of societal resources. One inescapable interpretation is that hierarchical control means that those normally affected by government decisions seldom have the capacity or opportunity to exert some influence over the decision-making process. In other words, in the context of Gibson et al.'s core requirements for sustainability, hierarchical arrangements tend to restrict progress on the principle of

socio-ecological civility and democratic governance. Taking all of the foregoing into consideration, hierarchical control represented development *for* the people and not development *by* the people - a restriction that New Governance scholars would also frown upon. Herein lies the main problem with the Round 1 and 2 governance arrangements and by extension the current framework in the OECS.

However, the transition between the Round 2 and 3 regimes demonstrates a conceptual shift away from governance arrangements that conform to the tradition of hierarchical control. This concept is a favourable approach that policy-makers should adopt in the development of a governance regime for regulating offshore renewable resources in the OECS region. In considering whether the Round 3 regime would require some modification for use in the OECS, it is helpful to set out a brief description of the changes in the modes of governance that forced a shift away from the tradition of hierarchical governance. However, firstly it is to be recalled that unlike the Round 2 transition, the Round 3 model of governance was established through the creation of specific legislation. At present, the *Planning Act 2008* and the *Marine and Coastal Access Act 2009* represent the new legal frameworks within which decisions will be made. Therefore, as it pertains to the regulatory dimension, the tradition of top-down hierarchical control through laws and regulations continued. What was changed however, was the fragmented approach to marine management. For instance, the MCAA sought to modernize, integrate and simplify the consent process by consolidating into a single licensing decision consideration of environmental, human health and navigational factors. This licence is to be granted by an independent organization, the Marine Management Organization (MMO), created for this purpose. The Act also transfers several functions

relating to marine management (sea fisheries, nature conservation, renewable energy, etc.) to the MMO. At this point, it is necessary to emphasize the fact that the Round 3 model of governance under the *MCCA* regulates all renewable energy activity in the marine environment and not just offshore wind. Therefore, there is a wider governance lessons that policy-makers in the OECS may adopt given that the regime transcends all forms of offshore renewables. In essence, the transfer of these functions (sea fisheries, nature conservation, renewable energy, etc.) drew together into a single licensing decision consideration of the interests of other users of the sea. The governance lesson learnt is that traditional top-down hierarchical control through laws and regulations is not a faulting initiative in and of itself so long as such control through laws and regulations adopts an integrated approach to marine management. This governance lesson draws inspiration from the fact that conceptually, sustainability is a challenge to business as usual practices and therefore, the use of existing regimes would be ill suited for making positive contributions towards sustainable development in the OECS.

In relation to the political dimension, the problem in the Round 1 and Round 2 UK regime is that power was concentrated in the hands of the State, which was under industry influence. To alleviate this problem, the British government through the Planning Act and the MCAA, removed from the State the legal power to make decisions on consents applications, and vested it in central corporate bodies that were created to be independent of the government. Conceptually, the purposeful vesting of power in independent establishments serves to insulate the new decision-makers from the pressures of industry, thereby, weakening industry's influence over the process. Given the results, for an effective governance arrangement in the OECS, it would be prudent to mimic the

Round 3 arrangement by placing power to make legally binding decisions in a body corporate independent of the Government.

It is true and undisputed that the newly created corporate bodies are, by the clear provisions of the Acts, independent of the Crown.[828] It is important to note however, that a proper consideration of the realities of the Round 3 regime in practice may blur the strict conclusion that the newly established corporate bodies are actually independent of the government of the day. By way of example, Chapter 5 noted that the cozy relations between the MMO and the Secretary of State do not make the MMO as independent as the analysis concludes. By sections 14 and 15 of schedule 1 of the MCAA, the Chief Executive of the MMO is appointed by the Secretary of State, so too is the Scientific Adviser. Additionally, the membership of the MMO are to be not fewer than 5, nor more than 8 other persons who are to be appointed by the Secretary of State[829] and serve a term not more than 5 years[830]. Though the MMO is to be funded by the Government, it is authorized by section 33 to borrow money from the Secretary of State or from private sources as it may require for meeting its obligations and carrying out its functions. While the MMO has the option of borrowing from private sources it may only do so if the Secretary of State consents. In practice, these realities have the potential to reflect government commitment to promote wind energy development in the consents process. Obviously, therefore, where the political dimension is concerned the Round 3 model is not foolproof. Given the control of the government over the MMO, there is built into the Round 3 model some room to continue business as usual political practices. In other words, the process of assessment of eligibility of projects may likely continue to

[828] In relation to the MMO see, MCAA, *supra* note 633 at sch. 1, s. 1.
[829] *Ibid*. at sch. 1, s. 3.
[830] *Ibid*. at sch. 2, s. 7.

experience a balance of influence that may still favour those with the stronger leverage. Again, it is to be recalled at this time, that each government, through the Marine Policy Statements under the MCAA, prioritizes its goals for sustainable development; a concept that is economic-development oriented as it is environmental and resources protection and conservation-minded. Possibly then, the OECS would need a different approach which through learning from the British must avoid the potential pitfall to better ensure that some semblance of sustainability would be accomplished in the development of offshore renewable resources. On the other hand, it is submitted here that the structure of the MCAA, which centralizes, essentially, the overall use of the marine area under the MMO gives the organization tremendous power. Ironically, the MMO is also authorized to enter into agreement with other agencies, including private agencies, to have them carry out its mandates as set out in the Marine Policy Statements and Marine Plan. For the OECS region, this power carries both a financial and technical benefit. For instance, the MMO may conclude agreements with relevant bodies that have been exercising existing power concerning the various sectors brought under the Act, to authorize them to do so under its delegation. Delegation therefore has the benefit of drawing on the knowledge capital of these departments that have a long history in relation to the management of their respective sectors. A conclusion inclusive of practical realities would state that though the political arrangement under the MCAA is not foolproof, as a compromise the MMO's power is very huge but also potentially unwieldy.

Apart from shifting the governance arrangement from development *for* the people to development *by* the people, what makes the Round 3 model effective, and thus more attractive for the OECS region, is the introduction of duties to consult under the

legislations.[831] As with the dolphinarium case study, under the Round 1 and 2 British regimes, the institutions that had the capacity to influence the consent process were formally established. Those formally established institutions were mostly industry professionals. The creation of onerous and structured consultation duties under the legislations seek to diversify the institutions that have the capacity to influence outcomes, by empowering a range of non-state actors to have some leverage under the exercise of its institutional jurisdiction. Further, in relation to the fact that there is still some room in the UK model to continue business as usual political practices, the onerous and structured consultation duties empower non-state actors to act as a potential check and balance on the exercise of power by the MMO. In sum, the adoption of lessons from the Round 3 governance arrangement in the OECS would ensure that marine renewables in the region are regulated in a manner that makes positive contributions towards sustainability. In sum, the major recommended changes would be the vesting of political power in an independent body corporate and the adoption of integrated regulatory instruments backed by structured consultation duties.

Lastly, the Strategic Environmental Assessment (SEA) experience in Round 2 was a lesson in everything not to do when carrying out SEAs and by extension EIAs. Generally, the SEA was considered to be a rushed and cosmetic exercise. The British Government completed the entire SEA process in the space of five short months. Having rushed the SEA process in the interests of industry developers and business efficacy, the British government alienated many stakeholders and the public by failing to give an early

[831] See, Alain Nadï & Dan van der Horst, "Wind Power Planning, Landscapes and Publics" (2010) 27(1) Land Use Policy 181 at 181 where it is noted that "[g]aining planning permission through top-down fast streaming of the decision process carries the risk of alienating stakeholders and the public – a risk which could be ameliorated through a lengthier but more conclusive process of participative planning."

and effective opportunity within appropriate time frames for stakeholders and the public to express their opinion. This is an unwelcome state of affairs as one of the fundamental purposes of the SEA was to empower actors other than the State. By their very nature, many non-state actors have limited capacity to understand and respond to issues raised during consultation on matters of this nature requiring some functional understanding of what is at stake. As such, the allotted minimum of four weeks for consultation did little to empower them. Instead, it further weakened their influence over the consents process. Moreover, the rush to complete the SEA also had the undesirable result of producing an Environmental Impact Statement (EIS) that failed to consider a number of core issues including the cumulative impacts. The SEA experience also demonstrates the danger in concentrating power to make legally binding decisions on consent applications in the hands of the State. Under the Round 2 regime, the SEA process was rushed to advance State goals and targets, but more so, to provide an environment of business efficacy for developers. Therefore, the exercise of power by the State in relation to the manner in which the SEA was conducted came under the influence of industry developers. The EIA experience regarding the dolphinarium in Anguilla deserves brief mention. In the first relocation process, the EIA process was circumvented to meet the developer's deadlines to evacuate the facility at Barnes Bay. Simply put, the lesson from the UK SEA experience is that environmental impact studies should be commissioned on terms, conditions and processes that conform to some international standard rather than the demands of the relevant and interested industry.

6.6 Conclusion

This Chapter briefly outlined the energy context in the OECS region by touching upon the regions' supply and consumption context, strategy and legal requirements. The defining characteristic of the energy supply and consumption context in the OECS is that the region has a high-dependence on imported fossil fuels. This dependence is directly linked to the lack of oil, natural gas, and coal resources in the region. The grim consequences of this chronic dependence on imported energy in the OECS countries, is reflected in the fact that some countries have had to spend as much as half of their export revenues on imported fuels. Further, the added burden of import dependence in the region is the risk to energy security. Compounding the energy supply and demand context in the region is the threat of climate change aided to some extent by the combustion of these imported fossil fuels. These energy challenges have led to an increasing recognition that what the countries in the OECS need desperately is a lowered reliance on imported fossil fuels through the development of clean and renewable sources of indigenous energy. In furtherance of this mandate, attention has been directed to the possibility of tapping into the energy potential of offshore renewable resources in the region. However, standing in the way of the development of renewables is the absence of national and regional energy policies as well as the absence of firm regulatory regimes.

The body of the Chapter sought to develop a rational basis for appling lessons learnt in Chapter 5 towards the creation of an effective governance arrangement in the OECS for marine renewables. To do this, a new governance assessment was carried out for the OECS region drawing mainly on a dolphinarium case study from Anguilla. In describing the governance arrangement in the OECS, the new governance assessment

also drew principles from the political context of the Ashton Marina Project in Saint Vincent and the Grenadines. In addition, the assessment also referenced the regulation of hydropower in Dominica in support of a description of the OECS regulatory dimension. In essence, the findings of the new governance assessment demonstrated that the political, institutional and regulatory contexts in the OECS are akin to the Round 1 and 2 experiences in the United Kingdom. Thereafter, the lessons learnt from the British offshore wind experiences in Chapter 5 were used to guide recommendations for the creation of an effective governance arrangement for offshore renewable resources in the OECS. Specifically, the Chapter grappled with the issue of whether the British Round 3 regime as is, is wholly appropriate for the OECS or whether the Round 3 regime would require some modification, if it is to fare well as an effective governance arrangement in the OECS. The conclusion was that the Round 3 regime is an effective governance arrangement for making positive contributions towards sustainable development and should serve as a model for the OECS region. Firstly, the Round 3 arrangement sought to cure the main problem with the Round 1 and 2 regimes, that is, it reversed the trend of hierarchical control by shifting political power to independent corporate bodies (MMO and IPC). As with the Round 1 and 2 regimes, the OECS governance assessment demonstrated how governments favour business efficacy and the interests of industry developers over the protection of public interests, the environment and the clear letter of the law. However, the entire tradition of hierarchical control was not displaced. In fact, under the Round 3 model, the regulatory and institutional dimensions retained their hierarchical control. On the regulatory dimension, the major governance lesson for the OECS region is that traditional top-down hierarchical control through laws and

regulations is not a faulting initiative so long as such control through laws and regulations adopts an integrated approach to marine management. In other words, the passing of integrated legislation for the marine environment under the Round 3 model, avoided the peril of unsustainable development associated with piecemeal approaches to regulating the marine environment. Further, on the institutional dimension, the governance lesson for the OECS region is that although desirable, the character of the institutions do not necessarily need changing, so long as the regime introduces structured duties to consult. In the main, these duties to consult are necessary to balance the influence of formally established non-state actors (industry) in the regime against informally established non-state actors.

CHAPTER SEVEN

CONCLUSION

7.1 Thesis Overview, Conclusions and Recommendations

Our oceans cover over 70% of the Earth's surface. From the beginning of time, the utilization of this huge body of water and the diverse marine resources that it supports has made life on earth possible for mankind. Early uses of the ocean were generally confined to subsistence fishing and trade and navigation. Today, the oceans are pressured to provide a variety of services for the advancement of individual livelihoods and world economies. These services include food and recreational opportunities; the development of coastal and marine tourism economies; the facilitation of navigation, shipping and commerce activities; access to immense sources of usable energy (such as oil and gas) and other non-living resources (minerals). The sea also serves as a depository for the waste products generated through our contemporary global socio-economic activities. Above all, the oceans provide the invaluable service of regulating our climate and weather. The variety of services offered underscores the importance of the seas to mankind. If the expectation is that present and future generations will continue to benefit from our dynamic oceans and seas, then the maintenance of safe, healthy and productive seas and the attainment of principled ocean governance are of even greater importance.

The seemingly endless uses and services of the oceans have spawned a modern culture of exploration and exploitation. This pervasive culture is aided and abetted by advances in technology, excessive consumption patterns, and the increasing demands of growing coastal populations and economies. Coastal overdevelopment and excessive

marine exploitation pressures have empowered anthropogenic influences that fundamentally change the natural order of coastal and marine ecosystems. The cumulative pressures of over-fishing, pollution, climate change and other environmentally harmful activities are bearing down on the marine environment. Simply put, the health of our seas is at risk. So too is its capacity to provide the services that contribute to human well-being, economic security and sustainable development for present and future generations. If left unchecked, the severity of these risks will be amplified as our technologies advance and as human needs, values and expectations of the oceans continue to change and increase.

Over the past few years, there has been significant progress to develop commercial scale operations of ocean energy. Today, the ocean is on the threshold of providing a reliable base-load source of renewable energy on a commercial scale.[832] It is safe to say that renewable energy is now part of that long list of services we expect from the oceans and seas. Typically, when new values, expectations and services, such as the generation of renewable energy, are demanded from the oceans and seas, there is a clear mandate to guide their deployment, and in particular, to develop new regulatory regimes where they do not exist, and revise existing arrangements where they exist.[833] The key however, is to pursue these mandates in a manner that "…suitably deal[s] with the environmental impacts of ocean energy projects."[834]

The recent discussions at the 2009 Caribbean Renewable Energy Forum indicate that in the very near future, the possibility of tapping into the energy potential of renewable marine resources will be pushed to primacy on the energy agenda's of OECS

[832] Leary, "Renewable Energy from the Ocean and Tides", *supra* note 35 at 417.
[833] *Ibid.* at 424 - 425.
[834] *Ibid.*

Member States. The region lacks laws and policies for regulating the development and use of these resources. Therefore, it has been the purpose of this thesis to propose a governance arrangement that meets the priority of sustainable development for the regulation of offshore renewable resources in the OECS region. To do this, the study has sought to draw lessons from the United Kingdom, the jurisdiction Freedom-Kai Phillips describes as "…clearly ahead of most in terms of legislation pertaining to renewable energy broadly and ocean-based renewables particularly."[835]

In seeking to extrapolate governance lessons from the UK's offshore wind governance regimes, Chapter 2 developed a two-tiered analytical framework to assist in a review and assessment of the effectiveness of the UK case study. The first tier of the analytical framework is the New Governance Approach as articulated by Michael Howlett, Jeremy Rayner & Chris Tollefson. The concept of this approach is particularly useful for policy makers and regulators. For one, the approach is not about adopting or advocating a certain course of action, procedure or method to solving public problems. Rather, it is a way of taking stock of political practices, institutional structures and regulatory instruments and deciding where amongst these dimensions the power to make decisions respecting societal resources is concentrated. In other words, the first tier of the analytical framework is that it provides a means by which regulators may understand, analyze, and thereafter, critique a particular governance arrangement. This is a useful first step when trying to create new governance regimes or revise those already in existence, as it opens the door to understanding the political, institutional and regulatory nature of the governance arrangement under study. The only probable drawback to Michael Howlett et al.'s framework is that it stops at an evaluation of the decision-making process

[835] See, Phillips, "Ocean Renewable Energy", *supra* note 36.

that leads to decisions and substantive outcomes. The framework fails to indicate what a substantively good outcome would be. For any policy-maker or regulator, this would necessarily be their focus.

The second tier of the analytical framework was, therefore, created to pick up the slack of the first tier. In essence, the second tier is a substantive standard against which the effectiveness of offshore renewable energy regimes can be measured. As Chapter 2 notes, many standards are available to measure the effectiveness of offshore renewable energy regimes. Because these regimes impact ocean use and management, suitable criteria for effectiveness can be located in principles that advocate certain standards for stewardship of the oceans and seas. Chapter 2 noted that statements of principles for ocean governance can be found in a variety of sources: directives and protocols on good governance, international agreements, declarations and codes of conduct. Some of these principles include sustainable development, integration, precaution, the ecosystem approach and community-based management. Any of these principles may serve as legitimate criteria for measuring the effectiveness of substantive outcomes of offshore renewable energy regulation. Ultimately, the core requirements for progress towards sustainable development developed by Gibson et al., was chosen as the second tier of the analytical framework.

Chapter 5 presented the case study of the development of the offshore wind regulatory regime in the United Kingdom. To date, there have been three identifiable regulatory attempts to establish the manner in which offshore wind technologies would be allowed to enter the UK marine environment. Each regulatory approach coincided with the UK government's decision to deploy a new round of wind projects, that is, a

different consents process was used to approve Round 1, Round 2, and Round 3 projects respectively. In chronological order, Chapter 5 outlines the consents approaches used to approve project applications under each round of development. Each consent process was then considered in light of Howlett et al.'s three-dimensional new governance framework. Thereafter, Gibson et al.'s core requirements for progress towards sustainability were used to measure the effectiveness of the substantive outcomes of each consent process. Finally, on an evaluation of all three regulatory regimes, Chapter 5 concluded that in light of the Gibson et al. criteria, the current regime under the Planning Act 2008 and the Marine and Coastal Access Act 2009 holds the greatest potential to make positive contributions to the sustainable development of the offshore wind industry. In other words, Chapter 5 concluded that the Round 3 model of governance arrangement was the most effective regime because it holds the greatest potential to rank high on the Gibson et al.'s criteria for sustainability.

Chapter 6 sought to apply the governance lessons from the study of all three offshore regulatory regimes in the UK to the development of an effective governance arrangement for renewable marine resources in the OECS. One of the most common pitfalls of comparative research is the fruitless exercise of comparing legal solutions in one jurisdiction to legal problems of another jurisdiction where the socio-cultural, political and economic contexts of those jurisdictions differ dramatically. Therefore, much of Chapter 6 was dedicated to demonstrating that the political, institutional and regulatory contexts in the OECS are sufficiently similar to justify transposing lessons from the UK. As there is no marine renewable energy governance arrangement regarding renewable marine energy resources in the OECS, a new governance assessment of the

dolphinarium industry in Anguilla was used to demonstrate that the political, institutional and regulatory governance arrangements for new marine developments are akin to the Round 1 and Round 2 governance arrangements in the UK.

Briefly, the results of the new governance assessment of the dolphinarium industry are as follows. First, the political dimension in OECS countries is characterized by traditional hierarchical governance. However, in practice, this state-directed governance arrangement is vulnerable to pressures exerted by formally instituted non-state actors (industry developers). Therefore, in the context of the Howlett framework, this dynamic has created movement along the horizontal axis of the political dimension, ultimately creating a de facto plurilateral governance arrangement. A review of Chapter 5 would confirm that the OECS political arrangement is consistent with the Round 1 and 2 political arrangements. Second, as with Round 1 and 2 of the British consents processes, the institutions that could exert influence over the consent process in the OECS, are formally established. Finally, consistent with Round 1 and 2 of the British consents process, the nature of the regulatory dimension is also representative of hard law approaches to governance. In other words, the OECS regulatory regime is also representative of hierarchical governance on the horizontal axis of Howlett et al.'s regulatory dimension. Taken together, the similarities in each mode of governance provide a rational basis for transposing legal approaches and solutions in the UK to the development of a governance regime for regulating renewable ocean resources in the OECS.

The OECS region has had the principle of sustainable development as its defining developmental objective for quite some time. Chapter 6 reasoned, that if sustainable

development is the defining objective for all OECS Member States, the political, institutional and regulatory efforts to tap into the offshore energy potential cannot begin as it did in the UK. Chapter 5 demonstrates the British experience, to the effect that the Round 1 and 2 political, institutional and regulatory efforts to regulate offshore wind produced unsustainable outcomes. It follows then, that because the governance arrangements in the OECS and the UK are similar, if the same arrangement is used for regulating renewable ocean resources in the OECS, there is a high probability that the regime would not make positive contributions towards sustainability. In other words, the OECS Member States must adopt a different governance approach to Round 1 and 2, if the intention is to develop renewable ocean resources in a manner that furthers sustainable development. In this regard, the major recommendation was that policy makers and regulators in the OECS must adopt lessons from the British Round 3 regime and process.

To recap, among other things, the transitions from Round 1 to Round 3 demonstrate the fundamental point that hierarchical governance of offshore renewable resources does not seem to work. Similarly, the dolphinarium case study demonstrated the unsatisfactory effects of hierarchical arrangements in the OECS region. As with Round 1 and 2, where political power is concentrated in the hands of the state, the reality has been that industry developers are easily positioned to influence the exercise of that power to the detriment of the environment and the people who rely upon it. Chapter 2 mentioned the argument by New Governance scholars that the social trait of non-state actors would influence more effective rules, approaches and solutions to the allocation of societal resources. One inescapable interpretation is that hierarchical control means that

those normally affected by government decisions seldom have the capacity or opportunity to exert the requisite influence over the decision-making process. Therefore, in line with Gibson et al.'s core requirements for sustainability, hierarchical arrangements tend to restrict progress on the principle of socio-ecological civility and democratic governance. Taking all of the foregoing into consideration, hierarchical control represented development *for* the people and not development *by* the people - a restriction that New Governance scholars would also frown upon. Herein lies the main problem with the Round 1 and 2 governance arrangements and by extension the current framework in the OECS. Therefore, the first governance lesson suggested for regulators and policy makers in the OECS is that hierarchical governance of offshore renewable resources must be eschewed.

However, the transition between the Round 2 and 3 regimes demonstrates a conceptual shift away from governance arrangements that conform to the tradition of hierarchical control. This concept is a favourable approach that policy-makers should adopt in the development of a governance regime for regulating offshore renewable resources in the OECS region. First, unlike the Round 2 transition, the Round 3 model of governance was established through the creation of specific legislation. At present, the *Planning Act 2008* and MCAA represent the new legal frameworks within which decisions will be made. Therefore, as it pertains to the regulatory dimension, the tradition of top-down hierarchical control through laws and regulations continued. What changed however, was the fragmented approach to marine management. For instance, the MCAA sought to modernize, integrate and simplify the consent process by consolidating into a single licensing decision consideration of environmental, human health and navigational

factors. This licence is to be granted by an independent organization, the MMO, created for this purpose. The Act also transfers several functions relating to marine management (sea fisheries, nature conservation, renewable energy, etc.) to the MMO. It should, however, be emphasized that the Round 3 model of governance under the *MCCA* regulates all renewable energy activity in the marine environment and not just offshore wind. Therefore, there are wider governance lessons that policy-makers in the OECS may adopt given that the regime transcends all forms of offshore renewable resources. In essence, the transfer of these functions (sea fisheries, nature conservation, renewable energy, etc.) drew together into a single licensing decision consideration of the interests of other users of the sea. The second governance lesson recommended for the OECS region is that traditional top-down hierarchical control through laws and regulations is not a faulting initiative in and of itself so long as it adopts an integrated approach to marine management. This governance lesson draws from the fact that conceptually, sustainability is a challenge to 'business as usual' practices and therefore, the use of existing regimes would be ill suited for making positive contributions towards sustainable development in the OECS.

In relation to the political dimension, the problem in the Round 1 and Round 2 British regime is that power was concentrated in the hands of the State, which was under industry influence. To alleviate this problem, the British government through the *Planning Act* and the MCAA, removed from the State the legal power to make decisions on consents applications, and vested it in central corporate bodies that were created to be independent of the government. Conceptually, the purposeful vesting of power in independent establishments serves to insulate the new decision-makers from the pressures

of industry. This weakens industry's influence over the process. Thus, for an effective governance arrangement in the OECS, the third governance lesson is that it would be prudent to mimic the Round 3 arrangement by placing power to make legally binding decisions in a body corporate independent of the Government. Note however, that a proper consideration of the realities of this arrangement may indicate that the corporate bodies are not as independent as the analysis concludes, and so, there is still some room to continue business as usual practices. On the other hand, it is submitted here that the structure of the MCAA, which centralizes, essentially, the overall use of the marine area under the MMO gives the organization tremendous power. The MMO may enter into agreement with other agencies, including private agencies, to have them carry out its mandates as set out in the Marine Policy Statements and Marine Plan. For the OECS region, this power carries both a financial and technical benefit. For instance, the MMO may to conclude agreements with relevant bodies that have been exercising existing power concerning the various sectors brought under the Act, to authorize them to do so under its delegation. Delegation therefore has the benefit of drawing on the knowledge capital of these departments that have a long history in relation to the management of their respective sectors. A conclusion that accounts for the practical realities in issue would state that though the political arrangement under the MCAA is not foolproof, as a compromise, the MMO's power is very huge but also potentially unwieldy.

Apart from shifting the governance arrangement from development *for* the people to development *by* the people, what makes the Round 3 model effective, and thus more attractive for the OECS region, is the introduction of duties to consult under the legislations. As with the dolphinarium case study, under the Round 1 and 2 British

regimes, the institutions that had the capacity to influence the consent process were formally established and, mostly, they are industry professional institutions. The intent behind creating onerous and structured consultation duties under the legislations is to diversify the institutions that have the capacity to influence outcomes by empowering a range of non-state actors to have some leverage under the exercise of institutional jurisdiction. Further, in relation to the fact that there is still some room in the UK model to continue 'business as usual' political practices, the consultation duties empower non-state actors to act as a potential check and balance on the exercise of power by the MMO. The adoption of lessons from the Round 3 governance arrangement in the OECS would ensure that marine renewable resources in the region are regulated in a manner that makes positive contributions towards sustainability. In sum, for an effective governance arrangement in this sector in the OECS, regulators should vest political power in an independent body corporate and adopt integrated regulatory instruments that prescribe structured consultation duties.

Additionally, the Strategic Environmental Assessment (SEA) experience in Round 2 was a lesson in everything not to do when carrying out SEAs and, by extension, Environmental Impact Assessments (EIA). Generally, the SEA conducted was considered to be a rushed and cosmetic exercise. The British Government completed the entire process in a space of five short months, and this, in the interests of industry developers and business efficacy. This alienated many stakeholders and the public who were denied an early and effective opportunity within appropriate time frames to express their opinions. The process thus failed to fulfill one of its fundamental purposes, which was to empower actors other than the State. By their very nature, many non-state actors have

limited capacity to understand and respond to issues on matters of this nature raised during consultation, that require some functional understanding of what is at stake. The allotted minimum of four weeks for consultation did little to empower them. Instead, it further weakened their influence over the consents process. The rushed SEA process also had the undesirable result of producing an incomprehensive Environmental Impact Statement (EIS) that failed to consider a number of core issues including cumulative impacts. The SEA experience also demonstrates the danger in concentrating power to make legally binding decisions on consent applications in the hands of the State. Under the Round 2 regime, the process advanced State goals and targets, and provided an environment of business efficacy for the industry developers that strongly influenced its course. By way of a brief cross-reference to the EIA experience regarding the dolphinarium in Anguilla, it must be noted that in the first relocation process, that process was also circumvented to meet the developer's deadlines to evacuate the facility at Barnes Bay. So, the lesson from the UK SEA experience is that environmental impact studies should be commissioned on terms, conditions and processes that conform to some international standard rather than the demands of the relevant and interested industry.

7.2 General Conclusions on Conditions for Effective Ocean Governance

The main purpose of this study is to propose a governance framework for the regulation of renewable marine resources in the OECS. Beyond this, it has a wider purpose to look at general conditions or effective ocean governance via the context of renewable energy development. In this regard, what this thesis demonstrates is that strict hierarchical governance of the marine environment is not a desirable condition for

effective ocean governance. This point accords with the modern concept of 'ocean governance' outlined in Chapter 2 of the study. Chapter 2 noted that academics proffer the view that 'ocean governance' goes beyond traditional command and control approaches to regulating and influencing human behaviour in relation to the ocean. The other dimension or characteristic of the concept advanced by Rothwell & VanderZwaag embrace a more interactive decision making process which not only incorporates "…government agencies and departments but a broader range of participants including the private sector, scientists, community groups, non-governmental organizations, academics, First Nations and others."[836]

It is well accepted that 'ocean governance' is primarily concerned with the management of stakeholder activities in coastal and marine areas.[837] However, the concept of 'ocean governance' necessarily goes beyond the ambit of simply mitigating conflict of use inevitabilities in the marine environment. In fact, the justification for the management of stakeholder activities in ocean spaces is mainly two-fold: to maximize the benefits that may be derived from the resource and non-resource use of the ocean, while ensuring the ocean's long-term viability by conserving and protecting ocean habitat and marine life. To balance these objectives, the evolving trend in ocean governance favours interactive decision making over traditional regulation. A core condition of effective ocean governance therefore, is a strong presence of human perceptions on the value of ocean uses. In sum, through the study of marine renewable resources development, this thesis generally demonstrates that strict hierarchical governance of the marine environment is not a desirable condition for effective ocean governance.

[836] VanderZwaag, "Towards Principled Ocean Governance", *supra* note 72.
[837] Sutherland, "Issues in Governance of Marine Spaces," *supra* note 67 at 7.

This thesis has proposed that the OECS region adopt governance lessons from the UK Round 3 Model of governance. In this regard, it is necessary to note that this model of governance might need modification or improvement as experience grows and as familiarity is gained with other regulatory regimes elsewhere in the world as they emerge.

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