**What would Brexit mean for Britain’s green targets?**

Of all the EU regulations to shape UK policies, environmental directives have been some of the most controversial. One of them is green energy. Now what might Brexit mean for the UK in these policy areas?

The current EU Renewable Energy Directive requires the UK to generate 15 per cent of its energy from renewable sources by 2020 - up from just three per cent when the directive was adopted in 2009. To hit the overall binding target, the UK is expected to need to generate 30 per cent of its electricity and 12 per cent of its heating energy from renewable sources. It is also bound by a sub-target for transport, requiring 10 per cent to come from renewable sources.

In 2014, the EU also decided on a further package of green targets covering the period to 2030. The UK resisted efforts to continue with binding targets for renewable energy sources.

Instead, the EU has agreed a target for cutting carbon emissions across the continent by at least 40 per cent from 1990 levels by 2030. That 2030 target is due to be divided up through a process of ‘burden-sharing’ into targets for each member state - but each country will be free to choose how it goes about meeting the targets.

What do the targets mean in practice?

In the electricity sector, the Renewable Energy Directive is one of the reasons why the UK Government has backed the rapid expansion of renewable power sources such as wind and solar farms and biomass power plants, paid for through subsidies on energy bills.

In the heat and transport sectors, many industry experts doubt the UK will meet the targets - or the overall RED target as a result. Renewable heating typically involves replacing gas boilers with biomass burners, or pump systems that draw heat from the air or ground.

In transport, about five per cent of road fuels currently comes from biofuels. Ministers are looking at the whether to increase that level, but are also pursuing electrification policies.

In the longer-term, the 2030 emissions reductions targets will require a continued switch to low-carbon energy sources and greater energy efficiency.

Would Brexit mean an end to all that? Probably not. Withdrawing from the EU might allow the UK to take an easier route on heat and transport policies in the short-term, if Britain was no longer obliged to hit the RED target for 2020. But when it comes to renewable electricity, long lead-times to build new wind farms mean most of the projects needed to hit the 30 per cent goal have already been granted planning permission and subsidy contracts.

Post-2020, Brexit appears unlikely to make a difference to UK energy policy - because Britain’s own unilateral Climate Change Act actually imposes even tougher requirements for cutting carbon emissions. Under the Act, the UK must cut its carbon emissions by 80 per cent on 1990 levels by 2050.
Commission says that Europe’s energy transition is well underway

In its Second Report on the State of the Energy Union, the Commission states that the modernisation of the European Union economy and the transition to a low-carbon era are happening. According to the EU’s executive body, Europe is on track to reach its 2020 targets in terms of greenhouse gas emissions, energy efficiency and renewable energy.

This report looks at the progress made since the publication of the first State of the Energy Union in November 2015. At the presentation of the report Maros Sefcovic, the Vice-President responsible for the Energy Union, said that the Energy Union was about accelerating the “fundamental modernisation of Europe’s entire economy, by making it low-carbon, energy and resource efficient, in a socially fair manner.” He added that Europe should also strengthen its external dimension, in order to enhance the EU’s global leadership role. Miguel Arias Cañete, Commissioner for Climate Action and Energy, found that Europe was well on track to meet its 2020 climate and energy targets, and that despite the geopolitical uncertainties, Europe is forging ahead with the clean energy transition. He knew that renewable energy is now cost-competitive and sometimes cheaper than fossil fuels, employs over one million people in Europe, attracts more investments than many other sectors, and has reduced fossil fuels imports bill by €16 billion.

The Commission will carry out further in-depth analysis of Member States’ policies, using the new Energy Union Tour throughout 2017. During this tour, Commissioner Sefcovic will visit several countries to present the benefits the Energy Union can bring to them.

Energy transition on Europe’s islands

This month Eurelectric, the Union of the Electricity Industry, presented its report on the energy situation of European islands. The study shows a number of important opportunities and challenges that lay before European islands in terms of setting up a stable, cost-efficient and low-carbon energy supply system, thus contributing to the development of the EU’s Energy Union objectives. The focus of this report is to show practical solutions that shed light on how challenges can be resolved. For instance, it discusses an energy storage project on the Canary Islands as well as an electric charging network for vehicles in Mallorca.

EU invests €444 million in key energy infrastructure

On 17 February the EU Member States agreed on the Commission’s proposal to invest €444 million in key energy infrastructure projects.

The 18 selected electricity, smart grids and gas projects will contribute to achieving the Energy Union’s goals by connecting European energy networks and contributing to the sustainable development by integrating renewable energy sources across the EU.

The money for the chosen projects comes from the Connecting Europe Facility (CEF), the EU’s funding support programme for infrastructure. Of the 18 projects selected for funding:

- 7 are in the electricity sector (EU support €176 million), 10 in the gas sector (EU support €228 million) and 1 for smart grid (EU support €40 million).
- 5 relate to construction works (EU support €350 million) and 13 to studies (EU support €94 million).

In the electricity sector, a grant will support the implementation of Germany’s largest energy infrastructure project in its preparation phase: the SuedLink project (EU support €40.25 million) which comprises 700 kilometres of high voltage cables due to be laid fully underground. The power line will create a link between the wind power generated in the north and the consumer centres in the south of Germany.

A €90 million EU grant will support the implementation of an innovative energy storage project, the compressed air energy storage (CAES) in Lame, Northern Ireland. This project uses excess energy when for example renewable generation is abundant, into compressed air which is then stored in geological caverns within salt layers deep underground, for later release to generate electricity. The project will contribute to system flexibility and stability and facilitate the large-scale penetration of renewables into energy markets.

In the gas sector, Connecting Europe Facility will support the construction of an off-shore LNG terminal on the Croatian island of Krk (EU support €102 million) which will bring diversification in the region mostly dominated by one single source of supply. It should help to improve energy security and price competitiveness in the region.

Furthermore, a smart grid project (SINCROGRID project) that will lead to more efficient use of the existing electricity transmission grid in both Slovenia and Croatia will also receive financial support (of €40 million). This will enable current infrastructure to cope with the uptake of additional renewable energy and result in greater energy security without the need to build new overhead cables.

European countries are missing smart buildings opportunities

An analysis by the think-tank BPIE (Buildings Performance Institute Europe) on the readiness of EU countries to transition to smart buildings concludes that no Member State is fully prepared to take advantage of the benefits that smart building technologies will entail. BPIE assessed aspects such as dynamic operability, energy-system responsiveness, renewable energy uptake as well as dynamic and self-learning control systems to judge how well prepared Europe is for an increasing share of smart buildings.

Smart buildings are flexibly connected and interacting with the energy system, being able to produce, store and/or consume energy efficiently. The leading countries in terms of a smart-readiness, Sweden, Finland, Denmark and the Netherlands, have implemented enabling policies. But...
most countries show little progress in opening the market to demand response or in encouraging the penetration of energy storage capacity in buildings. The report presents a series of progressive policies and innovative front-runner projects which prove the economic viability of smart buildings.

The analysis finds that “smart infrastructure” is not yet in place. Only three countries, Sweden, Finland and Italy, have completed their deployment of smart meters, with nearly all consumers equipped with smart meters. Several countries have started their deployment, but progress is slow. EU legislation could play a more effective role to encourage the roll-out of ‘smart infrastructure’ by enabling an electricity market with flexible pricing, empowering consumers, and increasing renewable energy production, self-consumption and storage.

The technological development will enable buildings to play a pro-active role in the energy system, providing also benefits for the occupants. But first and foremost, buildings have to be energy efficient as a prerequisite for a smart building stock. Considering that European countries are far from being smart-ready, the introduction of a smartness indicator in the “Clean Energy for All Europeans” package is welcomed, but needs concretisation and monitoring to lead Europe towards a smart and decarbonised building stock by 2050.

**ELECTRICITY**

**Power utility best practices regarding electric vehicles**

In February the International Council on Clean Transportation (ICCT) presented a literature review, in which it analyzed current practices of electric power utilities to plan for the increased deployment of electric vehicles. The review summarizes a wide array of projects, initiatives, and examples where electric power utilities are helping to pave the way for the integration of electric vehicles on to the grid for to maximize their potential benefits to utilities, electric vehicle users, and electricity customers more broadly.

Based on the review, the authors conclude with the following findings, along with examples where related utility practices are being implemented:

1. With proper planning, electric vehicles’ benefits to utilities outweigh their costs. It is clear that without any planning or preparation, high electric vehicle uptake could put significant stress on the electric power system and increase maintenance costs. However, with proper planning, transportation electrification can result in more efficient and less costly operation of the grid, provide ancillary services, lower electricity prices for ratepayers, and facilitate greater integration of renewable energy resources.

2. Rate structures can influence electric vehicle charging behaviour and grid impacts. Research has shown that restructuring electricity prices can influence consumer charging behaviour and reduce electric vehicle fueling costs. Time-of-use rates, which offer lower electricity prices during off-peak hours, have already been successfully implemented in many jurisdictions, including California, New York, Maryland, and Germany. More complex systems, such as dynamic pricing, offer even greater benefits to consumers and utilities—such programs may also require smart meters and increased consumer involvement. In contrast, inclining-block tiered rates and capacity-based demand charges tend to present additional, but not insurmountable, barriers for electric vehicles.

3. Smart charging can unlock the full benefits of electric vehicles. Although electric vehicles are designed for mobility, their energy storage capability is an important asset, especially in wind and solar power become more abundant. Smart charging allows utilities to effectively use this storage capacity to stabilize the grid and lower net costs, creating savings that can be passed on to electric vehicle owners directly and to all consumers through lower rates. One-way smart charging technologies are nearing commercialization (e.g., in California and the Netherlands), and two-way vehicle-to-grid charging is an active area of research that could provide even greater benefits.

4. Greater regulatory clarity and standardization is needed. Uncertainty about vehicle-grid integration and electric vehicle infrastructure regulations and standards may discourage utilities from engaging with electric vehicles. Regulations regarding utility ownership of electric vehicle supply equipment (EVSE) vary greatly among jurisdictions. While power companies in areas such as Quebec and parts of Europe have been instrumental in building charging networks, distribution operators in countries like the United Kingdom and Germany are not permitted to own such infrastructure, and regulations in many U.S. states remain unclear regarding utility ownership and operation of EVSE. In nearly all markets, confusion over EVSE hardware and software standards has been a barrier to lower equipment costs and the use of smart charging, although programs in the Netherlands and in Germany have made progress in this area.

5. Utilities can play a role in advancing the hydrogen economy. The fueling of hydrogen fuel cell electric vehicles is a fast-growing area of research and could present major benefits for utilities and drivers. Power-to-gas programs (e.g., in Germany) enable the use of excess renewable energy to generate hydrogen through electrolysis. Utilities, especially those that supply natural gas, may also have opportunities to invest in hydrogen distribution, storage, and even fueling infrastructure in order to diversify their business and support clean vehicles, although regulations on this subject are still evolving.
RENEWABLES

European Parliament fights over competence on Renewable Energy Directive

The proposal for a reviewed Renewable Energy Directive has been issued by the Commission in November 2016, and has been transmitted to Council and Parliament at the beginning of the year. Within the Parliament, the Industry Committee will take the lead on the file. However, the Environment Committee expressed great interest in having a say on the text as well, and requested for exclusive competence on a number of issues, such as the sustainability criteria. The Industry Committee’s Chairman, Jerzy Buzek (EPP/Poland), disagreed with the Environment Committee’s request and proposed a new compromise between both Committees. As this is likely to be rejected by the Environment's Committee Chairman Adina-Ioana Valean (EPP/Romania), the discussion on who is competent on what will be decided by the Conference of Presidents in March.

Wind power overtakes coal in Europe

In a recent report by trade association for wind energy WindEurope, figures show that wind energy overtook coal as the second largest source of power in the EU last year, making up just over half of all new installed capacity. According to the report renewable energy accounted for 86% of all new power installations in the EU in 2016, while conventional power sources such as fuel oil and coal continued to decommission more capacity than they installed.

Wind now makes up 17% of Europe’s total power generation capacity with 153.7 gigawatts (GW) installed, second only to gas. It met 10.4% of the EU’s electricity demand last year, but coal still generated a larger share of the total demand due to the intermittent nature of wind generation.

Germany was responsible for 44% of new wind power installations, while France, the Netherlands, Finland, Ireland and Lithuania all set new national records in wind installations.

However, the total 12.5GW of new wind power capacity installed in 2016 was 3% below installations in the previous year. WindEurope warned that long-term prospects for the wind industry are hampered by uneven growth across the EU and unclear government policies.

In another study by Climate Analytics, a climate data provider, researchers argued that replacing coal by renewables in the power sector by 2030 is the cheapest way for the EU to cut greenhouse gas emissions in line with its commitments under the Paris Agreement on climate change.

The analysis found that a quarter of the coal-fired power plants already operating in the EU would need to be switched off before 2020 and another 47% by 2025.

“Germany and Poland have the most work to do on a coal phase-out: they are jointly responsible for 51% of installed coal capacity and 54% of emissions from coal,” said Paola Yanguas Parra, the report’s lead author.

ETS

Vote on ETS in Strasbourg

In this month’s plenary session of the European Parliament, the Emission Trading Scheme report was adopted. This report is based on the Commission proposal of July 2015, calling for a broader review of the EU Emission Trading Scheme. The aim of the proposal is to take the European Council’s guidance on the role the EU Emission Trading Scheme should play in achieving the EU’s 2030 greenhouse gas emission reduction target, and make it law.

The Environment committee in the European Parliament voted on the draft report presented by Ian Duncan MEP (ECR/UK) on 14 December 2016. 729 (!) amendments were tabled on the Commission proposal, and touched upon a number of issues, e.g. the linear reduction factor, the auction share, free allocation and carbon leakage provisions, the use of auction revenues, compensation of indirect emissions costs, the Modernisation and Innovation Funds as well as a possible review of the Emission Trading Scheme, in view of the stocktaking exercise envisaged in the Paris Agreement.

This month the report was then adopted by 379 votes to 263 with 57 abstentions and plenary agreed with the rapporteur’s request to start negotiations with the Council. Some of the key amendments adopted at Committee level were defeated: e.g. the linear reduction factor of 2.4% was rejected in favour of 2.2%, following the EPP’s amendment.

At Council level, the Maltese presidency noted that the changes “should be in the spirit of ensuring swift progress”. In December, several countries pushed for a deal on the Council’s position in February, and sources said Malta is hoping to deliver on this at the Environment Council of 28 February.

Once the Council has decided on its position, the so-called “trilogue” negotiations can kick off between Parliament and Council, facilitated by the European Commission.