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# Renewables Update: Current Market Overview and European Developments

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## Renewables Series – Part 1

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### SUMMARY

The market for renewables assets has transformed over the last decade. Technological advances have powered the creation of higher capacity renewables assets that can produce energy at increasingly competitive levelized costs compared to traditional fuels. At the same time, governments, companies, investors (and consumers) are increasing their commitments to renewable sources of energy and setting ambitious targets for zero emission operations and portfolios. The stage is set for even more substantial growth of renewables assets in the years to come.

Dealmakers in the renewables sector need to have a current understanding of the relevant market and regulatory environments, the key diligence considerations and how all of these affect transaction structuring. In this series, we highlight key market and regulatory developments in key global renewables markets and discuss deal considerations for buyers and sellers of renewables assets globally. This part provides some global context and covers key trends and regulatory developments in Europe. In the next part of this series, we will review key trends and regulatory developments in the U.S.

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### INTRODUCTION

Global installed capacity of renewables has doubled since 2009, and in 2019 renewable energy accounted for approximately one third of the global power supply.<sup>1</sup> During the last decade, bioenergy, geothermal, hydropower, and onshore and offshore wind projects have offered a levelized cost of electricity (LCOE) for utility-scale power generation within the same range as fossil fuels, with further cost reductions expected in the next decade (see Table 1). Enhanced battery technology is also improving the commercial viability of variable electricity sources like solar and wind energy by reducing grid congestion and storing excess energy generated by renewables.

**Table 1: Global weighted average levelized cost of electricity (LCOE) for different energy sources<sup>2</sup>**

Energy Source	LCOE in 2019	Projected LCOE in 2030
Solar (CSP)	\$182/MWh	\$70-80/MWh*
Solar (PV)	\$68/MWh	\$20-80/MWh
Wind (onshore)	\$53/MWh	\$30-50/MWh
Wind (offshore)	\$115/MWh	\$50-90/MWh
Fossil fuels	\$50-\$177/MWh	\$50-\$177/MWh

\*Solar (CSP) projections are not available for 2030, however IRENA estimates that the LCOE for Solar CSP could fall to \$70-80/MWh or further in the coming years.

Governments have recently made ambitious proposals to vastly increase the share of renewables in the power supply, such as New York state’s commitment to source 70 percent of its electricity from renewable sources by 2030. These proposals are often components of broader policies to achieve net-zero carbon emissions, such as the European Union’s goal of reaching net-zero emissions by 2050. Numerous large corporates are also committing to use more renewables and achieve net-zero carbon emissions. In many markets, private power purchase agreements between renewable generators and commercial end users are helping drive development of new renewables projects.

Collectively, these developments are creating opportunities for existing developers to increase their project pipelines and for new entrants such as oil and gas majors to quickly scale up their renewable portfolios. Likewise, a wide range of investment funds, private equity, special purpose acquisition companies (SPACs) and others not previously active in the renewables sector are looking to invest, driving an active M&A market.

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## KEY MARKET AND REGULATORY TRENDS IN EUROPE

### Market Overview

The share of renewable energy in gross EU energy consumption has increased from 9.6% in 2004 to 18.9% in 2018, and in 2019 EU power production from wind and solar overtook coal for the first time. The European Environment Agency reported that the EU is on track to meet its goal to source 20 percent of energy from renewable sources by 2020, although the growth rate for renewable sources is slowing.<sup>3</sup> Even with growth slowing overall, certain technologies are experiencing rapid growth in the EU. For example, in 2019 Europe installed 3.6 GW of new offshore wind energy capacity, with Belgium, Denmark and the U.K. each setting new national installation records.<sup>4</sup> The figure below provides an overview of the current capacity and pipeline for European offshore wind.

European Offshore Wind: Current Status and Pipeline

**EU:**  
Existing capacity: 24.1 GW  
Current pipeline: 150 GW

**UK:**  
Existing capacity: 11.8 GW  
Current pipeline: 50 GW  
**Subsidy regime:** Renewables Obligation Certificate (ROC) for legacy projects started through 2017; Contract for Difference (CfD) from 2014  
**Transmission:** Dedicated line typically constructed by project and divested to separate entity (OFTO regime)

**Ireland:** 25 MW (current capacity), 3.5 GW (pipeline)

**Belgium:** 1.8 GW (current capacity), 4 GW (pipeline)

**France:**  
Existing capacity: 2 MW  
Current pipeline: 12.4 GW  
**Subsidy regime:** Feed-in tariff  
**Transmission:** Independent grid operator, RTE, builds, owns and operates transmission

**Portugal:** 8 MW (current capacity), 400 MW (pipeline)

**Spain:** 5 MW (current capacity), 500 MW (pipeline)

**Finland:** 73 MW (current capacity), 2 GW (pipeline)

**Sweden:** 203 MW (current capacity), 2 GW (pipeline)

**Norway:** 2 MW (current capacity), 3.5 GW (pipeline)

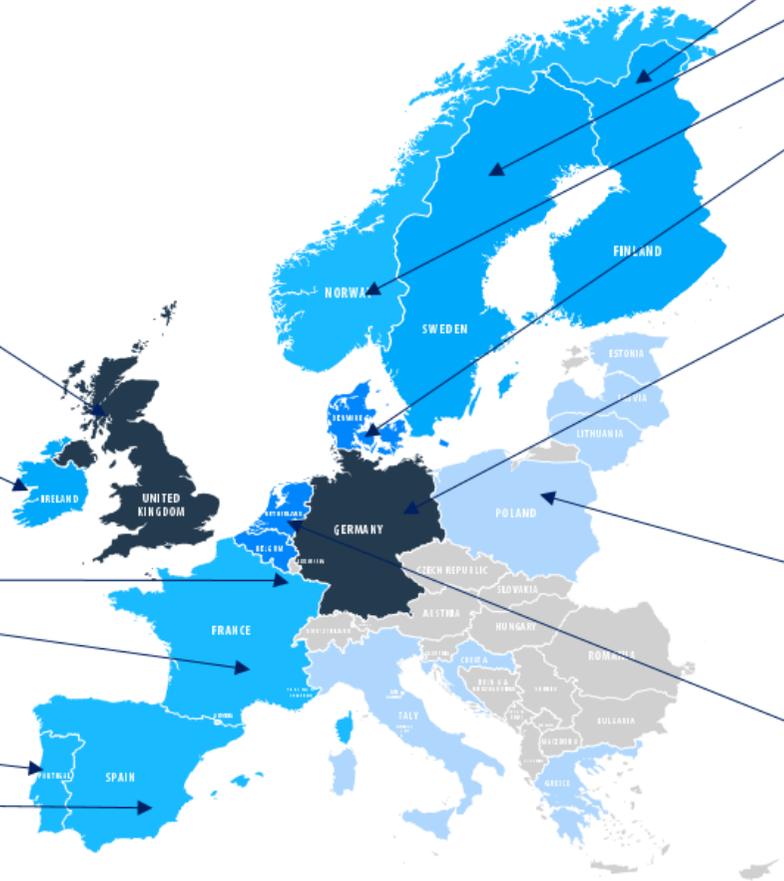
**Denmark:** 1.7 GW (current capacity), 4.7 GW (pipeline)

**Germany:**  
Existing capacity: 7.5 GW  
Current pipeline: 16.5 GW  
**Subsidy regime:** Feed-in-Tariff; recent projects are zero-bid/no subsidy  
**Transmission:** Independent grid operators, TenneT and 50Hz, build, own and operate transmission

**Other European countries with offshore wind pipelines** include: Croatia, Estonia, Greece, Italy, Latvia, Lithuania and Romania.

**Poland:** no current capacity, 10 GW (pipeline)

**Netherlands:**  
Existing capacity: 1.1 GW;  
Current pipeline: 11.3 GW;  
**Subsidy regime:** Stimulation of Sustainable Energy Production (SDE+) scheme (feed-in-tariff); recent projects are zero-bid/no subsidy  
**Transmission:** Independent grid operator, TenneT, builds, owns and operates transmission



Sources: IRENA, "Renewable Capacity Statistics 2020" March 2020

In total, Europe had 573 GW of installed renewable energy as of 2019, including 221 GW of hydropower, 174 GW of onshore wind, 22 GW of offshore wind and 140 GW of solar energy capacity.<sup>5</sup>

As the European market matures, new challenges and opportunities are emerging for developers and operators of renewables assets. In the onshore and offshore wind sectors, a combination of bigger turbines and expiring subsidy programs are driving repowering efforts across Europe. For example, it is expected that 2.3 to 2.4 GW of onshore wind capacity will exit the German subsidy program each year through 2025.<sup>6</sup> Floating wind turbines are also now being piloted in Europe at increasing scale, expanding the range of suitable locations to deeper waters.

In addition to capacity growth, to achieve the region's renewable energy goals Europe will need to develop 93 GW of new cross-border electric transmission solutions by 2040, according to the European Network of Transmission System Operators for Electricity.<sup>7</sup> The recent completion of the subsea Combined Grid Solution offshore interconnector between Denmark and Germany marks a step of progress towards this requirement.

Key European regulatory developments affecting renewables transactions include:

### **EU Green Deal**

The EU Green Deal, launched in late 2019, is aimed at bringing emissions of greenhouse gases to net-zero in 2050 by setting aside €1 trillion for green projects. As part of this investment, €503bn is expected to come from the EU budget, €114bn from national governments, €279bn from the private sector and up to €143bn from the Just Transition Mechanism.<sup>8</sup> In addition, as part of the Green Deal, EU's state aid guidelines will be reviewed to enable national governments to directly support investments in clean energy. The European Investment Bank (EIB), traditionally an active lender to renewables projects in Europe, is expected to increase its investments further, with a focus on Eastern EU countries (financing up to 75 percent of the cost of certain renewables projects in those countries) as well as backing projects with an element of merchant risk or without subsidies.

### **Restructuring or Phase-out of Subsidy Regimes**

Renewables projects in Europe have traditionally benefitted from a subsidy regime, whether feed-in-tariff, renewable energy certificates, contracts-for-difference or other form. However, a number of countries are restructuring their subsidy regimes or have seen a natural phase out of subsidies due to market competition. In the U.K., the Netherlands, Germany, Spain and elsewhere, new wind and solar projects are now being built without government subsidies or with a contract for difference struck at approximately an unsubsidized market price.

In response to the growing prevalence of "zero-bid" proposals from project developers, Germany recently revisited its offshore wind energy law (known as WindSeeG). It declined to implement a contract-for-difference scheme but dropped a proposed second auction round which would have seen companies bid for "negative subsidies" (i.e., fixed annual concession payments) if multiple zero-bids were received.

### Recast EU Electricity Directive and Unbundling

The Recast Electricity Directive<sup>9</sup> (which will generally come into effect on 1 January 2021) of the EU Clean Energy Package aims to better facilitate an EU-wide electricity market. EU states must remove barriers to cross-border electricity trade and consumer participation. Electricity prices must be set on market-based criteria and states must ensure that energy providers from other EU countries can access the domestic energy market in a non-discriminatory manner. The Directive aims to facilitate a larger, more liquid and competitive market for renewable generation.

The Recast Electricity Directive also affirms existing EU rules on the “unbundling” of energy supply and generation from the operation of transmission networks in the EU, which has been implemented in the following ways across EU member states:

- Ownership unbundling (OU) - no supply or production company is allowed to hold a majority share or interfere in the work of a transmission system operator (approach taken by Norway, Sweden, Finland, Spain, Italy and Poland);
- Independent system operator (ISO) - energy supply companies may still formally own gas or electricity transmission networks but must leave the entire operation, maintenance, and investment in the grid to an independent company (approach taken by Latvia and Ireland); and
- Independent transmission system operator (ITO) - energy supply companies may still own and operate gas or electricity networks but must do so through a subsidiary. All important decisions must be taken independent of the parent company (approach taken by France, Austria and Greece).

Some states adopted a mix of the unbundling options. For example, the U.K. adopted a mix of OU and ISO, while Germany adopted a mix of OU and ITO. Buyers of EU electricity assets should be aware of the potential implications of the unbundling requirement across their portfolio of businesses and assets.

### Foreign Investment Review/Prohibitions

Most European states have foreign investment screening laws, restrictions on foreign ownership and/or “golden shares” with respect to electricity infrastructure. Similar to [recent developments](#) with the Commitment on Foreign Investment in the U.S. (CFIUS), the breadth of the European foreign investment screening regimes has been expanding, including in [France](#), [Germany](#), Spain and the [U.K.](#) In addition, an [EU-wide regime](#) entered into force in 2019. For EU member state regimes, “foreign” is generally classed as non-EU, although some restrictions apply on an intra-EU basis. Hence, prior to completing an investment in this sector, especially by a non-EU buyer, particular attention should be paid to any such approvals or authorizations that will be required from the relevant authorities and their impacts on transaction timing. Many aspects of these regimes are relatively untested, introducing an additional degree of uncertainty for potential investors.

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## CONCLUSIONS

In forthcoming parts of this series, we will cover trends in the U.S. renewables market and regulatory environment as well as key diligence, financing and JV governance considerations for dealmakers.

Given the ongoing transformational shift in energy markets from fossil fuels towards lower-emitting technologies (including [green hydrogen](#))<sup>10</sup>, as well as [increasing focus](#) on environmental, social and

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governance (ESG) factors in financial markets,<sup>11</sup> we expect the renewables market to continue to attract a wide range of new players – companies and investors – and continue its exciting growth into new geographies and new technologies.

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### ENDNOTES

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- <sup>1</sup> IRENA, “Renewables Account for Almost Three Quarters of New Capacity in 2019” April 6, 2020.
- <sup>2</sup> IRENA, “Renewable power generation costs in 2019” June 2020; IRENA, “Future of Solar Photovoltaic: deployment, investment, technology, grid integration and socio-economic aspects” November 2019; IRENA, “Future of Wind: deployment, investment, technology, grid integration and socio-economic aspects” October 2019.
- <sup>3</sup> European Environment Agency, “Renewable energy in Europe – 2019” December 16, 2019.
- <sup>4</sup> WindEurope, “Wind energy in Europe in 2019” February 2020.
- <sup>5</sup> IRENA, “Renewable Capacity Statistics 2020” March 2020.
- <sup>6</sup> Bundesverband WindEnergie, “Efficient use of space through repowering and continued operation of wind turbines” December 14, 2018.
- <sup>7</sup> European Network of Transmission System Operators for Electricity, “Completing the map: Power system needs in 2030 and 2040” April 11, 2020.
- <sup>8</sup> European Commission, “The European Green Deal Investment Plan and Just Transition Mechanism explained”.
- <sup>9</sup> Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU.
- <sup>10</sup> See Sullivan & Cromwell LLP “[Hydrogen – Fuel of the Future or Just Hot Air?](#)” September 23, 2020 and Sullivan & Cromwell LLP “[Hydrogen – Recent Developments in Hydrogen Projects](#)” September 28, 2020.
- <sup>11</sup> See Sullivan & Cromwell LLP “[The Rise of Standardized ESG Disclosure Frameworks in the United States](#)” June 8, 2020 and Sullivan & Cromwell LLP “[Sustainable Finance Update](#)” April 30, 2020.

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