

SPICe Briefing

Brexit: Energy Policy

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This briefing sets out the EU energy policy framework and explores the implications that Brexit may have on Scotland and the UK's approaches to energy policy. It also explores some views on how alternatives to EU membership may impact on the UK and Scotland's current policy.



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EXECUTIVE SUMMARY

At present, membership of the EU requires the UK to comply with European legislation in relation to energy policy. The UK policy framework is complex, and Scottish programmes and devolved responsibilities overlap significantly with those reserved to the UK, all within the context of an EU framework. The Scotland Act 2016 devolves further powers in relation to energy; additionally, Scotland has a part to play in helping the UK meet global and European climate change targets.

EU policy is currently based on three pillars: competition; sustainability; and security of supply (known as the energy trilemma). These closely mirror the broad goals and policies of Member States, including the UK. Key energy legislation and policy areas are set out below:

| Europe | UK | Scotland |
|---|---|--|
| 2020 Energy Strategy 2030 Framework for Climate and Energy 2050 Energy Strategy Energy Union – focussed on developing common infrastructure and ensuring an open market. A number of Directives enforce these strategies and frameworks, including the Industrial Emissions Directive; Renewable Energy Directive; Energy Efficiency Directive; as well as the EU Emissions Trading Scheme. | Climate Change Act 2008 Energy Act 2013 National Renewable Energy Action Plan Renewable Energy Roadmap Key support mechanisms for renewables include the Renewables Obligation; Contracts for Difference; Feed-in Tariff Scheme and the Renewable Heat Incentive. | Climate Change (Scotland) Act 2009 2020 Routemap for Renewable Energy Heat Policy Statement Low Carbon Economic Strategy Community Energy Policy Statement Electricity Generation Policy Statement An overarching energy strategy is expected to be published alongside in early 2017. |

BREXIT is likely to impact on participation in the Energy Union, and the availability of some funding for R&D in the energy sector; however, it is not clear whether it will be a definitive barrier, as some non-EU countries are actively involved in EU funded and co-ordinated projects.

Some commentators consider that whilst the UK will theoretically be released from many obligations, increasing interconnectivity with continental Europe will require co-operation with the EU internal energy market in any scenario. Because the UK Government has been at the forefront of efforts to liberalise and develop cross-border energy markets, this policy direction is likely to endure.

Evidence to the House of Lords EU Committee (sub-committee on Energy and Environment) has noted that there are no obvious answers to the impact of Brexit, and that much depends on whether the UK stays within the internal energy market. However, removing the requirement to comply with, and unravel EU environmental directives from domestic law, many of which have already been implemented by the energy industry, would be very complicated and would increase market uncertainty. Key issues to be explored over the coming months include whether it is possible to stay in the internal energy market; and investment stability, particularly for interconnectors and North Sea developments.

INTRODUCTION

On 23 June 2016, the United Kingdom (UK) voted in a referendum to leave the European Union (EU).

At present, membership of the EU requires the UK to comply with European legislation in relation to energy policy. The UK policy framework is complex, and Scottish programmes and responsibilities overlap significantly with UK ones, in the context of an EU framework.

Broadly, energy matters are reserved under Schedule 5 Head D of the Scotland Act 1998, and the Department for Business, Energy and Industrial Strategy (BEIS) is responsible for UK Energy Policy. However, the Scottish Government has responsibility for the promotion of renewable energy, energy efficiency, and the consenting of electricity generation and transmission developments. Whilst thermal generation is reserved, planning consent is devolved; therefore applications to build and operate power stations and to install overhead power lines are made to Scottish Ministers. The Scotland Act 2016 devolves further powers in relation to energy; including powers over the design and implementation of some energy efficiency programmes. Additionally, Scotland has a part to play in helping the UK meet global and European climate change targets.

Considerable attention can therefore be focussed on advancing research, development and deployment in key areas, as well as Scottish Ministers having some powers in governing the overall energy mix, including nuclear and other thermal generation via consenting powers.

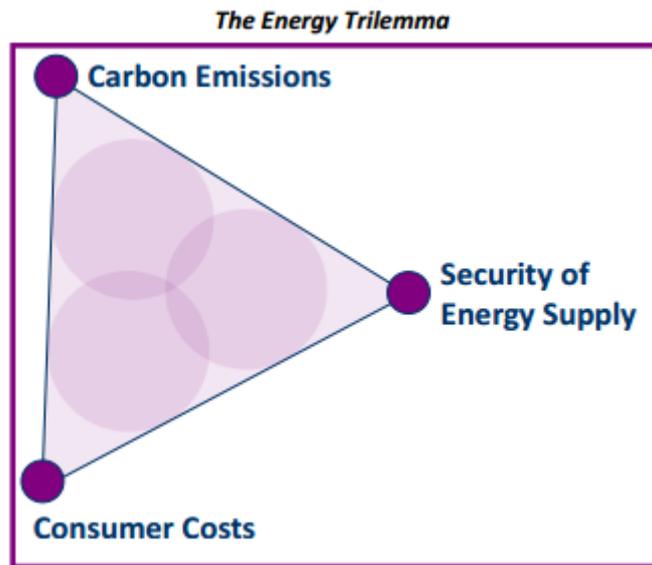
Whilst responsibility for energy policy in Scotland is shared between the UK and Scottish Governments, the UK Government is liable for framing the UK position through international negotiations. The EU has played a considerable role in the development of the UK's energy policy, and has also directly influenced Scotland's approach by providing a baseline for renewables ambitions; Scotland's Renewable Routemap Update (Scottish Government [2015a](#)) highlights the Scottish Government's ambition to be part of a "globally competitive renewable energy industry".

This briefing is one of a series which examines the implications of leaving the EU for Scotland in various policy areas. It sets out the current EU framework for energy policy, and how this is implemented in the UK and Scotland.

HOW EU MEMBERSHIP CURRENTLY IMPACTS ON ENERGY POLICY

Energy has been part of European integration since the early 1950s (European Coal and Steel Community 1952, European Atomic Energy Community 1958), however energy policy was only made an explicit competence by the Lisbon Treaty in 2009.

EU policy is currently based on three pillars: competition; sustainability; and security of supply (known as the energy trilemma). These closely mirror the broad goals and policies of Member States, including the UK. The Scottish Government ([2016](#)) provides the following diagram:



The European Commission (EC) states ([2016a](#)):

These goals will help the EU to tackle its most significant energy challenges. Among these, our dependence on energy imports is a particularly pressing issue with the EU currently importing over half its energy at a cost of €350 billion per year. Other important challenges include rising global demand and the scarcity of fuels like crude oil, which contribute to higher prices. In addition, the continued use of fossil fuels in Europe contributes to global warming and pollution.

Key policy areas include (EC 2016a):

- An Energy Union that seeks to ensure secure, affordable and climate-friendly energy for EU citizens and businesses by allowing a free flow of energy across national borders within the EU, and bringing new technologies and renewed infrastructure to cut household bills, create jobs and boost growth
- An Energy Security Strategy which presents short and long-term measures to shore up the EU's security of supply
- A resilient and integrated energy market for which new pipelines and power lines are being built to develop EU-wide networks for gas and electricity, and common rules are being designed to increase competition between suppliers and to promote consumer choice
- Boosting the EU's domestic production of energy, including the development of renewable energy sources
- Promoting energy efficiency
- Safety across the energy sectors with strict rules on issues such as the disposal of nuclear waste and the operation of offshore oil and gas platforms.

To pursue these goals, the EU has formulated targets for 2020, 2030, and 2050.

The current Energy Strategy (2016a) defines the EU's energy priorities between 2010 and 2020. Known as the 20-20-20 targets; by 2020, Member States have agreed to achieve:

- A 20% reduction in EU greenhouse gas emissions from 1990 levels
- Raising the share of EU energy consumption produced from renewable resources to 20%¹

¹ N.B. This is all energy, not just electricity.

- A 20% improvement in the EU's energy efficiency.

These targets were updated in January 2014, with EU countries agreeing a 2030 Framework for Climate and Energy (EC [2015](#)) which agrees to:

- A 40% reduction in EU greenhouse gas emissions from 1990 levels
- At least a 27% share of EU energy consumption produced from renewable resources
- At least a 27% improvement in the EU's energy efficiency, to be reviewed by 2020 potentially raising the target to 30% by 2030
- The completion of the internal energy market by reaching an electricity interconnection target of 15% between EU countries by 2030, and pushing forward important infrastructure projects.

The EC (2016a) considers that together, “these goals provide the EU with a stable policy framework on greenhouse gas emissions, renewables and energy efficiency giving investors more certainty and confirming the EU's lead in these fields on a global scale”. Implementation of the 2030 Framework is part of the EU's contribution to the Paris Agreement on climate change.

The EU aims to achieve an 80% to 95% reduction in greenhouse gasses compared to 1990 levels by 2050; the Energy Roadmap 2050 analyses a series of scenarios on how to meet this target (EC [2016b](#)). Progress to date includes (EC 2016a):

- Between 1990 and 2012, the EU cut greenhouse gas emissions by 18% and considers itself “well on track” to meet the 2020 target
- The projected share of renewable energy in gross final energy consumption was 15.3% in 2014, up from 8.5% in 2005
- 25 countries are thought to have met their 2013/14 interim renewable energy targets
- Energy efficiency is predicted to improve by 18% to 19% by 2020 – just short of the target. However, “if countries implement all the necessary EU legislation, the target should be reached”.

In order that renewables targets are achieved, the EU requires national action plans that set out sectoral targets, the projected technology mix, the route they will follow and the measures and reforms they will undertake.

A number of Directives enforce the above targets, including:

The Industrial Emissions Directive (2010/75/EU) seeks to reduce emissions of damaging pollutants, particles, and gases. Under a National Emissions Reduction Plan (NERP), industrial installations have been set finite annual emission allowances, or ‘bubbles’ for sulphur dioxide, nitrogen oxide and dust (or particulate matter). Emission allowances can be traded with other NERP participating sites, however, the national ‘bubble’ is set to ensure an overall reduction in emissions.

The Renewable Energy Directive (2009/28/EC) sets an EU target of a 20% share of renewable energies in final energy consumption by 2020, as well as national targets for all Member States.

The Energy Efficiency Directive (2012/27/EU) establishes a framework of measures for the promotion of energy efficiency in the EU and sets a non-binding target of 20% energy efficiency improvements by 2020.

Launched in 2005, the **EU Emissions Trading System (ETS)** is considered to be the “cornerstone” of the EU’s drive to reduce its emissions of GHG. The system works by putting a limit on overall emissions from high-emitting industry sectors which is reduced each year. Within

this limit, companies can buy and sell emission allowances as needed. This “cap-and-trade” approach gives companies flexibility to cut their emissions in the most cost-effective way. More than 11,000 power stations and manufacturing plants in 28 EU member states, as well as Iceland, Liechtenstein and Norway are covered. Aviation operators flying within and between most of these countries are also covered. In total, around 45% of total EU emissions are limited by the scheme (EC [2016c](#)).

Member States remain free to choose their energy sources, the structure of their energy supply, and how they support renewable energies within energy market rules. The EC considers that it is for each member state to decide on nuclear power (EC [2016d](#)).

THE UK FRAMEWORK

Key pieces of primary legislation underpinning the UK’s current energy policy include:

The Climate Change Act 2008: sets a legally binding target of at least an 80% cut in GHG emissions by 2050, as well as a reduction in emissions of at least 34% by 2020, against a 1990 baseline; implements a carbon budgeting system which caps emissions over five-year periods; creates the Committee on Climate Change; implements various reporting and monitoring programmes relevant to climate change and GHG emissions.

The Energy Act 2013: puts in place electricity market reform (EMR). This was designed to decarbonise electricity generation, keep the lights on, and minimise the cost of electricity to consumers (the energy trilemma). The Act creates a capacity market (for security of supply), and the implementation of contracts for difference (CfD) to support renewables; these are discussed in more detail below.

The UK also has a legally binding renewable energy target of 15% by 2020, as part of the EU’s overall target of 20% renewables by that date. The UK Government’s key strategy in this area is the National Renewable Energy Action Plan (the publication of which fulfils EU requirements under the Renewables Directive) (DECC [2010](#)); a Renewable Energy Roadmap sets out how this target can be achieved (DECC [2011a](#)).

EMR aims to improve the relative attractiveness of the UK for investors in the electricity market by creating a long-term, stable and predictable electricity market, and providing greater revenue certainty. The most significant changes to how the electricity market works as a result of EMR are set out below:

Capacity Market. As part of the EMR, the aim of the Capacity Market is to ensure there is backup available to the grid to meet any expected shortfall in electricity supply when demand is high (BEIS [2016](#)). The focus is on ensuring security of supply in the medium term. It provides a regular payment to reliable forms of electricity generation, in return for the capacity being available when the system is tight.

Contracts for Difference. CfD were introduced to replace the Renewables Obligation (RO – discussed in more detail below) as part of EMR. These contracts work by fixing the prices received by low carbon generation, reducing the risks they face, and ensuring that eligible technology receives a price for generated power that supports investment. CfDs also reduce costs by fixing the price consumers pay for low carbon electricity (known as the strike price). This requires generators to pay money back when electricity prices are higher than the strike price, and provides financial support when the prices are lower.

Levy Control Framework. The Government has placed the obligation of financing a number of its energy and climate change policies onto energy companies, rather than funding the schemes directly through general taxation. Energy companies then recover the cost of these levy-funded schemes from consumers through bills. The LCF was therefore established in 2011 to cap the

cost of levy-funded schemes and ensure that the Government "achieves its fuel poverty, energy and climate change goals in a way that is consistent with economic recovery and minimising the impact on consumer bills". It sets annual limits on the overall costs of all low carbon electricity levy-funded policies until 2020/21 (DECC [2011b](#)).

A number of schemes are currently in place to encourage the use of renewable technologies, as follows:

The **Renewables Obligation (RO)** is currently the main support scheme for existing renewable electricity projects in the UK. It places an obligation on UK suppliers of electricity to source an increasing proportion of their electricity from renewable sources. A Renewables Obligation Certificate (ROC) is issued to an accredited generator for renewable electricity generated and supplied to customers. Different technologies attract differing numbers of ROCs per megawatt hour of renewable output, depending on commercial viability e.g. onshore wind receives 0.9 ROCs, whilst tidal stream and wave technology receives 5. The Government intends that suppliers will be subject to an RO until 2037. Under EMR, the RO is to close to new entrants from all technologies on 31 March 2017; it closed for onshore wind on 31 March 2016, and has been replaced by CfD.

As previously noted, **Contracts for Difference** fix the price per MWh received by low carbon generation, and reduce the commercial risks faced, ensuring that eligible technology receives a price for generated power that supports investment. CfDs will be the only option of support for all low-carbon electricity generating technologies above 5MW after 1st April 2017.

The **Feed in Tariff Scheme (FiTS)** encourages investment in small-scale low carbon electricity generation, and requires Licensed Electricity Suppliers to pay a generation tariff to householders or other small-scale generators (whether or not such electricity is exported to the grid) and an export tariff to them where it is also exported to the grid.

The **Renewable Heat Incentive (RHI)** provides long term support for domestic and non-domestic renewable heat technologies, (e.g. household solar thermal panels or industrial wood pellet boilers). The scheme makes payments to those installing eligible technologies that qualify for support, year on year, for a fixed period of time. It is designed to cover the difference in cost between conventional fossil fuel heating and renewable heating systems (which are currently more expensive), plus an additional rate of return on top.

Scotland

In Scotland, overall policy is supported by five key documents, and renewable energy generation and GHG emissions reduction targets, as follows:

2020 Routemap for Renewable Energy. This, and subsequent updates, sets out a framework for action on renewable energy. It identifies what needs to happen and by when to achieve national targets and objectives. It proposes tougher 2020 targets than both the UK and EU ones, these are set out in Table 1 below. (Scottish Government [2011](#) & 2015a).

Heat Policy Statement. Sets out the framework for achieving a resilient and affordable low carbon heat system for households, organisations and industry. It details Scotland's heat hierarchy; firstly reducing the need for heat; secondly by ensuring an efficient heat supply; and lastly through the effective use of renewable or low carbon heat sources. It also undertakes to largely decarbonise the heat sector by 2050 with significant progress by 2030 (Scottish Government [2015b](#)).

Low Carbon Economic Strategy. Sets out the aspiration for a shift to a low carbon economy, and low carbon is one of the policy areas within the Government's 2015

Economic Strategy. The Low Carbon Economic Strategy set out a number of indicators to demonstrate the impact of the move to a low carbon economy ([2010](#) & [2015c](#)).

Community Energy Policy Statement: Sets out the ambition to see community energy mainstreamed within a whole systems approach, with opportunity for community ownership and control in areas such as generating low carbon energy, improving energy efficiency, and generating, distributing and storing energy ([2015d](#)).

Electricity Generation Policy Statement: Examines the way in which Scotland generates electricity, and considers the changes necessary to meet domestic targets. It considers the sources from which electricity is produced, the amount that is used to meet domestic needs and the technological and infrastructural advances which will be required to 2023 and beyond. It also undertakes to largely decarbonise the electricity sector by 2030 ([2013a](#)).

The **Climate Change (Scotland) Act 2009** binds the Scottish Government to cut GHG emissions significantly by 2050. The following table compares GHG emissions targets with those for renewable electricity:

Table 1: GHG Emission and Renewables Targets

| | % reduction in emissions from 1990 levels | | % of electricity generated from renewables | % of heat to be generated from renewables |
|-----------------------------|---|---------|--|---|
| | By 2020 | By 2050 | By 2020 | By 2020 |
| Scotland² | 42 | 80 | 100 | 11 |
| UK | 34 | 80 | 30 | 12 |
| EU³ | 20 | 80-95 | 20 (of all energy) | 20 (of all energy) |

As well as the above emissions reduction targets, the 2009 Act places climate change duties on Scottish public bodies, and recognises the need for encouraging low carbon behaviour. It also requires Scottish Ministers to produce a plan outlining specific proposals and policies (RPP) for meeting those targets, and describing how these proposals and policies contribute to the 2020 and 2050 targets.

The second of these plans (RPP2) was published in June 2013 and is structured around the key sectors of energy; homes and communities; business, industry and the public sector; transport; waste and resource efficiency; and rural land use. For each of these sectors, policies to reduce GHG emissions are identified, as are a number of proposals for further consideration (Scottish Government [2013b](#)). The third of these plans (now known as the Climate Change Plan), detailing proposals and policies to meet Scotland's emission reduction targets to 2032, is expected to be laid in the Scottish Parliament in early 2017.

² Emissions have reduced by 12.5% in the year to 2014, a reduction of 45.8% from the 1990 baseline; and that provisionally, renewables generated 56.7% of gross electricity consumption in 2015.

³ The European Commission target for renewables is for 20% of all energy, not just electricity, to be sourced from renewable sources by 2020. Scottish Government targets are for 100% of installed capacity of electricity generation (not energy) to be from renewables by 2020.

Scotland's Energy Strategy

The Scottish Government has also undertaken to develop an energy strategy. Which will “create a firm, long-term basis for energy investment in Scotland, and to support the next stage of Scotland’s energy transition to 2030 and beyond” (2016a), it will have three core themes, as follows:

- **Decarbonisation of the energy system by 2050**, in line with long-term climate change targets – producing advice on optimal pathways to maximise economic and social return to Scotland
- **A whole system view**; and a comprehensive policy prescription. Considering energy supply and end use, e.g. energy demand reduction, a balanced generation mix, storage technologies, energy efficiency and the requirements of the low carbon transition in transport and heat use
- **A localised approach to energy provision** – driving the aggregation of supply and demand at local level, especially in Scotland’s cities. Bringing the supply of low carbon energy closer to people. Driving new models of provision that permit greater community stakes and innovation in the energy system.

At present, this is expected to be published late in early 2017, alongside the Climate Change Plan.

FUNDING

The development of pan-European renewables targets has had a positive effect on research and development activities, and the period from 2007-13 provided EU funding for some innovative programmes. Relevant funding streams included the [Interreg](#), [ERDF](#), [FP7](#), and [NER 300](#).

Energy supply and energy security issues are connected to a number of other policy areas. Many programmes and funds include objectives related to energy, energy efficiency, a low-carbon economy or climate action. It is difficult to clearly indicate all related EU funding, or provide aggregated figures for all Scottish initiatives because costs are spread across many different budgetary headings.

REACTION TO THE DECISION TO LEAVE THE EUROPEAN UNION

Whilst BREXIT is likely to impact on the availability of some funding for research and development in the energy sector, it is not clear whether it would be a definitive barrier, as some non-EU countries are actively involved in EU funded and co-ordinated projects e.g. Norway.

It is also not clear to what extent the UK Government will continue to be involved with broader objectives such as the Energy Union. Professor Nick Butler (Financial Times [2016](#)) states:

The proposed energy union is much more focused on developing common infrastructure and in ensuring that there is an open market across Europe. Presumably we will not now be part of that, although participation remains an option, for instance, in developing an advanced power grid across the North Sea if relations remain amicable. The member states of the Union manage to trade easily and successfully with Norway, which remains a non-member. There is no reason to think that the interconnection and trading links which already exist on straightforward commercial terms will not continue regardless of a UK exit from the European institutions.

Professor Butler goes on to point out that the UK has been a key player in developing and proposing many of the environmental and climate change regimes that the EU has adopted, stating that many “issues remain to be resolved in Britain and in other European countries but Brexit in itself would have very little effect”.

Similarly, the global law firm Norton Rose Fulbright (NRF) ([2016](#)) considers that whilst the UK will theoretically be released from many obligations, increasing “interconnectivity with continental Europe will necessarily require co-operation with the EU internal energy market in any Brexit scenario. Because the UK Government has been at the forefront of efforts to liberalise and develop cross-border energy markets, we envisage that this cross-border policy direction is likely to endure”. Similarly NRF believes that climate change goals are unlikely to change, and that coal-fired plants will still close. Depending on what model for UK trade is negotiated, there may however be “more freedom both in the design and phasing out of renewable energy support regimes”.

The House of Lords EU Committee has a sub-committee on Energy and Environment, and on 13 July 2016 it questioned Professor Michael Grubb, Professor of International Energy and Climate Change Policy, University College London, and Antony Froggatt, Senior Research Fellow at Chatham House on the possible impact of Brexit on EU and UK energy and climate change policy (House of Lords EU Committee [2016](#)). This wide ranging discussion is paraphrased below.

There have already been impacts on energy costs and investment from post-Brexit declines in exchange rates, e.g. increases gas bills due to over 50% of the UK’s gas being imported.

In the longer term, an overarching question is whether the UK stays within the internal energy market. If not, this triggers an even larger group of unanswered questions about what trading relationships are put in place. The European Investment Bank has been a major investor in, and supporter of UK energy investments; if outside the internal energy market, funding may flow more towards other European countries.

In the short to medium term, given that the UK has been a key player in influencing robust EU policy and legislation in climate change, energy security, efficiency and renewables etc, there may be a lack of leadership/support, and changes to the general framework and direction of relevant policy. This is compounded by the fact that the UK was supposed to hold the presidency of the EU in the second half of 2017.

If the UK does not hit its 2020 renewable energy target, then it may not be subject to infringement proceedings. Also, the UK may not be subject to state aid rules therefore increasing freedom to support certain industries and generating technologies as well as freeing up how the capacity mechanism is designed. This however depends on trade relationships; if the UK wishes to have full access to European energy markets like Norway, state aid rules still apply. If the UK stepped back from the European electricity market, there would be more freedom to give certain types of support, however less freedom to exchange electricity with European neighbours.

Removing the requirement to comply with, and unravelling EU environmental directives from domestic law, many of which have already been implemented by the energy industry, would be very complicated and would increase market uncertainty.

Fundamentally, energy is a very long-term business and what the industry wants more than anything else is certainty against which to invest. If the UK were not in the single market, there would be a fantastically complicated legislative operation with a lot of uncertainty. There are clear economic benefits to a Norway model, however clear political disbenefits in that the UK remains subject to many of the same laws, but is no longer fully at the negotiating table.

There is potential in the Swiss model where there are bilateral or sectoral agreements. However, the Swiss have been negotiating a bilateral energy agreement with the EU for a number of years and it still has not been concluded, due primarily to disagreements around the movement of workers.

The UK should seek as close integration as possible. Electricity is a different commodity from others because of the difficulty of storage, the need for large infrastructure and the need for some sort of certainty. Current policy intends to transform the sector by decarbonising it and increasing the use of renewable energy, therefore having greater interconnection is good for the efficiency of the system. Over the last decade the EU has increased cross-border flows of electricity. The UK is proposing to treble its interconnection—to move from three to 10 gigawatts—which in part is to enable more efficient use of renewables and make the whole system more efficient. Stepping back from that, and having less connection with Europe and less involvement in the single market, would seem to go against the interests of decarbonisation.

Because of the UK's geographical position, all electricity trade and all pipeline gas trade is with the single European market. Unlike some other sectors, leaving this could not be offset by e.g. trading with China. There are no external trade benefits to leaving the single energy market, and many experts are unsure what form electricity trade could take, were this to happen.

A number of international interconnectors now have regulatory approval. Of these, the Norwegian interconnector has reached financial closure, and it represents a good deal for all involved. These connections will to some extent remain subject to European regulation, because they make landfall in countries regulated by EU directives.

It is unclear whether tariffs could be imposed on the purchase of gas or electricity if the UK leaves the single energy market, and entered into WTO governed deals, however it appears probable that the EU could not impose an explicit tariff on energy exports. There are however other forms of charges, e.g. there could be transmission charges imposed for not being part of the single market.

The UK's role in the energy union post-Brexit is potentially more difficult and limited, depending on the resultant trade model; however the UK should do all it can to try and remain an integral part of the North Seas Countries' Offshore Grid Initiative, because there are huge resources there, costs have come down very rapidly and there are enormous economic gains from full collaboration on both the networking and the industrial development of, particularly, offshore wind resources.

The UK Climate Change Act, supported by the recently adopted fifth carbon budget is the overarching framework for climate change mitigation, and is understood to be almost entirely unaffected by Brexit. There may be other aspects and components of implementation, such as renewables that are however affected, as set out above. The UK contribution in the EU collective target is now more a matter for other EU countries to conclude what they would apply if the UK withdraws.

Regarding the ETS, it is hard to envisage why either the UK or the EU would want the UK to leave it – if it did, the UK target might have to include heavy industry and hydrocarbon power generation (which are currently excluded due to their emissions being traded).

Key issues to be explored over the coming months include whether it is possible to stay in the internal energy market; and investment stability, particularly for interconnectors and North Sea developments. Also, there is potentially a protracted period of time between now, concluding Article 50 negotiations, and changing domestic legislation – therefore it is important to thoroughly research and identify the UK's future options for relationships in this field.

It is estimated that by the late 2020s or 2030 Britain is going to need approximately 25GW of new electrical capacity to meet various obligations. Investment is needed not in traditional baseload, but in flexible plant that can complement electricity from variable sources e.g. combined-cycle gas turbines. The extent to which such investment is impeded depends how quickly investment and broader political uncertainty is resolved. Once Brexit has been fully clarified, the UK could re-establish clarity for investors. More plant will be needed if there is reduced investment in interconnectors. An investment hiatus poses a significant challenge, as there is no scenario in which market and regulatory clarity can be established for at least five or six years. In turn, this drives up the cost of capital.

HOW MIGHT ALTERNATIVES TO EU MEMBERSHIP AFFECT ENERGY POLICY

The European Free Trade Association (EFTA) ([2015](#)) notes that EU and European Economic Area (EEA) EFTA states (Iceland, Lichenstein, Norway and Switzerland) have largely aligned climate and energy policies, and states:

They have binding greenhouse gas (GHG) emission reduction targets for 2020, and a similar set of instruments to achieve them, adopted mainly as part of the 2009 Climate and Energy Package. Most of the legislation implementing that package is EEA relevant and has been or is in the process of being incorporated into the EEA Agreement. Examples include the Directive establishing the Emissions Trading System (ETS), the Renewable Energy Directive, the Fuel Quality Directive, and the Regulations setting emission performance standards for new passenger cars and light commercial vehicles [...].

In advance of the Paris 2015 Climate Summit the EEA EFTA States announced emission reduction targets equivalent to the EU 2030 target. Subsequently, Norway and Iceland have announced their intention to meet their GHG emission reduction target for 2030 jointly with the EU and its Member States (EFTA 2015).

In their paper *The Impacts of Brexit on Energy and Climate Policy* Chatham House ([2016](#)) have set out the implications of a range of alternatives to EU membership for UK climate and energy policy. They suggest that the implications will depend on a number of factors including:

- The degree of access to the European gas and electricity markets
- The extent to which the UK would lose the capacity to influence EU decision-making on energy policies, relative to what it would gain in terms of sovereign power to design distinct national energy policies
- The ease with which a deal might be negotiated with other EU states and institutions.

Chatham House explores five 'Brexit models' and describe the key elements of each of these as follows:

| Model | Key Elements |
|-----------------------------|--|
| Norway | <ul style="list-style-type: none"> • Membership of EFTA and EEA • Fully integrated in EU single market • Adopts vast majority of EU energy legislation, but with significantly less influence over its contents and with no formal voting power • Contributor to EU budget |
| Energy Community | <ul style="list-style-type: none"> • Adopts the <i>acquis communautaire</i> relating to energy • Access to single energy market • No formal or limited opportunity to shape EU energy and climate legislation • No contribution to EU budget |
| Switzerland | <ul style="list-style-type: none"> • Membership of EFTA, but not of EEA • Sector-specific bilateral agreements with the EU • Small contribution to EU budget • Participant in EU energy market; some harmonization of rules and standards required |
| Free trade agreement/Canada | <ul style="list-style-type: none"> • Comprehensive free trade agreement with the EU allowing access to internal market for goods, and to a lesser extent services • Conditional market access • No access to EU energy-related finance programmes • No contribution to EU budget |
| No deal/WTO | <ul style="list-style-type: none"> • No agreement; trade regulated under WTO rules • Conditional market access • No access to EU energy-related finance programmes • No contribution to EU budget |

Chatham House concludes that:

All five Brexit models would undermine the UK's influence in international energy and climate diplomacy. The UK would no longer play any direct role in shaping the climate and energy policies of its EU neighbours, at a time when the EU's proposed Energy Union initiatives offer the prospect of a more integrated and effective European energy sector. A decision to leave the EU would make it easier for a future UK government to change direction on climate policy, since only a change in domestic legislation would be required.

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