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<td>Author(s)</td>
<td>Long, R</td>
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<td>Publication Date</td>
<td>2014</td>
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<td><a href="http://hdl.handle.net/10379/4708">http://hdl.handle.net/10379/4708</a></td>
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Harnessing Offshore Wind Energy:
Legal Challenges and Policy Conundrums in the European Union

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Abstract
Contemporary trends in European offshore wind power are explored, including: the status of the industry and its future prospects for growth; EU treaty and legislative obligations; as well as regulatory and policy issues pertaining to energy and climate change objectives. Special mention is made of EU case law on national renewable energy support schemes, along with the European Directive on maritime spatial planning; focusing on the need for further EU law reform and Member State legislative action to promote the regionalisation of the sector and the establishment of a new Energy Union.


Introduction
The genesis of the European Union (EU) integration process may be traced back to the conclusion of three treaties in the 1950s.¹ At the time, the collaborative arrangements did not extend to the establishment of a common energy market.² As a result, EU Member States have long since retained considerable discretion in pursuing national policies promoting particular sources of energy, namely: nuclear power in

France, Belgium and Sweden, oil in the United Kingdom, gas in the Netherlands, and coal in Germany.³

Rather surprisingly, the development of a common policy on energy lacked a specific legal basis in EU primary law prior to the ratification of the Treaty on the Functioning of the European Union (TFEU), which amongst other matters aims to promote new and renewable forms of energy.⁴ Although the EU treaties are silent on which sources of renewable energy ought to be developed in the Member States,⁵ it is clearly apparent from the widespread development of wind farms in the North Sea and elsewhere that offshore wind power now forms an essential component of Europe’s energy mix and has the potential to make a significant contribution to security of energy supply, as well as the reduction of greenhouse gas emissions (GGEs) in line with the EU’s ambitious commitments to combat the causes of climate change.⁶ Moreover, the development of offshore wind power can also help the EU achieve some of the broader public interest objectives under its internal market and environmental policies including enhanced cross-border trade in so-called “green electricity”, while ensuring at the same time that the energy sectors in the Member States remain sustainable, secure and highly competitive as part of the world’s largest low-carbon economy.⁷

Ironically, despite the laudatory nature of the aforementioned objectives, EU law does not encourage directly, or indeed compel, the 23 coastal Member States to maximise the offshore wind resource in sea areas under their sovereignty and jurisdiction.⁸ As a result, the industry has evolved in a haphazard fashion at a pan-European level and this trend was further exacerbated by the absence until recently of common EU rules

⁴ Art. 194(1)(c) TFEU.
⁵ Art. 192(2) TFEU.
⁸ Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, France, Finland, Germany, Greece, Italy, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden, and the UK.
on maritime spatial planning (MSP) aimed at mitigating the cross-boundary impacts of wind farm development on other legitimate uses of the marine environment.

This state of affairs may soon change, however, as major developments are afoot within the EU legal order as a result of a judgment of the Court of Justice of the European Union (CJEU) in a recent case concerning the legality of national support schemes promoting renewable energy in Sweden, and in the form of a European Directive on maritime spatial planning, along with the EU’s current priority commitment to establish a new Energy Union as it faces one of the most testing periods in its history in relation to energy security and climate change.

All of these developments also suggest that the time might be right for further law reform to ensure that the regulatory framework is focused more directly on promoting a regional seas solution to the future expansion of the offshore wind sector and in a manner that accords fully with the central thrust of the European Energy Security Strategy, the Blue Growth Strategy, and the EU’s Integrated Maritime Policy, all of which advance a centralist European economic perspective on the strategic growth of key industries in the Member States. In order to provide some context for a discussion of these issues from a legal perspective, it is first necessary to outline the current status of the industry and to identify some of the factors that are influencing its prospects for future growth.

**Status of the Industry**

The European coastal environment has one of the best wind energy resources in the world and the rapid growth of the offshore wind industry since the early 1990s is

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9 Case C-573/12, Ålands Vindkraft AB v Energimyndigheten, Judgment of the Court (Grand Chamber) 1 July 2014.
impressive. Over the relatively short period of two decades, the sector had grown to 69 farms in 10 EU Member States and Norway by the end of 2013.

Consequently, European coastal States are now considered world leaders in the deployment of offshore wind turbines. The most suitable sites for development are in the relatively shallow waters of the North Sea, the Baltic Sea and to a lesser extent along the Atlantic coastline, all of which are in close proximity to major centres of industry in north-western Europe. Quite clearly, however, the growth of the industry is not uniform at a pan-European level and there is considerable disparity in national figures, as can be seen from the information shown on Table 1 below, with some Member States such as the UK leading the field with 23 offshore farms operational by the end of 2013, followed by Germany (13 farms) and Denmark (12 farms).

The number of farms is a poor indicator of the status of the sector in real terms, as the size and scale of both the individual farms and the power of the turbines has also increased considerably over time, as typified by the construction of the world’s largest offshore wind power installation, the so-called London Array, in the outer approaches to the Thames Estuary. This Array is capable of generating enough green electricity to power half a million homes and reduce GGEs by over 900,000 tonnes a year.

Furthermore, the growth of the offshore industry in several European countries including Finland (9 offshore turbines), Ireland (7), as well as Norway (1), Portugal (1), and Spain (1), has shown little progress.

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17 EEA (n 15), at p.6.

18 EWEA (n 15), at p.10.

19 See: www.londonarray.com; accessed 12 September 2014.

20 EWEA (n 15), at p. 10.
The technical and geographical parameters governing the deployment of turbines vary considerably. That said, the majority of farms are located in close proximity to the shore (less than 50 kilometres) and in water depths of less than 50 metres, with the notable exception of Norway, where plans are in place to deploy floating turbines in depths of 200 metres and greater. The general trend is to locate farms further seaward in the exclusive economic zone (EEZ) and away from the coastal zone. Overall, there is extensive variation in the geographical distribution of the industry, with more than half of the farms located in the North Sea by the end of 2013. In stark contrast, no major projects were operational in the Mediterranean Sea and there is therefore a clear north/south divide regarding the geographical footprint of the industry. This trend is unlikely to change as it is anticipated that 60% of European offshore wind power capacity will be located in the North Sea basin and a further 20% along the Atlantic coast by 2030.

Caution should be exercised in drawing any conclusions about the strategic importance of the industry; offshore wind was only capable of generating a minuscule 0.7% of the EU’s total electricity consumption in 2013. This is a relatively insignificant contribution to the energy demands of countries such as Germany, Poland and the UK, which are both energy-intensive and major sources of GGEs. On the other hand, the offshore wind sector is expected to grow close to 20-fold from 2.9 GW in 2010 to 42 GW by 2020 and capable of generating 3.5% of the EU’s total electricity consumption by this target date, doubling to 7% by 2030. In comparative terms, Europe is expected to remain well ahead of other coastal States worldwide, including China, where electricity generated from offshore wind is anticipated to reach 6 GW by 2020.

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22 EWEA (n 15), at p. 32.
23 COM(2014) 8, at p.11.
24 Ibid., at p.15.
26 Ibid.
29 Ibid., at p.115.
30 Ibid., at p.141.
Table 1: Status of the European offshore wind energy industry in 2013

<table>
<thead>
<tr>
<th>Country</th>
<th>BE</th>
<th>DE</th>
<th>DK</th>
<th>ES</th>
<th>FI</th>
<th>IE</th>
<th>NL</th>
<th>NO</th>
<th>PT</th>
<th>SE</th>
<th>UK</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of farms</td>
<td>5</td>
<td>13</td>
<td>12</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>No of turbines</td>
<td>135</td>
<td>116</td>
<td>513</td>
<td>1</td>
<td>9</td>
<td>7</td>
<td>124</td>
<td>1</td>
<td>1</td>
<td>91</td>
<td>1082</td>
<td></td>
</tr>
<tr>
<td>Capacity installed (MW)</td>
<td>571</td>
<td>520</td>
<td>1,271</td>
<td>5</td>
<td>26</td>
<td>25</td>
<td>247</td>
<td>2</td>
<td>2</td>
<td>212</td>
<td>3681</td>
<td></td>
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Factors Influencing Industry Growth

First and foremost, EU energy and climate change policies are influencing the growth of the offshore industry as they stipulate amongst other matters that the combined output of all renewable energy sources must contribute 20% of gross energy consumption in the Member States by 2020, growing to at least 27% by 2030, and possibly to an incredible 75% by 2050 on the basis of the most optimistic forecast. Ultimately, the aim is to reduce GGEs to 80-95% below 1990 levels by 2050, as part of a concerted global cooperative effort by developed countries to address climate change.

Many other factors influence the growth of the sector, including: the exclusive sovereign rights granted to coastal States to develop the resource in the EEZ under the United Nations Convention on the Law of the Sea (LOS Convention); physical

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31 EWEA (n 15), at p.10.
factors, including meteorology and bathymetric conditions in coastal waters, with the industry expressing a strong preference for locations with steady wind speeds and shallow waters; the availability of maritime space in sea areas under the sovereignty and jurisdiction of the Member States; the potential for conflict with other users of the marine environment, or clashes with other spatial designations, including those that provide for shipping and nature conservation; market considerations, including fossil fuel and carbon prices, allied with demand for energy both within and beyond the EU; as well as extraneous factors, such as social opposition to land-based wind turbines in several Member States.  

The latter consideration is pushing wind farms further seawards in the Netherlands, Germany and the UK, who have all placed restrictions on the construction of wind farms within 12 nautical miles of the coast in order to mitigate, amongst other matters, the visual impact of the turbines on the human environment.

Most notably, government policy and national regulatory measures in several Member States are influencing the development of the sector. A multiplicity of political considerations is also at play, which vary from one Member State to another. A case in point is Germany, where government policy mandates a move away from nuclear power and greater reliance on renewable sources of energy, a policy decision that will cost an estimated $340 billion to implement and which has been influenced and

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38 EEA Technical Report No.6 (n 15), at p.32.

accelerated by the Fukushima nuclear disaster in Japan.\textsuperscript{40} In order to facilitate this switch to green energy, the German marine spatial plan provides for the deployment of 8,000 turbines in the North and Baltic Seas.\textsuperscript{41}

Progress in other Member States has faltered, with some countries, such as Ireland, indicating that its substantial offshore wind resource will only be developed as an export opportunity if it is economically beneficial to do so.\textsuperscript{42} Moreover, the European Commission has identified several regulatory reasons why EU Member States are slow to exploit the full potential of ocean energy, including wind power.\textsuperscript{43} In particular, it appears that the absence of discrete licensing processes is impeding progress, with many Member States adopting a case-by-case approach using the laws that apply to petroleum, aquaculture or other offshore developments, for the purpose of evaluating and approving ocean energy projects, including offshore wind farms.\textsuperscript{44} This is compounded by the utilisation of different consent processes for projects that are located in the territorial sea \textit{vis-à-vis} those that are located in the EEZ, reportedly a feature of the licensing schemes utilised by Belgium, Germany and Sweden.\textsuperscript{45} In some instances, the administrative costs associated with offshore project applications can amount to 14\% of total project costs, which is far higher than similar projects on land.\textsuperscript{46}

Apart from the inordinate cost associated with generating electricity from offshore wind power, challenges are posed by the subsea power transmission grid and its integration into the terrestrial network, as well as the completion of seabed interconnectors between Member States to allow for the export and importation of

\textsuperscript{43} COM(2014) 8, at p.14
\textsuperscript{44} \textit{Ibid}, at p.15.
\textsuperscript{45} \textit{Ibid}.
\textsuperscript{46} \textit{Ibid}, at p.14.
electricity. Remarkably, grid connections are designed to serve exclusively the national energy markets in individual Member States with little regard, up until recently, for regional cooperation or the direct transmission of electricity supplies between Member States.

In the main, the principal over-riding factors shaping the industry are the high capital costs and the questionable profitability of offshore wind power. In this regard, although offshore wind speeds are higher than those onshore and are characterised by higher load hours, the production and transmission of electricity from offshore sources is considerably more expensive than the cost of energy generated from fossil fuels or indeed from terrestrial wind farms. The future of the offshore wind industry is thus highly dependent on fiscal and market support from public funds in the Member States in the form of feed-in tariffs, grants, subsidies, and tax credits. Moreover, fiscal subvention of the industry is very much contingent upon EU State aid approval and is closely linked with national renewable energy support programmes, which again diverge significantly across the EU.

**Constraints Arising from EU Primary Law**

As is well known, the EU can act only within the limits of the competences conferred upon it by the Member States under the European treaties. In this regard, a range of diverse and complex EU treaty provisions pertain to energy, the environment, the internal market, as well as on trans-European networks and infrastructure, are influencing offshore wind power development in the Member

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47 ORRECA (n 39).
48 See (n 83).
49 EEA Technical Report (n 15), at pp. 35-49, especially at p.41.
50 The European Joint Research Centre estimated that the cost of electricity from offshore wind is €0.18 per kWh, from nuclear technologies €0.067/kWh, combined cycle gas €0.061/kWh, and coal without carbon capture and storage €0.052/KWh. See Annex 16, COM(2014) 8 final, Brussels, 20 January 2014.
51 For a summary of the various support schemes in operation in the UK, Scotland (which differs from the rest of the UK), Ireland, France, Italy, the Netherlands, Germany, Belgium, and Denmark, see Annex 8 of COM(2014) 8, 20 January 2014, at pp. 83-93. Also, J. Krzeminska, ‘Are Support Schemes for Renewable Energies Compatible with Competition Objectives? An Assessment of National and Community Rules’ (2007) 7 Yearbook of European Environmental Law 125-158.
52 Art. 5(2) TEU.
States.\textsuperscript{53} Three brief points can be made about these provisions from the perspective of EU energy law more generally.

First, much of the difficulty in rolling out a coherent and integrated framework governing the offshore wind sector at a regional seas level appears to stem from the fact the EU and Member States share competence (responsibility) for the formulation and implementation of energy policy.\textsuperscript{54} Accordingly, any EU legislative proposals concerning the future development of the sector must respect the dual principles of subsidiarity and proportionality.\textsuperscript{55} Under the former principle, the EU can only act if and insofar as the objectives of the proposed action cannot be sufficiently achieved by the Member States, or if it can be better achieved at the level of the EU by reason of the scale or effects of the proposed action.\textsuperscript{56} The principle of proportionality ensures that the content and form of EU action does not exceed what is necessary to achieve specific treaty objectives, such as the promotion of renewable energy.\textsuperscript{57}

Second, the EU treaty objectives for energy are remarkably \textit{avant-garde} from an offshore wind power perspective insofar as they aim to ensure the functioning of the energy market, the security of supply, the promotion of energy efficiency and savings, and to ensure the development of new and renewable forms of energy, together with the interconnection of energy networks.\textsuperscript{58} The EU is obliged to take internal market and environmental considerations into account in the attainment of these objectives.\textsuperscript{59} Elsewhere, the TFEU provides that the EU is obliged to contribute to the establishment and development of trans-European energy networks and infrastructures.\textsuperscript{60} The latter is an absolute imperative for the completion of the subsea power grid at regional seas levels.

The third point concerns the remit and law-making powers of the European institutions. In the first instance, the European Parliament and the Council are tasked

\textsuperscript{53} Arts. 112, 170, 194, 192 TFEU.
\textsuperscript{54} Art. 4(2)(i) TFEU.
\textsuperscript{55} Art. 4(2)(i) TFEU.
\textsuperscript{56} Art. 5(3) TEU.
\textsuperscript{57} Art. 5(4) TEU.
\textsuperscript{58} Art. 194(1) TFEU.
\textsuperscript{59} Arts. 112 and 194 TFEU.
\textsuperscript{60} Art. 170(1) TFEU.
with adopting the measures necessary to achieve the treaty objectives on energy including the rolling out of an appropriate legislative programme within the European institutions.\textsuperscript{61} They must follow the ordinary legislative procedure in the European Parliament and Council, with the latter body acting on the basis of a qualified majority of votes of the Member States.\textsuperscript{62}

At first sight, it may appear that EU primary law provides a legal basis for the adoption of EU harmonisation measures promoting the further development of offshore wind power. Crucially, however, Member States retain absolute discretion under the treaties in setting the conditions for exploiting energy resources, as well as in choosing between the different energy sources and the general structure of energy supply with a view to meeting their national needs.\textsuperscript{63} Indeed, in the context of adopting measures that are primarily of a fiscal nature, or to advance environmental policy, the law-making powers of the European institutions are clearly fettered by the TFEU, which requires the Council to act with unanimity in accordance with a special legislative procedure if it is to adopt measures significantly affecting a Member State’s choice between different energy sources and the general structure of energy supply.\textsuperscript{64} Furthermore, the European Parliament, the Economic and Social Committee and the Committee of the Regions are only afforded a mere consultative role by the EU treaties in the law-making process regarding such measures and this undermines their capacity to influence the development of a common EU policy on energy.\textsuperscript{65} What this means in practice is that the power to adopt EU legislative measures promoting a regional solution to the future development of offshore wind power rests firmly with the Member States, who must act collectively within the Council of Energy Ministers. The latter is a formidable hurdle to overcome in light of the divergent national interests that are at stake and the tendency of the Member States to guard rigorously their sovereign rights from further EU encroachment in a key industrial sector.

\textsuperscript{61} Art. 194(2) TFEU.
\textsuperscript{62} Art. 238 TFEU.
\textsuperscript{63} Declaration 35 of the Intergovernmental Conference on Art. 194 TFEU, OJ C 83/349, 30 March 2010.
\textsuperscript{64} Arts. 192(2)(c) and 194(3) TFEU.
\textsuperscript{65} Ibid.
Fragmented Tableau of EU Secondary Legislation

In addition to EU primary law, a fragmented tableau of EU regulatory instruments is applicable to offshore wind power development, including legislation on the internal electricity market, the Energy Security Directive, the Renewable Energy Directive (the RES Directive), the law related to the EU Emissions Trading Scheme, the rules on State aid and competition policy, as well as a raft of legislation on the protection and preservation of the marine environment.

Foremost is the RES Directive, which provides a common regulatory framework for the promotion of energy from renewable sources, including offshore wind power. The RES Directive establishes mandatory national targets for the overall share of energy from renewable sources, as well as the rules relating to joint energy projects between Member States, guarantees of origin, administrative procedures, information and training, along with access to the electricity grid, and the renewable energy targets that must be achieved by individual Member States by 2020.

Although the wind resource could theoretically meet the EU’s entire electricity needs if it is developed to its full capacity, the RES Directive does not specify any preference for wind power or indeed require the Member States to have an offshore wind component in their national renewable energy action plans. Moreover, by the end of 2013, the pace of implementation of this instrument was slow as demonstrated by the European Commission initiating infringement proceedings against 12 Member States for incomplete transposition of the RES Directive. In addition, Member

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70 Community guidelines on State aid for environmental protection, OJ C 82, 1 April 2008, 1–33.
71 Long (n 15).
72 Dir. 2009/28/EC (n 68).
73 Art. 1, Dir. 2009/28/EC.
74 Art. 3(1). Dir. 2009/28/EC.
75 COM(2008) 768, at p.3.
76 Art. 4, Dir. 2009/28/EC.
77 Austria, Bulgaria, Cyprus, Czech Republic, Finland, Hungary, Ireland, Latvia, Luxembourg, the
States have also shown a marked reluctance to establish joint or regional renewable energy projects between two or more Member States.\textsuperscript{78} Having said that, they remain on schedule to meet their 2020 targets under their national policies and programmes.\textsuperscript{79}

Complementary to the RES Directive, the EU has adopted various legislative instruments that are aimed at facilitating cross-border trade in electricity.\textsuperscript{80} Sizeable efforts have also been made to promote and integrate renewable energy sources in the Member States through the provision of financial support for their interconnection at the continental level by means of the development of trans-European energy infrastructure.\textsuperscript{81} Not all of these efforts have been entirely successful and the European Commission has reported that significant obstacles remain concerning permits, regulatory and fiscal matters.\textsuperscript{82} In order to redress some of these shortcomings, the European institutions and the Member States are in the process of adopting a comprehensive package of measures aimed at developing priority corridors and areas of trans-European energy infrastructure, including the Northern Seas Offshore Grid and the related interconnectors in the North Sea, the Irish Sea, the English Channel, the Baltic Sea and neighbouring waters.\textsuperscript{83}

**Legal Challenges and Policy Conundrums**

In spite of the considerable progress that has been made in several of the Member States, two major impediments appear to be holding the industry back from evolving into a highly competitive and a well-integrated sector that contributes on a regional basis to security of supply in the European energy market.
The first difficulty stems from the EU regulatory approach to renewable energy in general, which is at odds with some central tenets of European trade law on the functioning of the internal market and the free movement of goods across the internal borders of EU Member States. One patent complexity arises from the RES Directive, which assigns individual Member States mandatory national targets formulated in quotas regarding the production of green electricity without specifying which if any of the sources ought to be prioritised. Indeed, according to the Court of Justice, the scheme advanced by EU law enables Member States to “control the effect and costs of their national support schemes according to their different potentials”, while maintaining investor confidence in the sector. Key decisions in this regard, however, rest with the national authorities in the Member States who can meet their renewable energy targets using domestic resources, or through the transfer of guarantees of origin for renewables by means of international agreements between governments, or through a system of private trade.

The second peculiarity relates to the manner in which EU policy on renewable energy deviates significantly from some of the core objectives of the EU’s Integrated Maritime Policy. Supposedly, the latter aims to harmonise national policies on maritime activities, including those pertaining to energy, with a view to achieving the right balance between the economic, social and environmental dimensions of sustainable development. The absence of uniform regional rules on MSP up until recently undermined the capacity of Member States to attain this objective and did little for the orderly management and administration of offshore activities, or to lessen the trans-boundary impacts associated with placing thousands of turbines in relatively congested areas of the marine environment. This lacuna in EU law contributed to a putative dispute that arose between the Netherlands and Belgium in 2012 concerning the authorization of a wind farm by Belgium in an area that impeded shipping routes.

84 Arts. 26 and 34-37 TFEU.
85 Dir. 2009/28/EC (n 68).
86 Arts. 3(1), 5(1) and (3), Dir. 2009/28/EC.
87 Case C-573/12, para. 99.
88 Arts. 4, 7 and 9 Dir. 2009/28/EC.
89 COM(2007) 575 (n 14).
90 Ibid., at p.9.
serving Dutch ports. This was not an isolated incident, as a similar dispute arose between the Netherlands and Germany concerning the technical aspects of wind farm safety zones in the German EEZ.

Although these disputes were settled amicably through bilateral diplomacy, they nonetheless highlighted the pressing need for a common EU approach on MSP, characterised by close inter-Member State coordination and planning of offshore economic activities. Pointedly, the whole issue of uniformity and the diversity of national rules with respect to the operation of the internal energy market is also a theme that has been placed firmly on the EU’s law-reform agenda, due to a landmark decision of the CJEU concerning renewable energy support schemes, which merits further consideration here.

**Court of Justice Clears the Air on National Support Schemes**

The definition of goods in EU law extends to electricity. The free movement of goods across the internal frontiers of the Member States is a key feature of EU trade law. Several important CJEU judgments in the field of energy touch upon the compatibility of Member State law restricting trade in goods with EU climate change and environmental obligations. Instructively, as far back as 1998, the Court upheld a German law on renewable energy on environmental grounds, even though the contested legislation required private companies to purchase renewable electricity at

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91 SWD (2013) 65, at 34.
92 Ibid.
93 Closing remarks made by Dr. René Lefeber, Netherlands Ministry of Foreign Affairs, at the final session of the conference, Energy from the Sea: An International Law Perspective on Ocean Energy, Utrecht, 19-20 February 2014, (contemporaneous note taken by the author).
95 Arts. 28-37 TFEU.
97 See, for example, Case C-2/10, [2010] ECR I-5031. The Court has also upheld discriminatory national measures in the field of air transport on the grounds of noise pollution in Case C-389/96, [1998] ECR 1-4473.
prices that were higher than the real economic value of this type of electricity. Since then, the EU regulatory regime applicable to renewable energy has undergone fundamental change in the form of the RES Directive, so it was only a question of time before many of the key issues remerged again in the Court’s jurisprudence.

Against this background, the Ålands Vindkraft case marks a new high point in EU energy and climate change law, insofar as it offered a Grand Chamber of the Court the opportunity to interpret the RES Directive and to clarify the precise relationship between EU trade law and environmental law relating to the production of energy from renewable sources, as well as the legality of the national renewable energy support schemes that restrict intra-Member State trade in electricity.

The case came to the European Court by way of preliminary reference from the Administrative Court in Linköping in Sweden. The gravamen of the reference arose out of the refusal of the Swedish Energy Agency to award an offshore wind farm located in the Finnish Åland archipelago tradable “green certificates”, on the grounds that only installations located within Swedish territory were eligible for such an award under the national support scheme. Among other matters, Ålands Vindkraft contended that the net effect of the refusal was to obstruct the importation of electricity from Finland into Sweden contrary to European treaty provisions on the free movement of goods. As a consequence, they asserted that the producers of green electricity in Sweden had an unfair commercial advantage in that they could couple or package the sale of electricity with green certificates and thereby promote the sale of the latter to the detriment of producers in other Member States. Both the RES Directive and Swedish law make provision for collaborative arrangements,

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99 See discussion on secondary legislation infra.

100 Case C-573/12, (n 9).

101 Art. 267 TFEU.

102 Case C-573/12, paras 23-24. The judgment is silent on whether the Swedish law also applied to installations in sea areas under national sovereignty and jurisdiction.

103 Art. 34 TFEU.

104 Case C-573/12, para. 28.
whereby two or more Member States can coordinate their national support schemes.\textsuperscript{105} Although such an arrangement applied between Sweden and Norway, there was no similar agreement between Sweden and Finland.\textsuperscript{106}

The Grand Chamber of the Court declined to follow the previous (non-binding) Opinion of Advocate General Bot,\textsuperscript{107} and held that the RES Directive allows Sweden to operate a support scheme that is characterised by territorial restrictions on the award and forfeiture of green certificates.\textsuperscript{108} Moreover, this restriction is permissible under EU law as it is aimed at promoting increased use of renewable energy in the production of electricity,\textsuperscript{109} and is thus “in principle” capable of justifying trade barriers.\textsuperscript{110} The Court seized the opportunity to clarify a long-standing issue that has clouded the precise interface between EU trade and environmental protection law for close to two decades.\textsuperscript{111} Citing its own jurisprudence and Article 194(1)(c) TFEU,\textsuperscript{112} the Court noted that one of the aims of renewable energy is to combat climate change through the reduction of GGEs and that this justified restrictions on the free movement of electricity between Member States.\textsuperscript{113} The rationale underpinning the judgment and the Court’s application of the proportionality principle are very much focused on the practical aspects of promoting the achievement of renewable energy targets at the production stage rather than the consumption stage,\textsuperscript{114} as well as on promoting investor confidence in financing green energy.\textsuperscript{115}

\textsuperscript{105} Art. 11 Dir. 2009/28 and Swedish Law (2011:1200) on electricity certificates (lagen (2011:1200) om elcertifikat), chapter I, para. 5.
\textsuperscript{106} Case C-573/12, para. 22.
\textsuperscript{108} Case C-573/12, paras 38-54, citing Article 2(2)(k) and Article 3(3) Dir. 2009/28/EC.
\textsuperscript{109} Case C-573/12, paras 77-82.
\textsuperscript{110} Art. 34 TFEU; Case C-573/12, para. 82 and 94.
\textsuperscript{112} Case C-379/98, para. 73 and 75.
\textsuperscript{113} Case C-573/12, para. 82.
\textsuperscript{114} Case C-573/12, paras 95-96. This judgment is difficult to reconcile with the previous decision of the Court concerning the importation of electricity from Swedish hydro-power into Finland in Case C-213/96, [1998] ECR I-1777.
\textsuperscript{115} Case C-573/12, paras 100-103.
The CJEU has one other pending case on its docket concerning cross-border trade restrictions on green electricity in Belgium, but a major volte-face in the Court’s approach to the functioning of the internal energy market is highly unlikely. Accordingly, the reform of EU law on national support scheme now appears to be a task for the EU’s legislator as it strives to establish a new Energy Union.

In marked contrast to the scheme advanced by the RES Directive and upheld by the Court in the Ålands Vindkraft case, the European institutions took a more innovative and European approach in the MSP Directive, which actively promotes cross-border cooperation and coordination in relation to the provision and management of offshore energy infrastructure.

A Partial Panacea: EU Directive on MSP

Many coastal States worldwide, including EU Member States, are implementing sophisticated planning systems governing the use of maritime space in sea areas under their sovereignty and jurisdiction. Strategic environmental and project assessment combined with MSP can aid the process of wind farm site selection and conflict management. The European Commission has nonetheless pointed out that the spatial planning procedures followed by the majority of EU Member States are not targeted specifically at marine renewable energy development or at resolving conflict between wind farms and other maritime activities.

The European institutions are actively pushing MSP as a panacea to many of the problems encountered by the Member States in managing offshore activities including offshore wind farm development. This approach fully accords with international best

116 Case C-208/12 (Joined Cases C-204/12, C-205/12, C-206/12, C-207/12, C-208/12). On the questions referred concerning the Flemish green certificates and guarantees of origin, see OJ C 227/11, 28 July 2012.
118 Long (n 15) at pp. 36-41.
practice and is a relatively new initiative on the landscape of EU law. More specifically, the initial blueprint on the subject-matter was set out in two strategic policy documents entitled ‘Roadmap for MSP: Achieving Common Principles in the EU’ and ‘MSP in the EU - Achievements and Future Development’, which were published by the European Commission in 2008 and 2010, respectively.

Subsequently, extensive stakeholder consultation revealed public concerns about the manner in which Member States were authorising offshore infrastructure development without the benefit of appropriate planning tools and processes. In response, the European Commission adopted a Directive establishing a framework for MSP in July 2014.

The MSP Directive aims to promote the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources. The objectives of the instrument include contributing to the sustainable development of the energy sectors at sea, the planning and management of maritime transport, fisheries and aquaculture, and the preservation and protection of the environment, including improving resilience to climate change impacts. The MSP Directive is also intended to facilitate the implementation of the many EU policies and strategies that are applicable to the marine environment.

The importance of MSP in this regard cannot be over-emphasised in light of the findings of a comprehensive environmental monitoring programme undertaken over a ten-year period in Denmark, which concluded that “proper spatial planning” can ensure that

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123 Dir. 2014/89/EU (n. 10).
124 Art 5(1), Dir. 2014/89/EU.
125 Art 5(2), Dir. 2014/89/EU.
126 Long (n 15).
the construction of offshore wind farms does not lead to significant damage to biodiversity in the marine environment.\textsuperscript{127}

Apart from establishing an appropriate framework for conflict avoidance and resolution, the normative methodology advanced by the MSP Directive is clearly aligned with applying an ecosystem-based approach to the sustainable use of marine and coastal resources, including the wind resource.\textsuperscript{128} A particular focus is on the integrated planning and management of infrastructure and systems that traverse the maritime boundaries of the Member States, such as infrastructure associated with the production of renewable energy, seabed cables, and shipping routes and lanes.\textsuperscript{129} At one level, this approach is foursquare with the EU’s Integrated Maritime Policy, which identifies the integrated management of various sector activities as one of the main ways to promote growth of the maritime economies in the Member States.\textsuperscript{130} Indicatively, in outlining the raison d’être underpinning the adoption of the MSP Directive, the European Commission noted that one of the greatest pressures on the use of maritime space arises from the construction of offshore wind farms following the implementation of the RES Directive.\textsuperscript{131}

The MSP Directive goes a long way towards addressing some of the planning issues that are blighting offshore wind power development in the Member States to date. More specifically under the scheme advanced by the Directive, Member States must establish and implement spatial plan(s), as soon as possible, and at the latest by 31 March 2021.\textsuperscript{132} The geographical scope extends to marine waters, that is to say the sea and subsea areas that are under the sovereignty and jurisdiction of the Member States, as defined in other EU instruments.\textsuperscript{133} Other than infrastructure associated with energy installations, the plans adopted by the Member States must take into consideration: aquaculture areas, fishing areas, maritime transport routes and traffic

\textsuperscript{128} Recitals 1, 3, 13, 14 and 22, as well as Art. 5 (1), Dir. 2014/89/EU.
\textsuperscript{129} Art 8(2), Dir. 2014/89/EU.
\textsuperscript{130} COM(2007) 575 (n 14).
\textsuperscript{131} COM(2013) 133, 12 March 2013, at p.15.
\textsuperscript{132} Art. 15(3), Dir. 2014/89/EU.
\textsuperscript{133} Art. (3)4, Dir. 2014/89/EU.
flows, military training areas, nature and species conservation sites and protected areas, raw material extraction areas, scientific research, tourism, and underwater cultural heritage. Most importantly, Member States must cooperate on issues of a transnational nature and by means of the appropriate regional seas structures, and or networks or structures of Member States’ competent authorities, and or by using methods that meet the requirements of the EU’s sea-basin strategies. Furthermore, every effort must be made to cooperate with third countries in the planning and management of offshore activities.

The MSP Directive is therefore very much premised on the establishment and implementation of coherent planning mechanisms that apply across regional seas basins. As pointed out by the European Commission, the cross-border effects of economic activities undertaken at sea cannot be alleviated by a planning system that is structured on a purely national basis and which pays little or no regard to transnational impacts. In addressing this shortcoming, the MSP Directive notes that the Preamble of the LOS Convention states that issues relating to the use of ocean space are closely interrelated and need to be considered as a whole. Furthermore, MSP is the “logical advancement and structuring of the use of rights” granted under the LOS Convention and a practical tool that assists Member States to comply with their international and regional obligations. Indeed, one distinctive feature of EU policies and many legislative instruments, such as the common fisheries policy and the Marine Strategy Framework Directive, is that they apply a regional approach to the management and utilisation of marine resources and the protection of the marine environment.

Remarkably, however, the MSP Directive does not prescribe in detail how regional cooperation mechanisms on spatial planning should look or work in practice because of the differences between various marine regions, or sub-regions and coastal

134 Art. 8(2), Dir. 2014/89/EU.
135 Art. 11, Dir. 2014/89/EU.
136 Art. 12, Dir. 2014/89/EU.
138 Recital 7, Dir. 2014/89/EU
139 Ibid. Preamble and Art. 56(2) LOS Convention.
140 See (n 164).
zones.\textsuperscript{141} This oversight may well damage its effectiveness as a legal instrument in addressing the cross-boundary impacts of wind farms unless there is further legislative and policy action by the Member States and the third countries bordering the regional seas on this matter.

**The Push to Get Europe to Stand on Its Own Feet on Energy Security**

As far back as 2008, the European Commission pointed out the pressing need for additional legislation to facilitate stronger regional cooperation between energy regulators and between system operators, as well as to streamline the rules applicable to spatial planning and grid access in the Member States.\textsuperscript{142} Since then, however, the harmonisation of the regulatory environment has evolved laboriously within the fragmented milieu of a broad span of EU policy and legislative initiatives, where the predominant interests at play are still driven by the strategic and economic concerns of individual Member States regarding their future energy needs, with little regard for many matters of common interest.\textsuperscript{143} This in turn is undermining competitiveness in the wind energy sector and the benefits that could derive from the offshore wind power as a European resource.

In light of the outcome of the Ålands Vindkraft case,\textsuperscript{144} the time has come to expedite further EU law reform in this area with a view to ensuring greater convergence and harmonisation of EU policies and regulatory instruments applicable to renewable energy in general and offshore wind in particular. As a first step, a concerted effort ought to be made by both EU and European Economic Area Member States to use the cooperation mechanism under the RES Directive to establish joint or regional collaborative arrangements similar to the one in operation between Sweden and Norway.\textsuperscript{145} Unpromisingly, negotiations on a bilateral inter-governmental agreement between Ireland and the UK concerning the construction of 2,300 turbines in Ireland to supply electricity in the UK energy were stood down in 2014 due to concerns about

\textsuperscript{141} Recital 20, Dir. 2014/89/EU.
\textsuperscript{142} COM(2008) 768, 13 November 2008, at p.3.
\textsuperscript{144} Case C-573/12, (n 9).
\textsuperscript{145} The bilateral agreement between Sweden and Norway was noted in Case C-573/12, para. 22.
regulatory uncertainty and the fiscal benefits that could be derived from such an agreement.¹⁴⁶

Looking at the EU legislative agenda in the longer term, however, the process of reform appears to be well underway. In 2013, for instance, the European Commission outlined its commitment to reforming the internal energy market and the further harmonisation of national support schemes through greater use of the European Regional Development Fund, the European Neighbourhood Policy Instrument, and the Horizon 2020 Research Programme.¹⁴⁷ Furthermore, it is pertinent to note that the Europeanisation of national support schemes is a central strand in the European Energy Security Strategy.¹⁴⁸

In July 2014, Jean-Claude Juncker went one major step further by declaring that one of his ten priorities as the incoming European Commission President is to ensure that “Europe stands on its own feet when it comes to energy security” by establishing a new European Energy Union.¹⁴⁹ Apart from ensuring that Europe remains the world leader in renewables, he also highlighted in his initial policy programme the vital need for Europe to continue to lead the fight against global warming.¹⁵⁰ Moreover, moving from words to action, several of the key policy portfolios within the designated College of Commissioners have been reshaped under his direction to deliver on this mission, including the combining of the environment with the maritime affairs and fisheries portfolios with a view to fostering a sustainable future for Europe.¹⁵¹ Similarly, the climate change and energy portfolios have been merged to ensure greater coherence in the EU approach to law reform in the energy sector.¹⁵²

Rationale for a Regionalised Approach to Offshore Wind Power

¹⁵⁰ Juncker (n 11), at p.5.
¹⁵² Ibid.
At this important juncture in EU integration, as the European Commission strives to achieve a new European Energy Union, characterised by the “pooling of resources, the combining of infrastructures and the strengthening of negotiating power vis-à-vis third countries”, there are several compelling reasons why it should advance a regional seas approach to the future development of offshore wind power.

First, the introduction of a regional approach can make the production of offshore renewable energy far more cost-effective through the rationalisation and convergence of the disparate approaches to the support schemes pursued by the Member States, as well as by reducing restrictions on cross-border access to energy resources. This in turn will ensure that the offshore wind industry attracts capital investment and that all EU coastal States have an equal opportunity to develop the resource. In this context, one should keep in mind that the principal investors in the industry are public and private commercial bodies, which are very much open to pursuing trans-national investment opportunities at a pan-European level, provided that the regulatory environment is absolutely stable and uniform from competition and trade perspectives. More fundamentally, a regional approach will bring the functioning of the internal energy market in relation to the production and transmission of electricity from offshore wind into line with EU treaty provisions on the free movement of goods. However, the latter task is confounded by the requirement of achieving unanimity in the Council with respect to legislative proposals affecting different energy sources and supply in the Member States.

Second, regionalisation will improve the technical capacity of the sector and make it far more resilient to the vagaries of wind energy, which often results in large and unpredictable oscillations in the amount of electricity fed into the grid across different

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153 Juncker (n 11), at p.5.
155 Ibid., at p.24.
156 According to the EWEA, the major European power companies financed 73% of the annual online capacity by the end of 2013, followed by specialist wind-energy companies and the banking sector. EWEA (n 15), at p.22.
157 Arts. 34-37 TFEU.
158 Arts. 172(2)(c) and 194(3) TFEU. See discussion constraints arising from EU treaty provisions infra.
geographical regions.\textsuperscript{159} This difficulty will be mitigated substantially if the offshore wind industry has a much wider footprint at regional seas levels and through a sophisticated subsea transnational grid linking Member States.\textsuperscript{160}

Third, a regional approach to MSP will help avoid and resolve conflicts concerning economic and recreational uses of the marine environment, such as the disputes that arose in the North Sea between the Netherlands, Germany and Belgium, regarding the location of and the parameters applying to wind farm development.\textsuperscript{161}

Fourth and most critically, geo-political factors outside the control of the EU, such as regional tensions in the Middle East and the Ukraine, are forcing the EU institutions to re-consider the structure and dynamics of the European internal energy market. Ominously, all but 4 EU Member States, Portugal, Spain, Ireland, and the UK, are reliant upon the importation of gas from one external supplier, the Russian Federation.\textsuperscript{162} In acknowledging the strategic implications of such a dependency, the European Commission has stated that the immediate EU priorities on energy are to “strengthen regional cooperation, diversify supplier countries and routes, strengthen emergency mechanisms, protect critical infrastructure, moderate energy demand, increase indigenous production, and further develop energy technology”.\textsuperscript{163} The development of the offshore wind industry at a regional level can certainly contribute in some shape or form to all of these objectives and thereby reduce exposure to the volatility of international energy markets.

Finally, it ought to be recalled that the EU has made substantial progress in advancing an ecosystem-based approach under the Marine Strategy Framework (MSF) Directive with a view to achieving good environmental status of all EU marine waters by

\textsuperscript{159} EEA Technical Report No. 6, 2009 (n 15), at pp.20-24 and 30-34.
\textsuperscript{160} Ibid.
\textsuperscript{161} SWD (2013) 65 (n 91).
\textsuperscript{162} Annex 1, Com (2014) 330, at pp.2 and 22.
Inherent within the ecosystem approach is that the planning and management of offshore activities is undertaken at eco-region or sub-regional levels within four European marine regions, namely: the Baltic Sea, the North-east Atlantic Ocean, the Mediterranean Sea, and the Black Sea. What is more, two of the qualitative descriptors for determining good environmental status under the MSF Directive are aimed at ensuring that: (1) the introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment, and; (2) sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded. Surely, a regional seas approach to offshore wind power development will help the Member States meet their obligations in relation to these descriptors and achieve the sustainability objectives set out in the MSF Directive. In this context, it should also be recalled that the LOS Convention places an express obligation on States bordering enclosed or semi-enclosed seas to cooperate with each other in the protection and preservation of the marine environment.

Conclusions

The Global Commission on the Economy and the Climate has reported that the type of infrastructure that we build over the next 15 years will have a major bearing on our capacity to combat climate change. EU law and policy facilitates the pioneering new technologies and the production of renewable energy and this in turn is undoubtedly contributing to the improvement in energy security and the reduction in GGEs in Europe. Considerable difficulties have arisen in the offshore wind sector, nonetheless, because of the absence of harmonised rules applicable to the internal...
energy market, including most notably the operation of support schemes promoting the production and consumption of green electricity in the Member States. The national approach to the subvention of renewable energy has received the imprimatur of the Court of Justice in the Ålands Vindkraft case in a judgment that exposes the dysfunctionality of the internal energy market and does little to advance a common regional seas approach to the development of offshore wind power.

Hence, as part of the push to establish a new European Energy Union and as we move towards the crucial climate change negotiations in Paris at the end of 2015, there is a pressing need for further EU law reform on industry support schemes in order to make the internal energy market work better from a European perspective. At the same time, the Member States and third countries need to press ahead and strengthen the cooperative mechanisms and structures under the MSP Directive so that they provide a solid legal basis supporting the regionalisation of the EU’s renewable energy policy as it applies in the marine environment.169 All told, much remains to be done if all EU Member States are to harness the full potential of offshore wind power for the benefit of the common good and to fulfil the words of a Gaelic proverb, ar scáth a chéile a mhaireann na daoine.170

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169 Arts. 11 and 12, Dir. 2014/89/EU.
170 People live in each other’s shadows.