Brexit: Energy and Climate Change

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Contents:
1. Introduction
2. Euratom
3. EU internal energy market (IEM)
4. Ireland
5. Other Energy Impacts
6. Climate Change
# Contents

**Summary**

1. **Introduction** 4
2. **Euratom** 5
   2.1 Potential Impact of Brexit
   2.1.1 Nuclear Safeguards
   2.1.2 Nuclear Cooperation Agreements for trade
   2.1.3 Radioisotopes
   2.1.4 Research
   2.2 Government position
   2.2.1 No deal
3. **EU internal energy market (IEM)** 10
   3.1 Development of the IEM
   3.2 The UK and the IEM
   3.2.1 Electricity Interconnectors
   3.2.2 Gas interconnectors
   3.2.3 IEM regulation
   3.3 Potential impact of Brexit
   3.3.1 No deal
4. **Ireland** 20
   4.1 The island of Ireland Integrated Single Electricity Market (I-SEM)
   4.1.1 Potential impact of Brexit
   4.1.2 No deal
   4.2 Irish access to European and world gas markets
5. **Other Energy Impacts** 25
   5.1 Trade
   5.1.1 Guarantees of Origin
   5.2 Energy efficiency
6. **Climate Change** 28
   6.1 Brexit negotiating positions of the EU and the UK Government
   6.2 International framework
   6.2.1 The Kyoto Protocol
   6.2.2 The Paris Agreement
   6.3 EU emissions trading system (EU ETS)
   6.3.1 The UK’s participation in the EU ETS
   6.3.2 Potential impact of Brexit
   6.3.3 Remaining in the EU ETS
   6.3.4 Leaving the EU ETS
   6.3.5 Budget 2018 and the Finance Bill 2018/19: a new UK-wide carbon tax if there’s no Brexit deal

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Summary

Brexit has potential impacts on both UK and EU energy and climate change policy.

**Brexit and energy**

Although Member States remain ultimately responsible for the energy supply to their citizens, and for deciding on the most appropriate energy mix, the UK and EU energy sectors are integrated through trade, directives and interconnection of energy supply.

There is currently uncertainty about the Brexit impact on a number of issues including: the UK’s departure from Euratom, the future of the EU internal energy market (IEM) and the status of the single electricity market (SEM) on the island of Ireland.

**Euratom**

The Government announced that the UK would be leaving Euratom as part of Brexit in March 2017. Leaving Euratom has the potential to impact the UK’s current nuclear operations, including fuel supply, waste management, cooperation with other nuclear states, supply of medical radioisotopes, and nuclear research.

The Government’s July 2018 White Paper on the Future Relationship between the UK and the EU proposed a “close association” with Euratom that would be “more comprehensive and broad than any existing agreement between Euratom and a third country”.

More information is available in the Library briefing paper on Euratom.

**EU internal energy market (IEM)**

The UK has four interconnectors with Europe and the island of Ireland and more are planned. The UK is currently a member of the EU internal energy market (IEM) which allows harmonised, tariff-free trading of gas and electricity across Europe through interconnectors.

The UK has said it wants to “explore” options for the future relationship of the UK with the IEM but has not made commitments to try to retain membership of the market.

**Northern Ireland**

The island of Ireland has operated a Single Electricity Market (SEM) for many years which allows free trade of power across the island. A new Integrated Single Electricity Market (I-SEM), designed closely around the rules of the IEM, was launched in 2018. In the longer term regulatory divergence could be problematic for the continued functioning of this Irish market. There are also potential impacts on Ireland’s gas supply as a result of the UK exit.

**Brexit and climate change**

The level of the UK’s involvement or future cooperation with EU climate change efforts remains subject to ongoing negotiation. The Government’s July 2018 White Paper on the Future Relationship between the UK and the EU committed to maintaining high domestic standards on climate change and continuing to meet international obligations in this area. However, it left open the option of whether the UK wishes to stay in the EU emissions trading scheme and ruled out the possibility of a common rulebook on wider climate change rules. The European Council’s guidelines on future EU-UK relations required continued close cooperation in the area of climate change.
1. Introduction

The UK’s energy and climate change sectors are largely governed by domestic policy, but aspects are also integrated with the EU, meaning there are a number of possible areas that could be impacted by Brexit. The impact of Brexit on UK energy and climate change policy is subject to the outcome of the Brexit negotiations. The possible consequences vary based on whether the outcome is a full Brexit deal, a sector-specific deal, or in the case of no Brexit deal.

On energy, although Member States remain ultimately responsible for security of energy supply to citizens, and for deciding their energy mix, the UK and EU energy sectors are integrated through trade, directives and interconnection of energy supply. Consequently, Brexit has the potential to impact the UK’s civil nuclear industry, including nuclear power and research, and the supply of electricity and gas through interconnectors trading in the EU’s Internal Energy Market. Additional areas that may be impacted include the island of Ireland’s energy market, energy efficiency regulations, and general energy infrastructure through wider changes to trade and the movement of people.

On climate change, the UK has standalone domestic legislation in the form of the Climate Change Act 2008 which sets decarbonisation targets set through its carbon budgets. However, the UK is also part of an international effort to combat climate change, which is currently intertwined with its membership of the EU, as well as directly participating in the EU emissions trading scheme. The UK’s future status in these climate change mechanisms is not yet agreed, but will likely require (to a greater or lesser extent) a number of technical, regulatory and policy changes and/or clarifications.

In an open letter to the UK Prime Minister and the President of the European Commission, several businesses and industry bodies in the sector have called for “dynamic and forward-looking cooperation between the EU and the UK on climate change and energy policies” in order to keep costs down and increase the pace of the low carbon transition. The industry signatories called for a standalone comprehensive energy and climate change chapter to be prioritised as part of the UK-EU’s future relationship negotiation, highlighting the mutual benefits that could be realised if cooperation on issues such as emissions targets, clean energy projects of common interest and carbon pricing were achieved.\(^1\,2\)

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2. A similar letter was sent to the Theresa May and Michel Barnier by Eurelectric, the European electricity trade association on 15 October 2018.
2. Euratom

The European Atomic Energy Community, better known as Euratom, was established in the 1950s as part of the creation of the European Community. The UK became a member of both on 1 January 1973. Euratom provides the basis for the regulation of civilian nuclear activity, implements a system of safeguards to monitor the use of civil nuclear materials, controls the supply of fissile materials within EU member states and funds leading international research such as the Culham Centre of Fusion Energy in Oxfordshire.

The Government have said that Euratom and the EU are “uniquely legally joined” such that “triggering Article 50 therefore also entails giving notice to leave Euratom”. The legal basis of this point is debated.

For more information, see the Library’s briefing paper on Euratom.

2.1 Potential Impact of Brexit

Leaving Euratom has the potential to impact the UK’s current nuclear operations, including fuel supply, waste management, cooperation with other nuclear states, and research. The UK will likely need to take a number of measures to leave Euratom, and some industry groups have expressed concern that the timetable for achieving these measures is ambitious.

Nuclear Safeguards

Nuclear Safeguards are measures to verify that countries comply with their international obligations not to use civil nuclear materials for nuclear weapons.

The Nuclear Safeguards Act 2018 makes provision for a new domestic safeguard regime after the UK leaves Euratom.

In May 2018, concern was raised in the press that the new regime would not be ready by exit day. However, in an appearance before the House of Lords Energy and Environment Sub-Committee in July 2018, the Office for Nuclear Regulation (who are responsible for implementing the new regime) said they were “confident” that timeframes would be met. Brexit in any scenario should therefore have little impact on Nuclear Safeguards, if domestic provisions are in place in time.

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3 Treaty of Accession of Denmark, Ireland and the United Kingdom, 1972
4 HC Deb 1 February 2017, Vol 620
6 Adam Vaughan, Nuclear Industry warns UK must avoid ‘cliff edge’ over Brexit, The Guardian, 2 May 2017
7 Office for Nuclear Regulation, What are nuclear safeguards? (accessed 13 August 2017)
8 Red warnings for UK’s post-Brexit nuclear safeguards, Sky News, 16 May 2018
9 House of Lords Select Committee on the European Union Energy and Environment Sub-Committee, The Office for Nuclear Regulation’s Brexit preparedness, 11 July 2018, Q1
The Library Briefing on the Nuclear Safeguards Act 2018 has further detail.

Nuclear Cooperation Agreements for trade
The UK Government is in the process of negotiating new Nuclear Cooperation Agreements (NCAs) with relevant nuclear states to replace existing Euratom agreements. These agreements facilitate trade, such as in nuclear materials including fuel. An NCA is not a legal requirement for trade in many countries (where export licences can be used), but is a requirement in Australia, Canada, Japan and the US.

At the time of writing, the UK has agreed NCAs with the US and Australia; these agreements will need to be approved by each Parliament. The Government’s guidance on Civil nuclear regulation if there’s no Brexit deal states:

Discussions to agree bilateral NCA agreements with propriety countries are on track to be completed before the UK leaves the EU, and the UK has already signed new bilateral NCA’s with a number of third countries. This will ensure that civil nuclear trade can continue unimpeled.¹⁰

The Nuclear Safeguards Act 2018 included an amendment to provide that if the NCAs are not ready in time, the UK must make a request to the EU that existing Euratom NCAs be extended. In the event of a no deal Brexit, if replacement NCAs have not been agreed and approved in time and existing arrangements with Euratom are not extended, it is possible that trade will cease with the countries concerned, and the UK may have to transfer its trading needs to a country where an NCA is not required.

The Government’s no deal guidance also included information on ownership of fissile material, supply contracts, and import and export licenses. Largely, in the event of no deal, the Government say current processes which operate with Euratom states will stay the same, and domestic processes which do not involve Euratom states will no longer require notification of Euratom. There is some uncertainty about specific issues such as whether import licenses will be required after Brexit.¹¹

Radioisotopes
Any imports of nuclear materials may be affected by the overall customs arrangements with the EU; for example, if there are delays at borders and increased customs checks. This could impact the supply of nuclear materials for energy generation and for other uses, such as radioisotopes for health.

Radioisotopes are used for the diagnosis and treatment of various diseases and are imported to the UK from mainly EU research reactors. Although radioisotopes can be sourced from beyond the EU, the materials often have short half-lives meaning they can decay rapidly.

¹⁰ Gov.uk, Civil nuclear regulation if there’s no Brexit deal, 23 August 2018
¹¹ Gov.uk, Civil nuclear regulation if there’s no Brexit deal, 23 August 2018
¹² European Commission, Supply of medical radioisotopes, Accessed 11 July 2017
¹³ World Nuclear News, Radioisotopes in Medicine, May 2017
and cannot be stored. In the UK, around 700,000 nuclear medicine procedures using radioisotopes are carried out each year.\textsuperscript{14}

The Royal College of Radiologists have been among the medical professionals to express concern about the supply of radioisotopes post-Brexit.\textsuperscript{15} In November 2017, in oral evidence by the EU Home Affairs Sub Committee on the health implications of leaving Euratom, concerns were also raised about the vehicles transporting the isotopes becoming delayed in customs queues in the channel tunnel.\textsuperscript{16} In addition to continuing imports, there are also concerns about the UK leaving the Euratom Observatory who have previously had a role in managing supply chains during past shortages of radioisotopes.\textsuperscript{17}

The Government have said that the availability of radioisotopes should not be impacted by Brexit.\textsuperscript{18} However, the Brexit White Paper said the UK wanted to continue “cooperation and information sharing with the European Observatory on the Supply of Medical Radioisotopes”.\textsuperscript{19} It is possible that the UK could negotiate a separate deal with the Observatory on supply, and prepare targeted customs arrangements for potential radioisotope delays.

Research

The UK collaborates with the EU on a number of nuclear research projects. The Government White Paper (July 2018) stated the Government wanted a deal to “provide for UK association with the Euratom Research and Training Programme, as part of an ambitious science and innovation accord ”.\textsuperscript{20}

In August 2016, the Government announced they would underwrite funding for approved Horizon 2020 projects applied for before the UK leaves the EU.\textsuperscript{21} In July 2018, this was extended to include all successful collaborative bids to Horizon 2020 involving UK entities in a no deal scenario up until the end of the programme.\textsuperscript{22}

It is possible the UK will have to fund future innovation projects domestically, either with or without a Brexit deal. It is also possible the UK could negotiate a separate deal on collaboration specifically for research.

\textsuperscript{14} Supply of Medical Radioisotopes, POSTnote 558, July 2017
\textsuperscript{15} Dr Nicola Strickland, BCR statement on the potential impact of leaving the Euratom treaty, Royal College of Radiologists, 10 July 2017
\textsuperscript{16} House of Lords Select Committee on the European Union Home Affairs Sub-Committee, Brexatom: the health implications of leaving Euratom, Oral Evidence, 22 November 2017, Q3
\textsuperscript{17} House of Lords Select Committee on the European Union Home Affairs Sub-Committee, Brexatom: the health implications of leaving Euratom, Oral Evidence, 22 November 2017, Q4
\textsuperscript{18} HC Deb 27 June 2017 Vol 626
\textsuperscript{19} HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, para 144
\textsuperscript{20} HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, para 144
\textsuperscript{21} Gov.uk, Chancellor Phillip Hammond guarantees EU funding beyond date UK leaves EU, 13 August 2016
\textsuperscript{22} HCWS926, HM Government’s Guarantee, 24 July 2018
For nuclear research specifically, the UK participates in the Joint European Torus (JET). JET is a magnetic fusion device, designed to prove the feasibility of fusion as an energy source. The project is helping to inform a larger fusion reactor with which the UK is also involved, known as ITER (International Thermonuclear Experimental Reactor) which is being built in France. Around 500 people work at the Culham Centre for Fusion Energy in Oxfordshire where JET is based, and around 350 European scientists visit annually for research. Euratom provides 87.5% of the funding for the Culham JET project and the UK Government provides the rest. The funding is secure until the end of 2018 and the Government has committed to paying its “fair share” of the funding until 2020. In May 2018, the Council of the EU agreed to the extension of funding in principle but this has yet to be confirmed.

On 23 August 2018, the Government published guidance on Nuclear research if there’s no Brexit deal. On JET the guidance states:

In a ‘no deal’ scenario, the government will fulfil its stated commitment to continue to provide funding for its share of Joint European Torus costs until the end of 2020, subject to the EU Commission extending the Joint European Torus operating contract until then. The European Commission has stated its ambition to ‘extend the Joint European Torus operating contract until 2020’ but a final decision is still outstanding.

When the Joint European Torus operating contract ends, the UK government is willing to discuss options to keep Joint European Torus operational until the end of its useful life.

On ITER and no deal, the guidance states:

The UK will no longer be a member of Fusion for Energy and UK businesses will not be able to bid for International Thermonuclear Experimental Reactor contracts through Fusion for Energy. However, in this scenario the UK government is willing to discuss with International Thermonuclear Experimental Reactor opportunities for UK researchers, companies, and institutions, to collaborate on this critical experiment.

It is possible that Euratom will not renew its funding for JET, either later this year, or in the event of no deal. It is also possible that in the event of no deal for Euratom in general, the UK and Euratom do agree to collaborate specifically on JET, or on research more generally.

2.2 Government position

In July 2018, the Government published a White Paper on ‘The future relationship between the United Kingdom and the European Union’. The White Paper reaffirmed the Government’s position of a proposed “close association” with Euratom. The full section on Euratom stated:

24 Department for Business, Energy and Industrial Strategy, Euratom Exit Factsheet, Research and Development, June 2018
25 Gov.uk, Government commits to continue funding its share of Europe’s flagship UK-based nuclear fusion research facility, 27 June 2017
26 Gov.uk, Nuclear research if there’s no Brexit deal, 23 August 2018
27 Gov.uk, Nuclear research if there’s no Brexit deal, 23 August 2018
143. The UK will seek a close association with Euratom: a new relationship that is more comprehensive and broad than any existing agreement between Euratom and a third country and would help ensure the UK’s standing as a leading and responsible civil nuclear state is maintained. This would be mutually beneficial for the UK and the Euratom Community, who will continue to share a common interest in ensuring energy resilience and security within Europe. Close cooperation on civil nuclear matters would also benefit citizens and businesses in the UK and across the EU, whether related to secure energy supplies, or the safeguarding of nuclear materials, equipment and technology.

144. The UK proposes that this new relationship should be based on a comprehensive Nuclear Cooperation Agreement [NCA] between Euratom and the UK. This should:

a. establish a cooperation mechanism between the UK safeguards regulator (the Office for Nuclear Regulation) and Euratom, enabling activity such as technical information exchanges, joint studies and consultation on regulatory or legislative changes;

b. provide for UK association with the Euratom Research and Training Programme, as part of an ambitious science and innovation accord;

c. ensure continuity of contractual arrangements for the supply of nuclear material, either by allowing for existing nuclear supply contracts with the UK to remain valid after the UK’s exit, or by providing for their seamless re-approval prior to the UK’s exit;

d. minimise barriers and simplify export control arrangements in the trade and transfer of sensitive nuclear materials, equipment and technology between the UK and the Euratom Community;

e. provide for technical cooperation on nuclear safety including continued notification and information sharing arrangements on radiological events and monitoring, with the UK participating in EU systems such as the European Community Urgent Radiological Information Exchange (ECURIE) and the European Radiological Data Exchange Platform (EURDEP); and

f. continue UK cooperation and information-sharing with the European Observatory on the Supply of Medical Radioisotopes.28

It is not clear which of these points would be agreed by both the UK and EU in the event of a deal.

No deal

It is possible that the UK could still secure a deal with Euratom, in the event of a “no deal” scenario with the EU, as they are legally separate.

The UK has begun preparations for leaving Euratom, by passing the Nuclear Safeguards Act 2018 and negotiating replacement Nuclear Cooperation Agreements for trade. A no deal Brexit risks these alternative domestic arrangements not being completed in time.

For other aspects of Euratom, such as radioisotope supply and nuclear research, a no deal Brexit could have a clearer impact, with trade and funding changes impacting the continuation of existing arrangements.

28 HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, para 144
3. EU internal energy market (IEM)

The UK is currently a full member of the EU internal energy market (IEM). The IEM allows harmonised, tariff-free trading of gas and electricity across Europe (through interconnectors), leading to lower prices and greater security of supply.\(^{29}\) The UK Government has been “a leading advocate for the development of the IEM and has heavily influenced the EU-wide rules, which draw on UK practice.”\(^{30}\) As a result of Brexit, it is possible that the UK may leave the IEM, either in the case of a Brexit deal, or a no deal Brexit.

3.1 Development of the IEM

During the 1990s, the EU and its Member States decided to liberalise energy markets, opening them to competition gradually. The EU-led changes, which have been developed through a series of legislative packages affecting the gas and electricity sectors, initially followed the more advanced liberalised status of the UK market.

The first liberalisation directives were adopted in 1996 (electricity) and 1998 (gas) and transposed into Member States’ legal systems by 1998 (electricity) and 2000 (gas). The second liberalisation directives were adopted in 2003 with transposition of the directives into national law by Member States in 2004. In the UK, the directives were transposed into law largely by the 2004 Energy Act.

The latest round of EU energy market legislation, known as the third package, has been enacted “to improve the functioning of the internal energy market and resolve structural problems”. It covers five main areas, and consists of two Directives and three Regulations:

- **Directive 2009/72/EC** concerning common rules for the internal market in electricity
- **Regulation (EC) No 714/2009** on conditions for access to the network for cross-border exchanges in electricity
- **Regulation (EC) No 715/2009** on conditions for access to the natural gas transmission networks

These directives were transposed into UK law through the *Electricity and Gas (Internal Markets) Regulations 2011* and separate regulations for Northern Ireland.

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\(^{29}\) DexEU *The United Kingdom’s exit from and new partnership with the European Union White Paper*, Cm9417, 2 February 2017, p. 43

\(^{30}\) Exiting the EU Committee, *Electricity and Renewables Sector Report*, 21 December 2017
3.2 The UK and the IEM

In 2017, the UK imported 4.2% of its electricity demand through interconnectors, and 36.8% of its gas.\(^{31,32}\) Imports of gas were worth £8.5 billion in 2017 and exports £1.8 billion. Imports of electricity had a value of £0.9 billion and exports £0.2 billion.\(^{33}\)

The UK also imports Liquified Natural Gas (LNG) though not through interconnectors but via tankers and predominantly not from EU countries.

Interconnectors can operate in both directions, meaning they can import and export electricity and gas. The UK exports some gas and electricity through interconnectors at various points during the year, but across the whole year, the UK is a net importer of both gas and electricity and has been for more than a decade. Trends over the last two decades are given below.

Source: Department for Business, Energy and Industrial Strategy, Digest of UK Energy Statistics 2018, Tables 4.2 & 5.5

Electricity Interconnectors

In 2017, 49% of net electricity imports came from France, 46% from the Netherlands and 5% from Ireland. Imports from the Netherlands have been relatively consistent since this interconnector started.
operating in 2011. Imports from France have varied to a much greater extent; as high as almost 15 TWh in 2014 and below 3 TWh in 2010. The UK has been a net exporter of electricity to Ireland for most of the years to 2015 but was a net importer in 2016 and 2017. \(^{35}\)

Britain has four electricity interconnectors with Europe and the island of Ireland providing 4GW of electricity interconnector capacity: 2GW to France (IFA); 1GW to the Netherlands (BritNed); 500MW to Northern Ireland (Moyle); and 500MW to the Republic of Ireland (East West). \(^{36}\) These are shown in the Figure below (from National Grid). \(^{37}\)

![Diagram of electricity interconnectors](source: Provided to the Library by National Grid, reproduced with permission.)

Electricity interconnection capacity is due to double by 2022. There is currently 4.4GW of capacity under construction (1GW with France, 1GW with Belgium and 1.4GW with Norway). Further projects with a combined capacity of 9.5GW have sought regulatory approval. \(^{38}\) The Government has stated, via the 2016 Autumn Statement and 2017 Clean Growth Strategy, that it supports 9GW capacity more than is currently operational or under construction. \(^{39}\)

The IEM facilitates harmonised, tariff-free trade across these interconnectors. The flow of electricity between interconnected markets is driven by cost differentials. When the price of electricity is lower in one market, energy will flow from that market to the higher priced market. The effect of this is to make the prices in each converge – they increase in the exporting market and decrease in the importing market.

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\(^{35}\) Department for Business, Energy and Industrial Strategy, *Energy Trends*, Table 5.6


\(^{37}\) Source: House of Commons Library correspondence with National Grid.


As wholesale gas and electricity prices in the UK are generally higher than elsewhere in Europe, interconnection has caused a reduction in wholesale prices, and hence consumer prices in the UK.

Interconnector cables can accommodate changes in the amount of power flowing across them at very short timescales. This flexibility can help to integrate intermittent renewable sources of electricity, as they prevent the need to curtail (i.e. disconnect from the grid) this power when supply is greater than demand by exporting any excess power.

As part of the development of the IEM, trade across electricity interconnectors is increasingly integrated via ‘market coupling’. Market coupling uses an algorithm to set prices and trading volumes across interconnected markets. Markets are said to be coupled when interconnector capacity and electricity are sold in a single market transaction, whereas in uncoupled markets these are sold separately. Market coupling is a more efficient means of trading, which reduces system costs. Great Britain (GB) is currently coupled to north-west Europe and the island of Ireland in the ‘day-ahead market’ (referring to electricity that is bought and sold a day ahead of delivery). Work is underway to couple the ‘intra-day’ markets (for electricity that is sold between an hour and 24 hours ahead of delivery).

Gas interconnectors

The UK imports natural gas via pipeline from Norway, the Netherlands and Belgium, and by ship in the form of LNG. As most LNG comes from outside the EU (from countries such as Qatar), this section will only cover interconnectors.

In the years from 2012 the UK has imported 25-40% of its gas supply from interconnectors with Norway (a member of the IEM), the

NORWAY DOMINATES UK GAS IMPORTS VIA PIPELINES

GWh


40 Antony Froggatt et al, Staying Connected: Key Elements for UK–EU27 Energy Cooperation After Brexit, May 2017
Netherlands and Belgium.\textsuperscript{41} Trends in imports from each one are illustrated in the graph above.

Not all of this gas is from those countries, some can be imported from other countries, such as Russia, as the Figure below shows\textsuperscript{42}. There are no market coupling mechanisms for gas, but it is still regulated in accordance with EU Regulations.

\textbf{IEM regulation}

The rules of the IEM (known as European Network Codes - ENCs) are determined by European Network Transmission Systems Operators (ENTSOs), European Agency for the Cooperation of Energy Regulators (ACER) and the European Commission, and are ultimately upheld by the European Court of Justice.

\textbf{ACER}

\textit{Regulation (EC) No 713/2009} established ACER, which has been fully operational since March 2011. ACER is largely responsible for promoting cooperation between national regulatory authorities at regional and European level and for monitoring development of the network and the internal electricity and gas markets. Ofgem (the GB

\textsuperscript{41} Department for Business, Energy and Industrial Strategy, \textit{Digest of UK Energy Statistics 2018}. Tables G.5

\textsuperscript{42} Department for Business, Energy and Industrial Strategy, \textit{Digest of UK Energy Statistics}, 2018
energy regulator) is a member of ACER where they “are actively involved in the work of ACER and help shape binding rules.” In addition, the Utility Regulator (the Northern Ireland energy regulator) is a member of ACER.

ENTSO

Two regulations were adopted, creating structures of cooperation for European Network Transmission Systems Operators (ENTSOs): [Regulation EC/714/2009](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32009R0714) for electricity; and [Regulation EC/715/2009](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32009R0715) for gas. The ENTSOs, together with ACER, create detailed network access rules and technical codes, and ensure coordination of grid operation through the exchange of operational information and the development of common safety and emergency standards and procedures. The UK is represented by National Grid Electricity Transmission plc, System Operator for Northern Ireland Ltd, Scottish Hydro Electric Transmission plc and Scottish Power Transmission plc on ENTSO.

3.3 Potential impact of Brexit

Remaining fully integrated with the IEM could require the UK’s compliance with current and future EU energy market rules, as well as some EU environmental legislation. Moreover, the rules of the IEM are currently ultimately upheld by the ECJ.

The Prime Minister has previously ruled out the possibility of the ECJ being the final arbiter of disputes in her Florence Speech and later Lancaster House Speech.

The Lords EU environment and energy sub-committee has concluded that continued participation in the IEM “is unlikely to be possible if the Government pursues its policy of leaving the Single Market and the jurisdiction of the Court of Justice of the European Union.”

The Government’s July 2018 White Paper on the Future Relationship between the UK and the EU said the UK wanted to “explore the options” on the IEM. This included options of leaving and maintaining trading, or retaining access and using a common rulebook for certain technical rules, though not, in the UK’s view, for wider environmental and climate change rules:

137. The UK remains committed to delivering cost-effective, clean and secure energy supplies. The UK has worked closely with European partners to liberalise and open energy markets, with wide-ranging UK energy sector expertise being highly regarded across the EU.

[...]
139. The UK is seeking broad energy cooperation with the EU, including arrangements for trade in electricity and gas, cooperation with EU agencies and bodies, and data sharing to facilitate market operations. It is common practice for countries to trade internationally in electricity and gas, and there has been a trend towards greater interconnectivity that has brought mutual benefits to trading partners, including lower prices for consumers and improved security of supply. Trade in electricity takes place through interconnectors, the physical links which allow electricity to be moved between markets. There are currently three interconnectors between Great Britain and EU Member States, one to France, one to the Netherlands, and one to Ireland. There are others in development, for example with Belgium, Norway and Denmark.

140. The UK wants to explore with the EU the options for the future energy relationship. One option would be for the UK to leave the Internal Energy Market (IEM). In this case, the UK would explore what would be needed to ensure trade over interconnectors would continue without automatic capacity allocation via the IEM system. An alternative option would be for the UK to participate in the IEM to preserve the existing efficient trading practices over interconnectors. In this case, the UK would need a common rulebook with the EU on the technical rules for electricity trading, such as the market coupling mechanism – as well as a consistent approach to carbon pricing necessary for the market to function, which, for example, could be delivered by remaining in the EU’s Emissions Trading System. However, the UK does not believe that participation in the IEM should require a common rulebook on wider environmental and climate change rules.

141. There are also advantages to close cooperation on technical and regulatory energy arrangements. The UK wants to explore with the EU the options for continued Transmission System Operator participation in the Inter-Transmission System Operator Compensation Mechanism, and continued membership of the European Networks of Transmission System Operators for Electricity (ENTSO-E) and Gas (ENTSO-G).

142. The UK is also putting in place arrangements so that, when trading after exit, businesses will have certainty that they will not face substantially different requirements compared to their current obligations under the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT).48

The UK White paper makes no commitment on the IEM and contains options to either leave or remain in the market. Therefore, it is possible that a “no deal Brexit” could be much the same as a “deal Brexit” as the UK could stay or leave the IEM in the event of a deal or leave in the event of no deal.

Leaving the IEM has the potential to impact the trade of energy through interconnectors. However, it is important to note that a number of countries outside of the EU currently trade energy through interconnectors with the EU, and the EU does not generally apply tariffs to these imports.49 However there may be other costs, such as less

48 HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, para 137-142
efficient trading, and less influence on future IEM rules. These costs would impact EU countries, who either export or import energy from the UK, as well as the UK itself.

On 23 October 2018, during an evidence session with the House of Lords Energy and Environment sub-committee, Jonathon Holyoak (Director of EU Energy and Climate Change at BEIS) said there was “strong common interest” on a deal:

In the conversations we have with the Commission, in the ‘deal’ world it is striking that this is an area of strong common interest. It is in the interest of both sides that there are efficient trading laws. It is in the interest of both sides that we build the infrastructure to facilitate a low-carbon GB and European economy. Who knows what will happen? But we hope there is sufficient common ground in this area to get to a sensible place.50

No deal
The Government have published a number of technical notices on how to prepare for Brexit if there is no deal.51 On 12 October 2018, notices on trading electricity and gas in the event of a no deal Brexit were published. The electricity guidance states the UK will leave the IEM in the event of no deal:

European energy law will no longer apply to the UK and the UK’s electricity markets will be decoupled from the Internal Energy Market.52

The gas guidance also states the EU law will no longer apply. The implications for electricity are that new trading agreements will need to be developed:

Cross-border flows across electricity interconnectors will no longer be governed by EU legislation which provides for efficient trade and cross-border cooperation in operating the electricity system. Without these arrangements, alternative trading arrangements will need to be developed. This will need to involve regulators in the UK and EU approving new access rules, which set the terms and conditions for this trade.53

The guidance sets out a number of actions that will need to be taken, such as market participants registering with EU regulators, changes to domestic industry codes and licenses, and the Government laying statutory instruments to ensure energy laws continue to work. Similar requirements were laid out in the gas trading guidance. The electricity guidance also refers to the island of Ireland SEM, see section 4 below.

Cost of Energy
One potential impact of leaving the IEM is an increase in the cost of energy imports. In its report into Leaving the EU: negotiation priorities for energy and climate change policy, the Business, Energy and

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50 House of Lords Select Committee on the European Union, Energy and Environment Sub-Committee, Uncorrected oral evidence: No deal preparations: energy and environment, 23 October 2018, Q36
51 Gov.uk, UK government’s preparations for a no deal scenario, last updated 24 August 2018 [accessed 3 September 2018]
52 Gov.uk, Trading electricity if there’s no Brexit deal, 12 October 2018
53 Gov.uk, Trading electricity if there’s no Brexit deal, 12 October 2018
Industrial Strategy (BEIS) Committee heard from National Grid that Brexit risked increasing consumer costs due to potentially less efficient (and hence costlier) cross-border trading.\textsuperscript{54} A letter from Eurelectric (the European electricity trade association) to Theresa May and Michel Barnier summarised cost estimates of the UK leaving the IEM:

Several analyses show that no longer applying IEM rules to the UK will negatively impact the achievement of the energy trilemma\textsuperscript{55} in the UK, by up to £500m per year in 2020, and in the Union as a whole.\textsuperscript{56}

This cost is due to less efficient trading, though it is important to note that trading, and the use of the interconnectors, should continue, though based on different arrangements. It is possible that in the event of leaving the IEM, the EU could impose tariffs on trade in electricity and gas. This could result in increased costs to consumers in either the UK of the EU, depending on the tariffs imposed. Currently, the EU does not apply import tariffs on electricity and natural gas for WTO members.\textsuperscript{57} In September 2018, the think tank E3G coordinated a letter to Theresa May and Jean-Claude Junker, signed by energy companies and trade bodies, which amongst other environmental points, warned that imposing tariffs would increase costs:

Interconnection will play an important role in helping to balance energy flows as an increasing proportion of intermittent renewable energy is brought onto electricity grids. Any imposition of tariff or non-tariff barriers to the flows of energy across interconnectors would increase the cost of the low carbon transition and set back action on climate change. The aim therefore must be to ensure that trading of energy operates freely across borders on a level playing field that keeps costs down for consumers and ensures decarbonisation and security of supply. Continued wholesale market integration between the UK and the EU should therefore be encouraged.\textsuperscript{58}

The Lords EU Energy and Environment Sub-Committee concluded that “it was unlikely that tariffs will be applied to UK-EU trade in gas and electricity post-Brexit, even in the event of a ‘no deal’ scenario.” The Committee did caution that tariffs on products used in the construction and maintenance of the energy system could affect the industry.\textsuperscript{59} This possible impact on new energy infrastructure has also been reported in the media, with concerns raised about projects such as Hinkley Point,

\textsuperscript{54} BEIS Committee, \textit{Leaving the EU: negotiation priorities for energy and climate change policy}, Fourth Report of Session 2016–17, HC 909, 2 May 2017, p. 12
\textsuperscript{55} Trilema is a policy term, referring to the three objectives of affordability, security, and decarbonisation for energy supply.
\textsuperscript{56} \textit{Open letter to Prime Minister May and Chief Negotiator Barnier}, Eurelectric, 15 October 2018 [accessed 18 October 2018]
\textsuperscript{57} Gustav Frederiksson, Alexander Roth, Simone Tagliapietra, Georg Zachmann, \textit{The Impact of Brexit on the EU Energy System}, 23 November 2017, p. 25
\textsuperscript{58} \textit{Open letter to Jean-Claude Juncker and Theresa May}, Prioritising EU27 / UK cooperation on climate change and energy, 4 September 2018, signed by British Irish Chamber of Commerce, EDF, Electricity Association of Ireland, Energy UK, Earth Capital Partners, Renewable UK, Unilever, WHEB, WindEurope, Loftbergs [accessed 5 September 2018]
though this relates to general trade and movement of labour post-Brexit as well as the possibility of leaving the IEM.  

**Energy security**

Although imports provided 4.2% of UK electricity supply in 2017, National Grid told the BEIS Committee that Brexit posed no immediate risk to the UK’s security of electricity supply, which could be supported through greater domestic generation. Similarly, the 2018 Statutory Security of Supply report (produced by BEIS and Ofgem) said EU exit is “not likely” to have an impact on security of supply because GB has a “resilient electricity and gas system with sufficient capacity to meet demand in all but the most unlikely circumstances”.

However, it is possible that in future, in the event of leaving the IEM, the UK’s plans for further interconnectors could be more difficult. More interconnectors are of interest to the UK to increase the flexibility and resilience of grids, especially with increasing intermittent renewables.

The UK is a net importer of gas but has a strong gas security of supply position, and supplies more than 40% of the Republic of Ireland’s gas. However, in the event of no deal, the UK would be expected to be excluded from gas supply solidarity measures introduced through the Gas Supply Regulation (Council Regulation (EU) 2017/1938). The Gas Supply Regulation requires neighbouring Member States to help ensure gas supply to households and essential social services in the event of a severe gas crisis.

**Influence on rules**

Depending on the relationship the UK negotiates with the IEM, the UK’s influence on future rules may change. In May 2017, the BEIS Committee recommended that the Government “seek continued UK influence over the rules of the IEM [and] explore continued full membership of the technical institutions for developing the detailed rules of the Internal Energy Market.”

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60 Rob Davies, *Energy projects including Hinkley Point threatened by Brexit, experts warn*, *The Guardian*, 5 April 2017
63 Andrew Ward, *Our friends electric: interconnection and Brexit*, *Financial Times*, 15 January 2018
65 *Strong Currents: Navigating the post-Brexit energy market*, Herbert, Smith, Freehills, 28 June 2017, p. 10
66 Agreement reached on new Security of Gas Supply Regulation, European Commission, 27 April 2017
4. Ireland

Energy policy is largely devolved to the Northern Ireland Executive, and the sector has different characteristics to those in Great Britain. This means there are specific energy policy issues which need to be addressed as part of the Brexit negotiations, namely:

- The future of the island of Ireland Integrated Single Electricity Market; and
- Irish access to gas imports via the GB mainland.

4.1 The island of Ireland Integrated Single Electricity Market (I-SEM)

Since 2007, the island of Ireland operated with a Single Electricity Market (SEM). This allows free trade of power across the island, with all generators and suppliers trading through a central mandatory wholesale market. It is regulated jointly by the Commission for Energy Regulation (CER) from the Republic of Ireland, and the Utility Regulator from Northern Ireland. The decision-making body which governs the market is the SEM Committee. This body consists of the CER, the Utility Regulator as well as an independent member (who also has a deputy).

The SEM is clearly established in national law in both the UK and Ireland, and is not the result of laws transposed directly from any EU-level directive. The SEM has undergone significant change in order to comply with EU legislation and existing arrangements have now (as of October 2018) been replaced by an enhanced wholesale market: the Integrated Single Electricity Market (I-SEM).

I-SEM is designed closely around the rules of the Internal Energy Market, meaning it uses market coupling for trading energy established by the European Network Codes, as described above.

Potential impact of Brexit

In the immediate aftermath of the Brexit vote in August 2016, the then First Minister and Deputy First Minister of Northern Ireland wrote to the Prime Minister to highlight a number of issues of particular significance to Northern Ireland in the Brexit negotiation process. Energy was one of the four priority areas identified. The letter to the Prime Minister stated that:

> Energy is a key priority, given that there are inherent cost and supply issues in a small, isolated market so we will need to ensure that nothing in the negotiation process undermines this vital aspect of our economy.

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68 CER Factsheet on the Single Electricity Market, April 2011
69 Information note, Proposed Amendment to the Electricity Regulation (Amendment) (Single Market) Act 2007
70 Northern Ireland Executive Office, Letter to Prime Minister from First Minister and Deputy First Minister, 10 August 2016
The Government of the Republic of Ireland (ROI) also identified the SEM as a critical issue that needs to be addressed in the Brexit negotiations. In May 2017, the ROI Government stated:

Brexit could pose a potential threat to the functioning of the all-island Single Electricity Market, which enables Ireland and Northern Ireland to maximise market efficiencies and ensures security of electricity supply at an affordable cost for consumers. 71

In the previous Parliament, both the Commons Northern Ireland Affairs Committee and the BEIS Committee looked at post-Brexit energy policy, and in particular the all-Ireland SEM.

In their report, the Northern Ireland Affairs Committee called for the Government to provide long-term policy clarity on Northern Ireland’s electricity market. 72 The BEIS Committee meanwhile recommended “that the Government protect the continued operation of SEM and implementation of the I-SEM project, through the UK’s wider access to the Internal Energy Market or alternatively through special arrangements for the island of Ireland.” 73

The SEM and I-SEM are based on a bilateral co-operation agreement between UK and Irish Governments, rather than on EU legislation, so are only likely to be affected by Brexit in the medium to long term 74 where regulatory divergence could be problematic for the continued functioning of the market. A Chatham House report published in May 2017 highlighted the potential issue of legal alignment:

As long as the UK’s legal and regulatory framework remains consistent with the provisions of the Third Energy Package, there will be little or no critical friction between the energy laws applying in Northern Ireland and those in the Republic of Ireland. 75

The Chatham House report identified three possible options for post-Brexit arrangements that would allow the SEM to continue to operate and overcome these issues:

• to designate Northern Ireland as a special zone, so that the all-Irish market will continue to be subject to EU law.

• to create a special status for SEM which, while compliant with EU law, would not subject Northern Ireland to the jurisdiction of the European institutions.

• to unwind SEM. 76

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73 BEIS Committee, *Leaving the EU: negotiation priorities for energy and climate change policy*, Fourth Report of Session 2016–17, HC 909, 2 May 2017

74 *Staying Connected: Key Elements for UK–EU27 Energy Cooperation After Brexit*, Chatham House, May 2017

75 *Staying Connected: Key Elements for UK–EU27 Energy Cooperation After Brexit*, Chatham House, May 2017

76 *Staying Connected: Key Elements for UK–EU27 Energy Cooperation After Brexit*, Chatham House, May 2017
Continuing UK participation in the IEM – and the adoption of the EU energy acquis – could allow the I-SEM to continue unchanged. A report commissioned by the European Parliament’s Committee on Industry, Research and Energy (ITRE) to consider the impact of Brexit on the EU Energy System provides a European viewpoint, concluding that:

For the ROI, the first best solution would be for the UK to remain inside the internal energy market; the second-best option would be for NI to remain inside the internal energy market; and the worst option would be for only the ROI to remain inside the internal energy market.77

The Government’s July 2018 White Paper on the Future Relationship between the UK and the EU said on the SEM:

138. The Government is committed to facilitating the continuation of the Single Electricity Market (SEM) between Northern Ireland and Ireland. This is an example of North-South cooperation that has benefited consumers and the economies of Northern Ireland and Ireland. Negotiators have already made good progress on a legal provision to underpin the SEM in the Withdrawal Agreement and the UK will work with the EU to ensure that the SEM is maintained in any future scenario.78

No deal
The Government’s no deal guidance on Electricity Trading covers the issues for the SEM in the event of no deal, including the possibility that “the SEM cannot be maintained”:

If this situation arises government, the Northern Ireland Utility Regulator and SONI, the Northern Ireland Transmission System Operator, will take action to mitigate the risks in Northern Ireland. Contingency planning work is considering how best to establish a separate Northern Ireland market, if the Single Electricity Market cannot be maintained. SONI may need to rely on fall-back arrangements to ensure power is able to flow over the Great Britain-Northern Ireland interconnector, in the absence of reliable rules for cross-border trading. Government or the Northern Ireland Utility Regulator will act to seek to ensure adequate generation capacity is in place, as far as possible through a competitive procurement process involving existing generation and new generation investment alongside demand side measures. Government will use existing, energy-related legal powers where available and maintain market operation as far possible. However, it may be necessary to seek additional powers to preserve security of supply. The government would work with industry and the Irish Government to move as quickly as possible to a settled long-term state supported by sufficient levels of generation and interconnection to deliver long term energy needs.79

On 23 October 2018, during an evidence session for the House of Lords Energy and Environment Sub Committee, the Minister Claire Perry said there was “a growing sense of confidence” about the SEM and that the

78 HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, para 138
79 Gov.uk, Trading electricity if there’s no Brexit deal, 12 October 2018
Government wants to ensure it is “addressed directly in the Withdrawal Agreement”:

Claire Perry: As you rightly say, there are enormous benefits to consumers and the economy from a shared energy market, and that is recognised by all parties. I mentioned that this is complicated because there are multiple people negotiating, but there has been good progress on a legal provision to underpin the SEM in the Withdrawal Agreement, which is where it is very specifically spelled out.

We will continue to work to ensure that in the unlikely event of a ‘no deal’ it is maintained. There are legal questions around that, as well as technical questions, but there is a growing sense of confidence that that market will be maintained in all eventualities. We need to ensure that it is addressed directly in the Withdrawal Agreement.

The Minister and Jonathon Holyoak (Director for EU Energy and Climate Change at BEIS) were also asked about no deal planning for Northern Ireland:

Lord Rooker: Is your department responsible for making sure that, in Northern Ireland, portable generators are available in case things go wrong, or is it some other department? Are the generators being manufactured in the UK?

Claire Perry: This is worst-case contingency planning.

Jonathan Holyoak: In almost all the bad-case scenarios, the Utility Regulator in Northern Ireland will talk to the companies about ensuring that capacity is available. With us on the GB side, it will make sure that the interconnector between Scotland and Northern Ireland works efficiently to secure Northern Irish supply as well.

Claire Perry: To reassure you, there are conversations on that and other points, on an incredibly open-book basis, between my department and the Northern Ireland Office. It is a shame that we do not have a functioning Executive, but there are plenty of people on the ground who are very keen to help us not get to that scenario.

4.2 Irish access to European and world gas markets

In contrast to the electricity sector, the gas markets of the Republic of Ireland and Northern Ireland are separate.

Gas plays a crucial role in the energy sector in the Republic of Ireland: Natural gas as a fuel was used to generate 52% of all electricity produced in Ireland in 2016; and provided a 27% share of Ireland’s Total Primary Energy Requirement (TPER) in 2015.

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80 House of Lords Select Committee on the European Union, Energy and Environment Sub-Committee, Uncorrected oral evidence: No deal preparations: energy and environment, 23 October 2018, Q26

81 House of Lords Select Committee on the European Union, Energy and Environment Sub-Committee, Uncorrected oral evidence: No deal preparations: energy and environment, 23 October 2018, Q37

82 ERVIA, A look at the Irish Gas Market, [accessed: 5 September 2018]
The Irish gas sector relies on imports of gas through Great Britain. Historically, Great Britain has supplied over 90% of Ireland’s gas, but since the start of 2016, gas from the Irish **Corrib gas field** (which started production in 2016) accounts for approximately 36% of gas demand. Ireland’s Department of Communications, Climate Action and Environment states that:

> It is expected that this [production from the Corrib gas field] will rise to approximately 60% in 2016/17 and approximately 50% in 2017/18. Thereafter production is expected to decline.  

The island of Ireland is connected to Great Britain by three separate subsea interconnector pipes. Two enter in the South and one directly enters the North. UK/Ireland interconnector agreements and a gas transportation agreement facilitate operation of the gas pipelines from Great Britain to Northern Ireland and the Republic of Ireland. The Northern Ireland-ROI gas interconnection would only currently be utilised in a gas supply emergency impacting on gas supplies from the Scotland to Northern Ireland gas pipeline.

In November 2017, the Northern Ireland Department of Economy responded to the Lords Energy and Environment sub-Committee’s invitation to comment on its Brexit: energy security inquiry. In their response to the Committee, the Department explained:

> UK exit from the EU introduces unique challenges and issues for energy market arrangements in Northern Ireland. However, there is not a gas equivalent to SEM, and post UK exit of the EU, Northern Ireland will continue to source 100% of its gas from Great Britain. For security of supply, there will be a continuing need for post UK exit arrangements to provide for gas to flow from the Republic of Ireland to Northern Ireland in the event of a gas supply shortage.

The ROI Government has also noted the possible risk to its own security of supply because of Brexit. In May 2017, the ROI Government stated:

> Access to a secure supply of energy is critical to driving Ireland’s economic performance. Ireland’s energy interconnections to the EU via the UK and heavy reliance on the UK as a source of energy imports raises the possibility of Brexit posing security of supply challenges.

The ROI’s reliance on GB for its gas supplies shows that any future negotiation on energy will cover not only the UK’s demand for energy via interconnectors, but also the flow of supplies to EU countries such as Ireland.

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83 Department of Communications, Climate Action and Environment, “Gas”, [accessed: 5 September 2018]
84 Department for the Economy, Northern Ireland Executive (BES0059), November 2017
85 Department for the Economy, Northern Ireland Executive (BES0059), November 2017
5. Other Energy Impacts

The Government has published a series of guidance papers on how to prepare if the UK leaves the EU with no deal. Six papers were published on regulating energy. Some relevant sections of these papers have been reproduced in this briefing, but further information can be found in the papers themselves. 87

5.1 Trade

There has been some concern that Brexit could impact investor confidence, the movement of industry specialists, or the import/export of materials linked to renewable energy technologies. For example, a blog by the think tank E3G on the Impact of Brexit on Europe’s energy and climate transition states in relation to offshore wind:

The UK leads the EU in offshore wind deployment, for example but the majority of the suppliers and components that enable the wind farms to be built originate in the EU-27 rather than the UK. 88

The impact of these potential issues will depend on the outcome of the Brexit negotiations. The Government’s July 2018 White Paper on the Future Relationship between the UK and the EU states on trade:

The UK’s proposal for the economic partnership would:

- establish a new free trade area and maintain a common rulebook for goods, including agri-food, covering only those rules necessary to provide for frictionless trade at the border. 89

The EY Renewable Energy Country Attractiveness Index, which ranks 40 countries based on the attractiveness of their clean energy markets to investors, saw the UK slip one place from 7th to 8th, with Brexit referred to as being one of the possible causes. 90

There were also issues relating to import and export licenses for nuclear trade in the Government’s no deal guidance for civil nuclear. 91 See section 2.1 on Nuclear Cooperation Agreements for further information.

Guarantees of Origin

Guarantees of Origin (GOOs) are certificates used to track and account for electricity generated by renewable energy sources or to identify the origin of generated electricity from combined heat and power (CHP). They are issued in Member States and recognised EU wide (certificates are devolved in Northern Ireland).

In the case of a no deal Brexit, the UK’s guidance has said the UK will continue to accept EU GOOs, but that UK GOOs will no longer be valid in the EU which may impact trading:

87 Gov.uk, How to prepare if the UK leaves the EU with no deal, 23 August 2018
88 Jonathan Gaventa, The impact of Brexit on Europe’s energy and climate transition, E3G, 30 June 2017
89 HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, para 7
90 EY, Renewable Energy Country Attractiveness Index, Issue 52
91 Gov.uk, Civil nuclear regulation if there’s no Brexit deal, 23 August 2018
In a ‘no deal’ scenario, the government will ensure that Great Britain will continue to recognise Guarantees of Origin issued in Northern Ireland and EU countries. This will allow electricity suppliers in Great Britain to continue to use EU and Northern Ireland Guarantees of Origin to comply with their fuel mix disclosure obligations and ensure that existing supply contracts are not compromised, in so far as these contracts depend upon Guarantee of Origin.

[...]

Guarantees of Origin from combined heat and power [and for renewable energy] issued in Great Britain and Northern Ireland will no longer be recognised in the EU. This will mean that existing contracts with EU countries’ electricity suppliers or traders may be compromised if the contract terms require the transfer of a Guarantee of Origin recognised by the EU. On 23 October 2018, during an evidence session for the House of Lords Energy and Environment sub-committee, the Minister for Energy and Clean Growth Claire Perry said there is likely to be little impact on CHP generators, but did not mention renewable generators:

To date, no UK-based CHP generators have applied for those EU-issued CHP Guarantees of Origin, so we do not expect any electricity trade to be affected under a ‘no deal’ scenario.  

5.2 Energy efficiency

Energy efficiency regulations limit the amount of energy that products consume which can reduce both costs for consumers and energy related emissions. Before the referendum, there were press reports that supported the case to leave the EU, as it would allow the UK to remove EU energy efficiency laws on household items such as hoovers and lightbulbs. There are also regulations on energy labelling, that have recently been contested by James Dyson (a British businessman and leave supporter) for being misleading, though the EU Court of Justice ruled against him.

The current main EU laws governing energy efficiency are:

- **2012 Energy Efficiency Directive**—sets a non-binding, EU-wide target to save 20% of primary energy consumption by 2020 and specifies binding measures to help achieve this goal;
- **2009 Ecodesign Directive**—sets energy efficiency standards for products; and
- **2010 Energy Labelling Directive**—sets requirements for energy labelling of products.

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92 Gov.uk, *Generating low-carbon electricity if there’s no Brexit deal*, 24 September 2018

93 House of Lords Select Committee on the European Union, Energy and Environment Sub-Committee, *Uncorrected oral evidence: No deal preparations: energy and environment*, 23 October 2018, Q31

94 *20 reasons you should vote to leave the European Union*, The Telegraph, 22 June 2016

95 *Dyson loses EU court battle, but ruling criticizes BSH labels*, Reuters, 25 July 2018
The 2010 Energy Performance of Buildings Directive—sets a target for all new buildings to be “nearly zero energy” by 2020; requires Member States to set minimum energy standards for major renovations and retrofits; requires energy performance certificates to be included in sale and rental adverts;

These directives have been implemented into UK law and will continue to apply to the UK after it leaves the EU. However, depending on the outcome of the Brexit negotiations, the UK may be able to change these domestic regulations in the future.

There have been renewed campaigns to have a “bonfire of red tape” which would include revoking some of these regulations.96

The Government’s domestic policy, before Brexit and at present, has been to keep costs down for consumers, and also to meet emissions targets (see sections below). The Government’s no deal guidance on ‘Meeting climate change requirements if there’s no Brexit deal’ states that these regulations will continue to be met:

- For ecodesign and energy labelling regulations which will enter into force and apply before the point of exit, regulatory alignment will be maintained by bringing relevant EU regulations into domestic law.
- After the point of exit, the UK will keep step with equivalent standards wherever possible and appropriate, or even exceed them where it is in the UK’s interest to do so.97

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96 Red tape initiative [accessed 5 September 2018]
97 Gov.uk, Meeting climate change requirements if there’s no Brexit deal, 12 October 2018
6. Climate Change

The UK is part of an international effort to combat climate change. Both the UK and the EU are parties to the United Nations Framework Convention on Climate Change (UNFCCC) and as such have signed up to international climate change obligations, such as the Kyoto Protocol and the Paris Agreement.

As part of its contributions to international efforts, the UK also has domestic legislation and policies in place to reduce greenhouse gas emissions. The Climate Change Act 2008 established long term statutory targets for the UK to achieve an 80% reduction in greenhouse gases by 2050 against a 1990 baseline (translated into five-yearly carbon budgets). This is more ambitious than the emission reduction targets set by the EU.98 Since 1990, the UK has cut greenhouse gas emissions by 43%, around halfway to the 2050 commitment.99 Further discussion of the UK carbon budgets and the Climate Change Act 2008 is set out in the Library Briefing on the UK Fifth Carbon Budget.

The UK also contributes to international efforts through being an EU member state and participating in EU mechanisms such as the EU emissions trading system (EU ETS); and meeting EU targets, for example under the “effort sharing” legislation. The House of Lords Library briefing on Leaving the European Union: UK Climate Change Policy (July 2017) provides further background on climate change policies.

6.1 Brexit negotiating positions of the EU and the UK Government

The impact of Brexit on UK climate change policies is unclear as negotiations between the UK and the EU are ongoing. Both the EU and the UK Government have set out their general positions and proposals on climate change.

The Clean Growth Strategy (October 2017) explained the Government’s view of the potential impact of Brexit on climate change policies, stating that domestic commitments would not be affected but the exact nature of the UK’s future relationship with the EU, including in areas such as the EU ETS were “still to be determined”:

Leaving the EU will not affect our statutory commitments under our own domestic Climate Change Act and indeed our domestic binding emissions reduction targets are more ambitious than those set by EU legislation. The exact nature of the UK’s future relationship with the EU and the long-term shape of our involvement in areas like the EU Emissions Trading System are still to be determined. There are also emerging opportunities to drive more action – for example by putting emission reductions and land stewardship at the heart of a post EU agricultural support policy. We will therefore carefully examine each area of common

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98 The EU has a climate change target of reducing emissions by 20% by 2020 and 40% by 2030 compared to 1990 levels.

99 Committee on Climate Change, Reducing UK emissions, 2018 Progress Report to Parliament, 28 June 2018
interest with our EU partners and work to deliver policies and programmes that are at least as beneficial as the current arrangements.\(^{100}\)

The European Council’s guidelines on the framework for future EU-UK relations (23 March 2018)\(^{101}\) included a new Article requiring continued “close cooperation” in relation to global challenges, “in particular in the areas of climate change and sustainable development, as well as cross-border pollution”.\(^{102}\) See Library Briefing on Brexit: new guidelines on the framework for future EU-UK relations for further discussion of the Council’s guidelines.

The Government White Paper on the Future Relationship between the UK and the EU (12 July 2018)\(^{103}\) committed to “maintaining high standards on climate change” and continuing to meet its international obligations in this area:\(^{104}\)

The UK is a global leader in the fight against climate change and was the first country to set out a long-term legally binding target for reducing greenhouse gas (GHG) emissions in domestic law, in the Climate Change Act 2008. Between 1990 and 2016, the UK saw the greatest reduction in total GHG emissions across G7 countries.

The UK recognises the UK’s and the EU’s shared interest in global action on climate change and the mutual benefits of a broad agreement on climate change cooperation. The UK’s world leading climate ambitions are set out in domestic law and are more stretching than those that arise from its current obligations under EU law. The UK will maintain these high standards after withdrawal.\(^{105}\)

However, in the context of whether or not the UK would propose continued participation in the internal energy market (IEM) (see section 3 above), the Government left open the option of whether the UK wished to remain in the EU ETS, and ruled out the possibility of a common rulebook on wider climate change rules:

An alternative option would be for the UK to participate in the IEM to preserve the existing efficient trading practices over interconnectors. In this case, the UK would need a common rulebook with the EU on the technical rules for electricity trading, such as the market coupling mechanism – as well as a consistent approach to carbon pricing necessary for the market to function, which, for example, could be delivered by remaining in the EU’s Emissions Trading System. However, the UK does not believe that participation in the IEM should require a common rulebook on wider environmental and climate change rules.\(^{106}\)

\(^{100}\) Gov.uk, Clean Growth Strategy, 12 October 2017

\(^{101}\) European Council, Article 50 Guidelines, 23 March 2018

\(^{102}\) European Council, Article 50 Guidelines, 23 March 2018

\(^{103}\) HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593

\(^{104}\) HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, Paras 107 and 108

\(^{105}\) HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, Paras 119 and 120

\(^{106}\) HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593, Para 140
In an open letter to the UK Prime Minister and the President of the European Commission, a number of businesses and industry in the sector have called for a standalone comprehensive energy and climate change chapter to be prioritised as part of the UK-EU’s future relationship negotiation, highlighting the mutual benefits that could be realised if cooperation on issues such as emission targets, clean energy projects of common interest and carbon pricing were achieved.\(^{107}\)

The Government published a technical notice on Meeting climate change requirements if there’s no Brexit deal on 12 October 2018\(^{108}\) which focused on the EU Emissions Trading Scheme, the consolidated system of European Registries (of emissions units), and the geological storage of carbon dioxide. Some of these and further key UK climate change commitments and policies and the potential impact of Brexit on those areas are discussed below.

6.2 International framework

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted during the 1992 Earth Summit, held in Rio de Janeiro. It entered into force in 1994 and has been ratified by 196 States (including both the EU and the UK) which constitute the “Parties” to the Convention. The objective of the Treaty, set out in article 2 of the Convention, is to “stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.” Every year a Conference of the Parties takes place (known as COPs).

The Kyoto Protocol

The Kyoto Protocol was adopted at COP3 in Kyoto and entered into force in February 2005, with two commitment periods (2008-2012 and 2013-2020). Its main goal is to reduce certain greenhouse gas emissions\(^{109}\) and parties to the Protocol (including the UK) must meet their targets primarily through national measures. An additional means by which Parties can meet their targets is through the market-based mechanisms established by the Protocol: the clean development mechanism; joint implementation; and emissions trading. The UK’s national Kyoto Protocol Registry is located within the Consolidated System of European Registries and facilitates the trading of Kyoto Protocol emissions units.\(^{110}\)

Under the Kyoto Protocol, EU countries (and Iceland) have agreed a joint commitment to meet a 20% reduction target compared to 1990 levels.

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\(^{107}\) Open letter to Jean-Claude Juncker and Theresa May, Prioritising EU27 / UK cooperation on climate change and energy, 4 September 2018, signed by British Irish Chamber of Commerce, EDF, Electricity Association of Ireland, Energy UK, Earth Capital Partners, Renewable UK, Unilever, WHEB, WindEurope, Loftbergs [accessed 5 September 2018]

\(^{108}\) Gov.uk, Meeting climate change requirements if there’s no Brexit deal, 12 October 2018

\(^{109}\) Six greenhouse gases for the first commitment period; seven greenhouse gases for the second commitment period.

\(^{110}\) More information on the mechanisms is available on the UNFCCC pages: Mechanisms under the Kyoto Protocol.
This is in line with the EU’s own 2020 climate targets.\textsuperscript{111} EU countries meet these targets through the EU ETS and, for sectors not in the EU ETS, through the “effort sharing decision” which sets binding annual national emission reduction targets.\textsuperscript{112}

**Potential impact of Brexit**

The UK is a party to the UNFCCC and has ratified the Kyoto Protocol separately from the EU. The Government has confirmed it remains committed to meeting its international climate change obligations. In a scenario where a withdrawal agreement is agreed, the end of the expected transition period (31 December 2020) would align with the end of the second commitment period under the Kyoto Protocol. However, the Government’s July White Paper\textsuperscript{113} is silent on the Kyoto Protocol and the EU effort sharing decision, so the specific implications for EU and UK cooperation on meeting the Kyoto Protocol targets are unknown. The think tank E3G has called for the Government to clarify how it will report on meeting its existing international obligations during any transition period, including under the Kyoto Protocol.\textsuperscript{114}

In a no deal scenario, the Government has stated that the UK will not have guaranteed access to the Consolidated System of European Registries, which includes both the EU ETS Registry (see below) and the UK’s Kyoto Protocol National Registry. The Government states: 

> Loss of access would affect the UK’s ability to provide routine and essential administrative support to account holders.\textsuperscript{115}

The Government has stated that it is considering contingency measures for this scenario and will issue further advice “later this year”.\textsuperscript{116}

**The Paris Agreement**

In December 2015, agreement was reached at COP21 in Paris to keep a global temperature rise this century well below 2ºC above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5ºC.\textsuperscript{117} COP24 will be held in Katowice, Poland in December 2018 and will focus on agreeing and adopting a package of decisions to ensure the full implementation of the Paris Agreement.\textsuperscript{118}

Background information is available in the House of Commons Library Briefing Papers on the Paris Climate Change Conference (27 September 2016) and the Paris Agreement and Marrakech Climate Conference (25 November 2017).

\textsuperscript{111} European Commission, Climate Action, Kyoto 2\textsuperscript{nd} commitment period (2013-2020) [accessed 8 November 2018]
\textsuperscript{112} See: European Commission, Climate Action, Effort sharing: Member States’ emissions targets [accessed 8 November 2018]
\textsuperscript{113} HM Government, The Future Relationship between the United Kingdom and the European Union, 12 July 2018, Cm 9593,
\textsuperscript{114} E3G, Brexit climate cooperation: implications for the Paris Agreement and Net Zero, Shane Tomlinson, October 2018
\textsuperscript{115} Gov.uk, Meeting climate change requirements if there’s no Brexit deal, 12 October 2018
\textsuperscript{116} Ibid.
\textsuperscript{117} UNFCCC, The Paris Agreement [accessed 3 August 2017]
\textsuperscript{118} See: UNFCC, COP24 page for further detail
Potential impact of Brexit

The UK is a party to the UNFCCC and has ratified the Paris Agreement separately from the EU. The Government has confirmed it remains committed to the Paris Agreement and that, following Brexit, it will continue to be bound by the Paris Agreement as an individual party under international law.

In line with this commitment, in October 2018, BEIS Energy and Clean Growth Minister (Claire Perry) asked the Committee on Climate Change to provide updated advice on the implication of the Paris Agreement for the UK’s long-term targets. More information on this is available in the Library Insight: Net zero: a new UK climate change target?

The Paris Agreement requires each Party to prepare, communicate and maintain successive (every 5 years) nationally determined contributions (NDCs) that it intends to achieve. The EU has an overall NDC on behalf of its Member States (including the UK), acting jointly. Therefore, Brexit may require a technical clarification of the UK’s NDC. Following Brexit, the UK would need to either submit its own standalone NDC (and the EU would need to re-submit its NDC in light of the change), or the UK and the EU could decide on a joint fulfilment agreement or other technical arrangement whereby the UK contributes to the joint NDC.

It is not yet known which option either the UK or the EU wish to pursue. In evidence to the House of Lords Select Committee on the European Union, BEIS Director for EU Energy and Climate Change (Jonathan Holyoak) in March 2018 explained that the process was ongoing and subject to negotiation with the EU:

> We need to decide with our European counterparts the level of ambition for 2020, and that process is ongoing. With different world states in negotiations, if we are to be outside the European effort in future, we would need to think about what our offer would be and we have a clear set of ambitions to put on the table thanks to our domestic climate targets, and the EU would have to decide what it wanted to do with the UK outside it. All of that is subject to negotiation. It is not necessarily an outcome that will happen but a piece of work we will have to do once the decision has been made about the degree of connection there will be between the UK and the EU going forward on NDCs.

Businesses and industry bodies have called on the UK Prime Minister and the President of the European Commission to agree to cooperate on implementing the Paris Agreement as one of several negotiating priorities on energy and climate change set out in an open letter.

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120  [PQ 115262 28 November 2017 [on Climate Change Convention]](https://www.parliament.uk/business/debates-and-statements/parliamentary-questions/pq-115262/)


E3G report on *Brexit and Climate cooperation, Implications for the Paris Agreement and net zero* makes a number of recommendations for both the transition phase and the future relationship negotiations, including that the EU and the UK should agree a broad scope for climate cooperation and that a decision by the UK to set out an independent NDC would still be compatible with high levels of climate cooperation with the EU.\(^{124}\)

### 6.3 EU emissions trading system (EU ETS)

**The UK’s participation in the EU ETS**

The EU ETS is described as the “largest multi-country, multi-sector greenhouse gas emissions trading system in the world” covering more than 11,000 power stations and industrial plants across the EU with around 1,000 of these in the UK.\(^{125}\)\(^{126}\)

The mandatory cap-and-trade scheme was launched in 2005 and has since undergone a number of reforms. It is central to the EU’s climate change target of reducing emissions by 40% by 2030 compared to 1990 levels.

The EU ETS sets an EU-wide cap on the total amount of greenhouse gas emissions from energy intensive sectors including power stations and industrial plants. The cap decreases over time (1.74% each year) to reduce overall emissions.\(^{127}\) Airlines operating between the 31 countries are covered within the EU ETS but via a separate cap. Approximately 140 UK-administered aircraft operators take part in the EU ETS.\(^{128}\)

Companies either receive allowances (EU Allowances or EUAs) free or purchase them during auctions of allowances issued by Governments.\(^{129}\) Surplus allowances can also be traded on the carbon market. The number of allowances held by the company at the end of an EU ETS year must be equal to, or more than, the total volume of emissions from its installation. Compliance is assessed and verified by an independent third party, and the company must surrender its allowances for the preceding calendar year by no later than 30 April the following year. The EU ETS is currently in Phase III (2013-2020), which aims for an overall emissions reduction of 21% compared to 2005 emissions for power stations and industrial plants.

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\(^{124}\) E3G, *Brexit and Climate cooperation, Implications for the Paris Agreement and net zero*, 2 October 2019 [accessed 1 November 2018]

\(^{125}\) BEIS, *Participating in the EU Emissions Trading System (EU ETS)*, 31 July 2017

\(^{126}\) The greenhouse gases covered by EU ETS are carbon dioxide (CO₂), nitrous oxide (N₂O) and perfluorocarbons (PFCs).


\(^{128}\) Gov.uk, *Meeting climate change requirements if there’s no Brexit deal*, 12 October 2018

\(^{129}\) Each allowance gives the holder the right to emit one tonne of carbon dioxide or the equivalent of nitrous oxide and perfluorocarbons. (EU Commission, Climate Action, ‘Emissions cap and allowances’, accessed 20 October 2016)
In Phase III, power stations purchase all their allowances whereas other industries still receive some of their EUAs via free allocation. Both sectors can also buy international credits from emission-saving projects around the world. At the end of each year, if a company does not have enough EUAs to cover all its emissions it is required to pay a fine.

The market price of EUAs fell dramatically after the financial crisis in 2008 and stayed low for several years. From late 2011 until 2017, EUAs cost less than €10 per tonne although in recent months the price has risen to over €20. Several Member States and various EU ETS stakeholders considered the EU carbon price to be too low to create a strong enough incentive for polluters to undertake the required investment in low-carbon technologies and to drive low-carbon innovation. As a result of the low prices, the EU introduced several measures to reduce the supply of allowances going forward, including removing surplus allowances from the market. The UK also responded to the issue of the low cost of carbon in 2013 by introducing the Carbon Price Floor (CPF), a UK-only carbon tax which supplements the price of carbon through the EU ETS (see Box 1). Since it was introduced, the CPF has increased the price of carbon for UK customers and helped to drive coal almost completely out of the UK energy mix. There is no EU-wide floor price for EUA auctions.

Box 1: Carbon price floor

The Carbon Price Floor (CPF) is a UK Government policy implemented to support the EU ETS. The CPF taxes fossil fuels used to generate electricity via Carbon Price Support rates set under the Climate Change Levy. The price floor consists of two components which are paid for by energy generators in two different ways: (i) the EU ETS allowance price; and (ii) the Carbon Price Support (CPS), which tops up the EU Allowance prices, as projected by the Government, to the carbon price floor target. The Treasury confirms the target carbon price and CPS rates three years in advance of delivery at each Budget, and all revenue from the CPF is retained by the Treasury.

When the CPF was introduced, it was due to rise every year until 2020 (to a price of £30/tCO2). At Budget 2014 the Government announced that the CPS component of the floor price would be capped at a maximum of £18/tCO2 from 2016 to 2020 to limit the competitive disadvantage faced by business and reduce energy bills for consumers. This price freeze was extended to 2021 in Budget 2016. Budget 2018 stated that from 2021-22 the Government will seek to reduce the CPS if the total carbon price remains high.

More information on the carbon price floor is available in the House of Commons Library briefing: Carbon Price Floor (CPF) and the price support mechanism.

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132 CarbonBrief, Q&A will the reformed EU ETS raise carbon prices?, 6 December 2017 [accessed 3 September 2018]
133 EUAs were at EUR 21.06 on 31 August 2018 according to ICE EUA futures via Sandbag and Quandl.
134 BEIS, Coal Generation In Great Britain The pathway to a low-carbon future: consultation document, November 2016
Potential impact of Brexit

Whether or not the UK will continue to participate in the EU emissions trading system (EU ETS) after Brexit is not yet known.

Continued participation in the EU ETS is possible. Non-EU Member States can participate directly in the scheme (e.g. EEA countries Norway, Lichtenstein and Iceland). In addition, although Switzerland is not a participant in the EU ETS, in November 2017 it signed an agreement (subject to ratification) to link its emissions trading system with the EU ETS.135

Alternatively, the UK and EU may agree that the UK will leave the EU ETS at the end of any implementation period or, if no deal is reached, the UK would drop out of the EU ETS midway through the third trading phase and it would cease to apply on exit day (29 March 2019).136

These scenarios are discussed further below. A discussion of potential different options for the UK is provided in the think tank Sandbag article: In or Out does Brexit mean the UK should leave the EU ETS? (16 March 2018).

A PQ response in October 2018 provided the following summary of the Government position on emissions trading:

The Government is considering all factors in relation to the UK’s future participation, or otherwise, in the EU Emissions Trading System (EU ETS), in consultation with stakeholders. A range of long-term alternatives are currently under consideration including continued participation in the EU ETS after 2020, a UK ETS (linked or standalone) or a carbon tax. We welcome input from stakeholders and we intend to share more details on policy design in due course.

More broadly, I can assure you that the Government is engaging closely in The United Nations Framework Convention on Climate Change (UNFCCC) negotiations on Article 6, to ensure the underlying rules, modalities and procedures support ambitious global action under the Paris Agreement.137

Remaining in the EU ETS

Some members of European Parliament have been reported to express a preference that the UK remain within the EU ETS,138 but the European Commission has not expressed its views on the UK’s future participation (beyond the implementation period) to date.

Energy and Clean Growth Minister (Claire Perry) has confirmed that the UK Government is seeking to participate in the EU ETS until the end of Phase 3.139 This is also broadly the EU’s position set out in the draft

135 EU, EU and Switzerland sign agreement to link emissions trading systems, 23 November 2017
136 House of Lords, Select Committee on the European Union, Energy and Environment Sub-Committee, Oral evidence: EU Emissions Trading Scheme, 14 March 2018, Q1
137 PQ 180187 [on EU Emissions Trading Scheme] 24 October 2018
138 Reuters, EU measures to safeguard carbon market from Brexit, Julia Fioretti, 18 October 2017 [accessed 9 August 2018]
139 House of Lords Select Committee on the European Union, Oral evidence: Minister of State for Energy and Clean Growth, 21 March 2018, Q6
withdrawal agreement. However, detail of how this would work during the expected transition/implementation period is yet to be formally agreed between parties, as is the finer detail of the mismatch between the end of the Brexit transition period (December 2020) and the end of the compliance period for Phase 3 of the EU ETS (April 2021).

Longer term, the UK Government has not indicated their preference and the status of the UK in the EU ETS following Brexit will be subject to negotiations. A PQ response in October 2018 confirmed that the Government was still considering “all factors” in relation to the UK’s future participation or otherwise in the EU ETS. The Government White Paper on the Future Relationship between the UK and the EU (12 July 2018) does not contain any proposals on emissions trading beyond noting that remaining in the EU’s emissions trading system could be one way of ensuring a consistent approach to carbon pricing which would be necessary if the UK stayed in the Internal Energy Market (see section 3 above).

The UK Government has confirmed it is committed to carbon pricing but has concerns that the EU ETS has historically not set a sufficiently strong carbon price signal. The Minister of State for Energy and Clean Growth (Claire Perry) has confirmed that she “firmly believe[s] in a Cap and Trade System as the best way forward—and the bigger the pool the better in doing that” and stated that:

We are committed to carbon pricing as a tool and want the best possible way to deliver that carbon pricing. If there is a long-term opportunity to improve the carbon pricing signal in the economy by amending or changing our relationship with the ETS, we would be shortsighted not to take that.

Stakeholders including Energy UK and Sandbag have called for the UK’s continued participation in the EU ETS because of the positive effect it would have on overall EU ambition on emissions reduction. Sandbag explained:

We recognise that, if the UK were to leave, it would lead to a tightening of the market, a decrease in the surplus of allowances and an increase in the carbon price during Phase 4. However, we think that this is outweighed by the impact that the UK has in the Scheme; the fact that the UK, as one of the key proponents of carbon pricing and of the EU ETS, can drive higher levels of
ambition in Europe going forward; and the additional complexities that come with trying to establish something new or different in the UK. 147

More recently, businesses and industry bodies have called on the UK Prime Minister and the President of the European Commission to agree that the UK continues to participate in the EU ETS until at least the end of Phase 4. 148

In its May 2017 Report on energy and climate change priorities for Brexit, the BEIS Select Committee concluded that the EU ETS – although imperfect – offered the best means of meeting emissions reduction targets at least cost:

It is not clear that there are as yet any alternative options to membership of the EU ETS that could deliver our emissions reduction target at least cost. The most realistic aim should be a more ambitious EU ETS, with permit prices and the UK carbon price floor aligning across the EU to ensure the most cost efficient and competitive reduction in overall carbon emissions. 149

The Committee noted that around one third of their witnesses suggested that the UK should remain in the EU ETS, one witness recommended the UK should leave, and several were undecided, noting the need for reform. 150 Following the general election on 8 June 2017, the Government did not issue a response to this report.

The Government has recognised the shortcomings of the EU ETS, namely that while the EU ETS works well in terms of process, an oversupply of allowances in the system means it is not delivering the degree of low carbon investment it should. 151 Accordingly, the Secretary of State told the BEIS Committee that reform would be a priority irrespective of the UK’s direct participation in the EU ETS:

reform of the emissions trading scheme matters a lot to this country, and whether we are in or out, we are very active in being at the table to play a positive, constructive role in the negotiation of the reform of phase IV, which runs from 2021 […] and our European partners, irrespective, are actively seeking our input. 152

If the UK remained part of or linked to the EU ETS, the EU would continue to be responsible for developing and enforcing the rules. The Swiss Government will cede some regulatory control to Brussels as part of linking its ETS market to that of the EU ETS. Brexit may therefore limit the ability of any future UK Government to bring about any major

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147 House of Lords, Select Committee on the European Union, Energy and Environment Sub-Committee, Oral evidence: EU Emissions Trading Scheme, 14 March 2018, Q4
148 Open letter to Jean-Claude Juncker and Theresa May, Prioritising EU27 / UK cooperation on climate change and energy, 4 September 2018, signed by British Irish Chamber of Commerce, EDF, Electricity Association of Ireland, Energy UK, Earth Capital Partners, Renewable UK, Unilever, WHEB, WindEurope, Loftbergs [accessed 5 September 2018]
149 BEIS Committee, Leaving the EU: negotiation priorities for energy and climate change policy, Fourth Report of Session 2016–17, HC 909, 2 May 2017, para. 65
150 BEIS Committee, Leaving the EU: negotiation priorities for energy and climate change policy, Fourth Report of Session 2016–17, HC 909, 2 May 2017, para. 54
151 PQ 37741 (EU Emissions Trading Scheme) 26 May 2016
152 BEIS Committee, Leaving the EU: negotiation priorities for energy and climate change policy, Fourth Report of Session 2016–17, HC 909, 2 May 2017, para. 40
reforms of the EU ETS, although future representation would be subject to negotiation. However, the BEIS Minister has noted that the UK has been part of the current negotiations for Phase 4 (up to 2030) and much of the final detail will happen during the period when the UK is still an active participant, thus giving some clarity up to 2030.153

**Leaving the EU ETS**

The UK and EU may agree that the UK will leave the EU ETS at the end of any implementation period in 2020. Alternatively, if no deal is reached between the UK and the EU, the UK would drop out of the EU ETS before the end of Phase 3 and all relevant EU legislation would cease to apply on exit day (29 March 2019).154

If the UK leave the EU ETS at any point, it will trigger changes for the EU ETS itself, namely the recalculation of the EU emissions cap and the volume of allowances set aside for auction. Commentators have also warned that there is a risk for ambition to be decreased within Europe as the UK is recognised as one of the key proponents of the EU ETS.155

The discussion below focuses on the possible impact on the UK and UK participants.

**UK carbon budgets**

If the UK leaves the EU ETS, there will be consequential impacts on the way that the UK measures its performance against domestic carbon budgets by the net UK carbon account.

Under the *Climate Change Act 2008*, the net UK carbon account factors in the trading of EU As from the EU ETS. Currently the measure allows surplus EUAs to improve budget performance by decreasing the total emissions (or vice versa by increasing the total emissions if EUAs are sold). If the UK leaves the EU ETS, then the approach to measuring emissions for the purposes of UK carbon budgets would need to change.

One clear-cut change would be to measure the UK carbon budget by actual UK emissions. Some commentators have recommended this change regardless of whether or not the UK is part of the EU ETS,156 although amendments to this effect to the *Energy Bill 2016* were not successful. Any such change to measuring the net UK carbon account would require the UK’s future carbon budgets to be revisited. Further discussion of the net UK carbon account is set out in the Library Briefing Paper on the [UK Fifth Carbon Budget](#).

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A UK carbon market?

Leaving the EU ETS could result in the introduction of a single coherent carbon pricing system across the entire UK economy. Rather than three separate carbon pricing policies – the EU ETS, Carbon Price Floor and Climate Change Levy – the Government could implement a single UK carbon price and create its own UK carbon market. A UK-only market would not benefit from the economies of scale of the larger EU ETS, but could be linked with the EU ETS or other carbon trading markets. More information on linking to the EU ETS is available on the Europa webpage on international markets.

Introducing a new domestic market and new policy would likely take time and a possible hiatus in carbon trading could occur as the new mechanisms and processes were established. This was explained further in evidence on the EU ETS to the House of Lords Energy and Environment Sub-Committee of Select Committee on the European Union by energy and climate lawyer Silke Goldberg:

However, there would need to be a certain period of time to phase in a new UK ETS, if that were to be desirable politically, a carbon tax or different forms of managing carbon allowances.

To give you an idea of the length that is required, the EU ETS was first proposed at the end of the 1990s. It then took several years for the EU ETS to be designed at a policy level. The implementation, after the Directive had been adopted in 2003, started in 2005. There was this first trial period of two years, so we are talking about a seven-year period to get an instrument going, at least. I am not saying that it could not be done more quickly, and there might be efficiencies on the basis of experience. However, that ought to be taken into consideration when designing or looking at alternatives.

Although HM Treasury does not specifically ring-fence money, currently the EU ETS legislation requires at least half of auction revenues (£530 million in the UK in total last year) on specified climate measures. When questioned on this aspect, the BEIS Minister confirmed that the Government spends “substantially more than that [50%] from HMT on areas of support”. A new UK scheme may or may not include this requirement and consequently there is a risk that revenue for climate measures in the UK could be reduced.

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157 Baran Doda, Luca Taschini & Victoria Druce, “Should the UK stay or should it go? The consequences of a divorce with the EU ETS”, LSE Grantham Research Institute, 14 February 2017

158 House of Lords, Select Committee on the European Union, Energy and Environment Sub-Committee, Oral evidence: EU Emissions Trading Scheme, 14 March 2018, Q4

159 House of Lords Select Committee on the European Union, Oral evidence: Minister of State for Energy and Clean Growth, 21 March 2018, Q10

160 As set out by new Article 10(3) introduced by the EU ETS Amending Directive 2009. Climate change measures include developing renewable energy, CCS, measures to avoid deforestation, and measures to increase energy efficiency.

161 House of Lords Select Committee on the European Union, Oral evidence: Minister of State for Energy and Clean Growth, 21 March 2018, Q10
Other alternatives?

Other alternatives have been proposed, such as a broader carbon tax. The current carbon tax in the UK (the Carbon Price Floor) currently only applies to power generation. This could be expanded to cover all industry (for example, agriculture, transport and buildings) which is an approach that was recommended by the independent review of the Cost of Energy Report to Government in 2017. The Government has yet to respond to this review. Any such change would require substantial regulatory changes, and commentators have warned it would be inherently more susceptible to legal and political interpretation and changes than a trading scheme.

Alternatively, the UK could dispense with carbon pricing altogether. This currently seems unlikely given the Government’s stated commitment to carbon pricing as a means of driving decarbonisation.

No deal

This scenario—leaving part way through a trading phase (Phase 3)—would have practical consequences for the overall EU ETS market and both EU and UK participants. Current participants who are UK operators of installation will no longer be part of the EU ETS and flights within the UK will not be covered by the scheme. Both the EU and the UK have taken action to ensure that 2018 UK allowances retain their value but do not completely flood the market should the UK suddenly leave on exit day (see Box 2). Some further possible impacts are discussed further below.

Box 2: 2018 EUAs

If the UK left the EU ETS on exit day, a key risk identified during 2017 was that UK participants could flood the market with a mass sell-off of EU Allowances which would result in a big crash in the price of carbon. In October 2017, the International Emissions Trading Association (IETA) was reported to explain that:

A hard Brexit scenario poses a risk of approximately 220 million allowances issued by the United Kingdom to be offloaded onto the market between 1 January 2018 and 29 March 2019.

To safeguard against this, both the EU and the UK have amended legislation aiming to avoid a mismatch between the functioning of the EU ETS compliance timing (April 2019 for 2018 EUAs) and the timing of exit day (March 2019). The purpose of the amendments was to ensure that 2018 UK allowances retain their value while also ensuring that they do not flood the market upon exit of the UK from the EU.

The EU amended the EU ETS Registry Regulation to provide for marking and restricting the use of allowances issued by the UK from 1 January 2018 i.e. automatically voiding any such UK allowances and thus avoiding a flooding of the market. However, the amended Regulation provides that any EUAs for 2018 will not be voided in the following circumstances:

- if EU law does not cease to apply in the UK by 30 April 2019; or

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162 Gov.uk, Cost of energy: independent review, 25 October 2017, Chapter 11
164 HM Government, Clean Growth Strategy, October 2017, p. 45
165 Reuters, EU measures to safeguard carbon market from Brexit, Julia Fioretti, 18 October 2017 [accessed 9 August 2018]
166 The EU amended the EU ETS Registry Regulation: the UK amended the Greenhouse Gas Emissions Trading Scheme Regulations 2012 by passing the Greenhouse Gas Emissions Trading Scheme (Amendment) Regulations 2017
where it is sufficiently ensured that the surrender of allowances must take place by no later than 15 March 2019 in a legally enforceable manner.\textsuperscript{167}

The UK Government laid the \textit{Greenhouse Gas Emissions Trading Scheme (Amendment) Regulations 2017} in December 2017 to ensure UK-issued ETS allowances would keep their value. The regulations changed the EU ETS compliance deadline for 2018 emissions so that UK allowances will be validated and surrendered before 15 March 2019, and so (as per bullet point 2 above) UK-issued 2018 ETS allowances will keep their value and not be voided as a result of Brexit.

The resulting situation is explained further by the European Commission as follows:

\begin{quote}
The revised Regulation provides for marking and restricting the use of allowances issued by the United Kingdom as of 1 January 2018, unless Union law would not cease to apply in the United Kingdom by 30 April 2019 or it is sufficiently ensured that the surrender of allowances takes place in a legally enforceable manner by no later than 15 March 2019.
\end{quote}

Since the United Kingdom had informed the Committee of the adoption of a law on 27 December 2017 by which the compliance deadline for 2018 emissions has been advanced to 15 March 2019, allowances issued by the United Kingdom for the calendar year 2018 are however not marked and are accepted for surrender.\textsuperscript{168}

In \textit{evidence on the EU ETS} to the House of Lords Energy and Environment Sub-Committee of the Select Committee on the European Union, the Managing Director of Sandbag (a climate change think tank), Debbie Stockwell, explained some practical implications and the default position if a deal is not reached between the UK and EU on the UK’s participation in the EU ETS:

\begin{quote}
The default position, if a deal is not reached about UK involvement in the ETS, is that the UK would leave the Scheme at the point of leaving the EU. That said, transitional arrangements could be put in place to enable the UK to remain in the Scheme until the end of Phase 3. In our view, it would be much simpler for the UK to remain in the Scheme until that time. In practical terms, the UK would cease to be subject to the ETS Directive on departure from the EU and relevant UK legislation would need to be repealed. The EU would need to adjust the terms of the Emissions Trading Directive: for example, the cap and how it applies to the remaining 27 Member States.\textsuperscript{169}
\end{quote}

Energy and climate lawyer Silke Goldberg, Partner at Herbert Smith Freehills LLP, picked up further on possible practical and legal implications of a no deal scenario, including in relation to the Single Irish Electricity Market (see further above); the uncertainty for scheme participants companies that would need to make very short-term and quick adjustments; and the impact on existing contracts:

\begin{quote}
There are a number of practical implications. You have already mentioned Ireland, so let us start there. The practical implication for the Single Irish Electricity Market would be distortion of the electricity price on the island of Ireland. At the moment, SEM works on a pool basis. From May onwards, it will move to bilateral. That effectively means that SEM, the single Irish electricity market, would need to cope with some of its participant
\end{quote}

\textsuperscript{167} European Commission, \textit{Commission Regulation amending Commission Regulation No 389/2013 of 2 May 2013}, Article 1
\textsuperscript{168} European Commission press release: \textit{Update on safeguard measures for EU ETS} (13 February 2018)
\textsuperscript{169} House of Lords, Select Committee on the European Union, Energy and Environment Sub-Committee, \textit{Oral evidence: EU Emissions Trading Scheme}, 14 March 2018, Q1
electricity generators and market participants being subject to the EU ETS, and others not. That might have an impact on the pricing on the island of Ireland, and a distortive effect on electricity pricing and the functioning of the Single Irish Electricity Market.

The Commission, in its Regulation of 12 February 2018, has already issued arrangements to mark UK allowances for the possibility of there being a no deal and related surrender arrangements. There is also the practical implication that that, in itself, could distort pricing for companies that rely on UK-issued EU ETS allowances.

Typically, companies do not enter EU ETS trading arrangements for compliance on an extremely short-term basis. Companies know that over the next however many years, for Phase 3 of the EU ETS, which we are currently in, they have a particular carbon strategy. That strategy may be curtailed, and companies may need to make very short-term and quick adjustments. That will have practical consequences. Perhaps Lawrence can add to that in further detail.

From a legal perspective, that may have an impact on the existing contracts. It may be quite disruptive, and it will require an awful lot of organisation, in a scenario with quite a lot of price distortion. At the moment, the EU ETS is at a seven-year high. It trades at around €11. Brexit, in a no-deal scenario, will almost certainly have a negative impact on it.170

Other potential impacts of a no deal scenario which have been identified are the loss of income from auction revenues to the Treasury (£530 million last year171) and the possibility of legal action by adversely affected companies.172

**Budget 2018 and the Finance Bill 2018/19: a new UK-wide carbon tax if there’s no Brexit deal**

The Government published a technical notice on *Meeting climate change requirements if there’s no Brexit deal* on 12 October 2018. In relation to the EU ETS, the Government confirmed that it would remove requirements relating to the surrender of EUAs in a no deal scenario, but that it intends to maintain the monitoring, reporting and verification arrangements. It also stated that flights between the UK and the EEA “are not expected to be covered” by the EU ETS obligations.173 In evidence to the House of Lords EU Energy and Environment Sub-Committee, the Energy Minister referred to this outcome as “a mirror system linked to the ETS”.174

The Government stated that, in a no deal scenario, the UK would initially meet its existing carbon pricing commitments via the tax system,

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172 See: ENDS Report, *Environmental risks of no-deal Brexit loom large*, Dr Paul Hatchwell, 10 August 2018 [subs only] [accessed 13 August 2018]
173 Gov.uk, *Meeting climate change requirements if there’s no Brexit deal*, 12 October 2018
taking effect in 2019.175 At Budget 2018, a UK-wide carbon emissions tax rate of £16/tCO₂ was announced which would apply to EU ETS sectors for emissions over and above an installation’s allowance (based on the EU ETS free allowance) in the event of a no deal scenario:

3.51 Carbon pricing following EU exit – The government continues to plan for all scenarios as it prepares for EU exit. In the unlikely event no mutually satisfactory agreement can be reached and the UK departs from the EU ETS in 2019, the government would introduce a Carbon Emissions Tax to help meet the UK’s legally binding carbon reduction commitments under the Climate Change Act. The tax would apply to all stationary installations currently participating in the EU ETS from 1 April 2019. A rate of £16 would apply to each tonne of carbon dioxide emitted over and above an installation’s emissions allowance, which would be based on the installation’s free allowances under the EU ETS. The government is also legislating so it can prepare for a range of long-term carbon pricing options.176

This price is broadly in line with the current EU ETS pricing.177 Further information on this proposal is available in the Government policy paper on the Carbon Emissions Tax which was published alongside the Budget.

The Finance Bill 2018/19 contains provisions to implement the carbon emissions tax, which would be brought into force in the event of a no deal scenario only. The relevant provisions are set out in Part 3 of the Bill and are explained as follows by the accompanying Explanatory Notes:

[...] a new Carbon Emissions Tax would be introduced from 1 April 2019, with the first payment due in 2020. All current participants in the EU ETS who are operators of stationary installations in the UK would be set an annual emissions allowance for the purposes of the tax allowing the government to maintain similar arrangements to the EU ETS for industrial installations deemed to be exposed to significant risk of carbon leakage, to support their competitiveness. [...]178

The Explanatory Notes confirm that “if the tax were introduced, a consultation on the more detailed arrangements would take place during 2019 to inform a statutory instrument or instruments that would be laid in early 2020”.179

A policy fellow at the Grantham Research Institute on climate change and the environment has commented on the proposals, including on the potential impact on the UK’s decarbonisation targets:

By indicating that the Carbon Emissions Tax will be set at £16/tCO₂ it effectively raises the Total Carbon Price to £34/tCO₂ – £10 higher than the Government’s original target price of £24/tCO₂ and, significantly, probably high enough to prevent a resurgence of coal in the early 2020s.

175 Gov.uk, Meeting climate change requirements if there’s no Brexit deal, 12 October 2018
176 HM Treasury, Budget 2018, HC 1629, October 2018
177 EUAs were at EUR 16 on 31 October 2018 according to ICE EUA futures via Sandbag and Quandl.
178 HM Treasury, Finance (No. 3) Bill Explanatory Notes, 7 November 2018, p211
179 Ibid
This is a welcome move as it has put forward not only a stronger price signal, but also indicates a stronger commitment to achieving the UK’s mandated decarbonisation targets. However, the details are yet to be decided: in 2019 there will be consultations on how the Carbon Emissions Tax will work – but implementation will also begin that year and finalised in 2020. This short termism certainly raises longer term questions over the bankability of the intended tax, given the time period for investment decisions can be much longer than the two year period allocated.\footnote{London School of Economics, Grantham Institute on Climate Change and the Environment, Commentary by Policy Fellow Josh Burke, \textit{What does the October 2018 Budget mean for UK carbon pricing in a no-deal Brexit?}, 30 October 2018 [accessed 9 November 2018]}

Energy UK’s chief executive Lawrence Slade said:

We welcome the clarity government has provided on carbon price support rates up to 2020-21. While it is not our preferred solution we are encouraged by the intention to maintain a carbon price signal in the case of a ‘no deal’ Brexit scenario. Energy UK believes that maintaining a robust carbon price signal is critical to boost the confidence of potential investors in low-carbon generating technologies.\footnote{Energy UK press release, \textit{Energy UK responds to Budget 2018} [accessed 9 November 2018]}

\footnote{London School of Economics, Grantham Institute on Climate Change and the Environment, Commentary by Policy Fellow Josh Burke, \textit{What does the October 2018 Budget mean for UK carbon pricing in a no-deal Brexit?}, 30 October 2018 [accessed 9 November 2018]}

\footnote{Energy UK press release, \textit{Energy UK responds to Budget 2018} [accessed 9 November 2018]}
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