Green Alliance policy insight
July 2017

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Negotiating Brexit

Positive outcomes for the UK on energy and climate

Summary

"High levels of co-operation on energy and climate will still be the best way for the UK and EU to decarbonise rapidly at low cost."

With Brexit, the UK's future relationship with the EU is unclear. The outcome of the 2017 general election has widened the scope of possibilities, but businesses are calling for clarity while they put investment decisions on hold.[1]

In the areas of energy and climate policy, the EU's strategy has been clear, to have a European energy union, establishing greater linkages with countries outside its borders to ensure "secure, affordable and climate friendly energy." The UK has actively participated in these efforts, endorsing greater market liberalisation of energy, more interconnection and a strengthening of the internal energy market.

Brexit could undermine these efforts, limiting benefits for citizens and businesses across the region. Neither the EU nor the UK's fundamental interests have changed: high levels of co-operation on energy and climate will still be the best way for the UK and EU to decarbonise rapidly at low cost. Being uncertain about aims and the means of co-operation could risk delay, stalling progress on meeting carbon targets. Clean energy investment might be on hold, but climate change is not.

Given the Brexit context, we propose that the Paris Agreement on climate change could provide a model for ongoing co-operation. The UK, alongside the EU, negotiated the agreement and both remain committed to emissions reduction and raising ambition in line with the latest scientific evidence. The agreement formalises a framework for international co-operation on climate action, based on providing finance for investment, linking the mitigation plans of individual countries, and transparent and robust emissions accounting. The recent EU-China bilateral agreement to significantly intensify political, economic, policy and scientific co-operation on climate change and clean energy is an example of this approach.[2]

"The rules and principles of the internal energy market have served British interests well."

Post-Brexit, the UK should seek to negotiate a 'Paris co-operation track' with the EU, as a means of maximising the mutual benefits of sustained co-operation.

In this policy insight we identify what a good Brexit would look like for energy and climate. It highlights the major challenges to sustained co-operation and suggests ways to address them.

Specifically, it proposes that the UK should:

1.
Negotiate to retain access to the internal energy market for electricity and gas for barrier-free trade.
The rules and principles of the internal energy market have served British (and EU) interests well. To ensure it retains some influence over these rules in the future, the UK should negotiate continued participation in the technical bodies proposing the rules, including the Agency for Co-operation of Energy Regulators (ACER) and the Energy Transmission System Operators for electricity and gas (ENTSO-E and ENTSO-G). By leaving the EU, Britain will lose political representation in the European Parliament and Council, which can ultimately amend or veto these rules, but Norway's relationship with the EU has shown that a high degree of technical expertise and input, coupled with shrewd and flexible diplomacy, can secure mutually beneficial outcomes.

2.
Continue to participate in the EU Emissions Trading Scheme (ETS) and the effort sharing regulation for diplomatic reasons, contingent on its reformation during phase 4 (post-2020).
The ETS is not a major driver of decarbonisation, but withdrawing from it would create an additional bureaucratic burden for UK businesses. It would also take up valuable civil service time which could be better spent on an industrial strategy focused on increasing UK opportunities in low carbon growth. Similarly, the UK should continue to participate in the

EU's effort sharing mechanism but do so on the basis of, and contingent upon, enhanced ambition from the EU in line with its Paris commitments.

3.
Reconsider the hard line on the role of the European Court of Justice (ECJ).
All international agreements require some form of arbitration, and UK concerns about the ECJ should not mean we forego the benefits of high levels of co-operation with the EU, such as greater energy security, and faster and cheaper decarbonisation. Options for addressing concerns about the ECJ range from remaining within the single market to seeking a Ukrainian-style association agreement with a bilateral arbitration system.

4.
Maintain maximum coherence with EU rules in the future, especially on product standards and environmental principles, where they help meet the UK's Paris ambitions.
Significant divergence from EU standards and principles could undermine the UK's low carbon competitiveness, undercut industry's ability to trade smoothly and weaken existing safeguards for individuals and the environment.

5.
Renegotiate the UK's 2020 renewable energy targets and re-establish them in line with the fifth carbon budget.
More than 170 countries have renewable energy targets. Clear domestic targets, backed by policy, are essential to catalyse the necessary investment in renewable energy technologies. By 2025, the UK is likely to be generating around 50 per cent of its electricity from renewables and the majority of new vehicles will be electric and plug in hybrids, but the government's delay in producing a plan to meet its fifth carbon budget means short term progress has slowed.

Introduction

"Lack of clarity on issues like the internal energy market, the EU Emissions Trading Scheme and the future adoption of EU derived buildings legislation has stalled UK progress on meeting domestic climate targets."

The UK has a close relationship with the EU on energy and climate policy. Seven per cent of our electricity comes through long distance interconnectors from neighbouring countries, keeping bills down and supporting the growth of clean, renewable energy. Forty two per cent of our gas supplies either come from or transit through the EU, providing long term energy security. Nearly 30 per cent of all the loans to the UK from the European Investment Bank have supported energy infrastructure, amounting to over £8 billion in the past five years, double that of the Green Investment Bank. This finance has been critical to the success of the offshore wind and electric vehicle industries in the UK. The rules that underpin the EU's energy markets and ambitions on climate change have been heavily shaped by UK diplomacy, and both Britain and the EU have benefited. Furthermore, co-operation on research and development, low carbon trade and product standards have created an overarching policy coherence that has been of immense mutual benefit.[3]

Against this background, the decision to leave the EU presents significant challenges for the energy sector. A lack of clarity on issues like the internal energy market, the EU Emissions Trading Scheme and the future adoption of EU derived buildings legislation has stalled UK progress on meeting domestic climate targets.

Several options exist for the UK to establish a new relationship with the EU post-Brexit. Whilst these have been explored by the government, we assume, based on the principles set out opposite, that a future comprehensive free trade agreement is preferred by the UK. Any association or membership of the European Economic Area will potentially require that the UK adopts the relevant EU acquis without significant influence over law making and accepts the free movement of people. This so called 'Norway model' might form the basis of a transition deal with the EU for three years before the details of the free trade agreement are agreed after Brexit.[4] The 'Swiss model', where separate bilateral agreements across sectors are struck, has been referred to as a possible option but the EU's reluctance does not make it likely. If a trade agreement is not reached, the UK can seek to apply the 'most favoured nation' tariffs under the WTO, where both the UK and EU would apply standard tariff rates to their imports and exports.

Many commentators have suggested that the UK will pursue a 'Canada Plus' option that entails an agreement similar to the EU-Canada Comprehensive Economic and Trade Agreement (CETA) but with greater privileges than Canada. In this regard, efforts are already underway to train a large contingent of UK negotiators and establish agreements with smaller nations to gain the necessary experience for subsequent dealing with bigger countries on trade.

Key negotiating constraints

The following principles of relevance to energy and climate have been laid out by both parties in the lead up to the first phase of the negotiations:

1. It would be contrary to EU law for the UK to begin, in advance of its withdrawal, negotiations on possible trade agreements with third party countries. Doing so would risk the UK being excluded from EU domestic law making before its withdrawal.
2. The UK cannot have bilateral arrangements between one or several remaining member states that have not been agreed or consented to by the EU.
3. Any membership sought of the internal market or the customs union requires accepting the four freedoms of people, movement, capital and services and the jurisdiction of the ECJ. The UK has stated in its Brexit white paper that it will end the ECJ jurisdiction in the UK and that position remains unaltered. The EU opposes any future agreement that would contain piecemeal or sectoral provisions, including with respect to financial services.
4. Any deal is conditional upon the UK's strict adherence to standards provided by international obligations, for instance in the fields of environment and climate change.

These four points, and the current political climate, constrain the operating space for UK negotiations in the following ways:

Bilateral deals

The UK is unlikely to be able to do bilateral deals on gas or electricity trading, perhaps with the exception of a gas deal with Norway. This makes interaction with the internal energy market, which is becoming an increasingly integrated EU wide regime with greater participation of the European Free Trade Association (EFTA) and the energy community, an unavoidable issue for the UK.

Northern Ireland

The need for the current government to have DUP support, and the DUP's insistence on a 'friction free' border means maintaining the Irish single energy market is likely to be a red line. This further reinforces the importance of the internal energy market.

The European Court of Justice

The UK's strong stance on the ECJ is a major stumbling block for any agreement, because it is so heavily involved in governing shared energy and climate rules and because the EU sees it as critical to maintaining the rule of law for the EU (for more information about the ECJ's role please see page 12).

The environmental acquis

The conditionality of any deal on continued high environmental standards should not pose a substantive challenge for negotiations, as UK ministers are committed to this. However, there are two provisos: first, the UK will need to resolve questions of institutional capacity, judicial oversight and governance mechanisms around the future transparency of monitoring and

"Once outside the EU, the UK will still be bound to meet its carbon budgets under the Climate Change Act."

enforcement; second, the UK would need to adopt certain principles from the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU) to ensure UK oversight and governance is as smooth as possible. These include:

1. The precautionary principle
2. Prudent and rational utilisation of natural resources
3. The principle of preventative action and polluter pays
4. The principle of sustainable development
5. The principle of proportionality
6. Environmental damage should, as a priority, be rectified at source

The UK has adopted some of these principles as part of its international commitments but, to avoid constraining negotiations, should ensure that they remain unaffected by Brexit by enshrining them in the UK statute book.

Paris co-operation track

Once outside the EU, the UK will still be bound to meet its carbon budgets under the Climate Change Act. If the UK decides to stop contributing to EU-wide carbon targets for 2030, the UK's carbon budgets could directly translate into its Intended Nationally Determined Contribution (INDC), under the United Nations Framework Convention on Climate Change (UNFCCC).

However, the Committee on Climate Change has identified the need to tighten carbon budgets in the future. Achieving national targets cost effectively will require new and robust domestic policies and greater international co-operation.[5]

A Paris co-operation track, pursuant to Article 6 of the Paris Agreement, would identify areas of co-operation between the UK and the EU where there are clear opportunities to meet their corresponding INDCs.[6] The EU Emissions Trading Scheme, the internal energy market, trading in low carbon goods and R&D on energy and climate are just some of the areas of immediate priority where sustained co-operation will be mutually beneficial. The negotiation priorities for the UK under these areas and others are outlined in the following pages.

Favourable negotiation outcomes for the UK on energy and climate

Taking into consideration the constraints on the future relationship between the UK and EU already discussed, we highlight the best outcomes under a Paris co-operation track for different areas of energy and climate policy. On pages 10-18 we explain the reasons for our assessment, the challenges to achieving the right outcome and how to address them. The summary recommendations are set out below.

Summary of sectoral recommendations

Area of negotiation	Recommended negotiation positions
Internal energy market for electricity	The UK should seek to stay within the internal energy market (IEM). The shared rules and principles of the IEM closely align with UK's domestic policy goals on energy and climate, so there is no substantive reason to move outside the IEM, and there are significant downsides to leaving.
Internal market for gas: security of supply	The UK should seek to stay within the IEM for gas to ensure long term security of supply and stability of prices by minimising the impact of geopolitics.
EU Emissions Trading Scheme (ETS)	The UK should stay within the ETS for diplomatic reasons and for easier access to larger carbon markets, not because it will drive domestic decarbonisation.
Effort sharing	The UK should stay within the effort sharing regulation, contingent on enhanced EU ambition on emission reductions in the non-traded sector. If outside the regulation, the UK should maintain policy coherence with the EU.
Renewable energy targets	Under a non-binding framework, the UK should set its own renewable energy targets in line with its carbon budgets. The UK should renegotiate its time lines to meeting the 2020 targets while voluntarily contributing to the EU's 2030 target.
Energy efficiency	The UK should fully transpose relevant legislation on energy efficiency and improve its domestic legislation to implement the directives and their relevant obligations to make them fit for purpose. The UK should also remain involved in the EU's product standards process.
Energy innovation and infrastructure finance	The UK should remain a shareholder in the European Investment Bank (EIB), and contribute to European funds for innovation and infrastructure to promote low carbon technologies, ensuring it can continue to benefit from favourable funding arrangements.
Transport	The UK should maintain emissions standards on par with the EU regulations and adopt the latest guidelines under the fuel quality directive. It should synchronise its standards testing mechanisms with new methods being implemented by the European Commission.
Industrial emissions directive	The UK should fully adopt and implement the Industrial Emissions Directive and the revised best available techniques document (BREF) post-Brexit.

Sectoral recommendations

"There is no substantive reason to stay outside the internal energy market, and there would be significant downsides to departing from it."

The internal energy market for electricity

The internal energy market (IEM) aims to establish a Europe-wide market for the free flow of energy without technical or regulatory barriers. It is expected to spur greater competition amongst energy providers and result in cheap and affordable energy for consumers.

What does a positive outcome for the UK look like?

The UK stays within the IEM for electricity and continues trading across existing and new interconnectors, widening its balancing area for increasing renewables and reducing the electricity cost to consumers. The UK also retains decision-making influence within key regulating bodies.

Rationale

Continued participation in the IEM will help to keep electricity prices down for UK consumers. National Grid estimates a saving of £500 million annually, achieved through market coupling, via interconnectors, cross border balancing and capacity market integration.[7,8] Interconnection already contributes to meeting seven per cent of the UK's electricity demand. A potential reversion to WTO rules, once outside the EU, could result in the UK imposing import tariffs on electricity, making it uneconomic for our EU neighbours to export their electricity to the UK, cutting imports by a third and increasing the cost of electricity by a further £140 million.[9] The rules governing the IEM also ensure there are strong sanctions on parties engaging in market abuse or insider trading.

Challenges

Staying within the IEM means following the common rules and principles that govern it, including the requirement to establish competitive electricity markets, cross border electricity flows and customer participation. Common rules also exist around demand response, investment in flexible generation, energy storage and the deployment of electro-mobility and new interconnectors. It also means participating in, and financially contributing to, the agencies governing the IEM.

Conflicts could arise with existing and proposed EU rules around state aid, public price interventions in energy tariffs or the role of the system operator.

Overcoming the challenges

The shared rules and principles of the IEM closely align with the UK's domestic policy goals on energy and climate, in fact they have been spearheaded by the UK over the years. So there is no substantive reason to stay outside the IEM, and there would be significant downsides to departing from it. The UK is keen to trade electricity and should work to retain its influence on the rules governing electricity trading post-Brexit, by seeking continued membership of institutions like the Agency for the Co-operation of Energy Regulators (ACER), Council of European Energy Regulators (CEER) and Energy Transmission System Operators – Electricity (ENTSO-E). These bodies set the technical rules and trading arrangements to facilitate greater energy commerce, and are subject to EU scrutiny.

On the question of state aid, the UK has historically provided much less state aid per capita than the rest of Europe.[10] But it could look to countries like Germany for new approaches to state aid in the future. KfW, the German state owned bank offers an example of how it avoided breaching state aid rules and yet contributed to insulate over two million homes through low interest loans, subsidised by the German government.[11]

Finally, it is worth noting that state aid regulations have not been strictly enforced in the EU as it has consistently intervened in the energy sector, estimated at a value of roughly £90 billion in 2012 (excluding transport).[12] The European Commission sets clear guidelines, allowing state aid with limited distortive effects to meet its climate and energy targets, offering adequate flexibility for the UK to try new approaches (contracts for difference and the carbon support price are two examples).[13] On the other hand, within the context of a free trade agreement with the EU, significant divergence on state aid norms could heavily distort competition and hamper businesses on both sides.

The internal energy market for gas

"Leaving the internal energy market for gas would take the UK from being hardly dependent on foreign supplies to 42 per cent dependent."

The internal energy market (IEM) for gas is designed to ensure greater market integration of gas and security of supply across all EU member states.

What does a positive outcome for the UK look like?

To ensure long term security of its energy supplies, the UK stays within the internal energy market for gas and retains membership of key cross border regulating bodies.

Rationale

Leaving the IEM for gas would take the UK from being hardly dependent on foreign supplies to 42 per cent dependent.[14] Physical interconnectors between the UK and continental Europe (IUK to Belgium and BBL to Netherlands) provide seven to 26 per cent of the UK's imports and, with contracts on IUK and BBL terminating in 2018 and 2022 respectively, any imposition of costly regulation on these pipelines post-Brexit could drive up energy prices in the UK, making the EU industry more cost competitive. The alternative to IEM participation would be to increase UK imports from Russia and Qatar over the long term, but these come with geopolitical risks.

The UK is dependent on Norway for 61 per cent of its gas imports and, as the EEA agreement will no longer be the basis for further trade once the UK leaves the EU, a new bilateral supply agreement would need to be established. The terms of such an agreement will be crucial as Norway could find it more profitable to shift trade towards the EU.[15]
The UK's plans to tap domestic gas reserves through fracking could face considerable public opposition and there remain serious concerns on the financial viability of drilling for shale.[16]

The closing of the UK's biggest gas storage facility, Rough, accounting for more than 70 per cent of domestic storage, further impacts UK security of gas supply during the winter. While it is unlikely to face an absolute gas supply problem, it will be exposed to much spikier prices. The EU on the other hand has ample storage amounting to a third of its annual demand.

Challenges

Staying in the IEM for gas would mean the UK will have to follow the rules and principles governing the IEM, including establishment of permanent bidirectional capacity across all interconnectors with member states, establishing infrastructure and supply standards, creating strategies to address supply risks and greater co-ordination with member states on gas supplies.

Staying in the IEM follows the revised Security of Gas Supply Directive that proposes the adoption of the solidarity principle. The principle is invoked in an emergency, ie a sudden curtailment of gas supplies in any single member state, where neighbouring states will lower their own supply standards to provide gas to households and essential social services to the affected state. The UK has opposed the solidarity mechanism, questioning its legally binding nature.[17]

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UK concerns about the European Court of Justice

The role of the European Court of Justice

To meet the conflicting demands of the government's currently preferred version of Brexit and the stance of the EU, the role of the European Court of Justice (ECJ) in the UK will need to be revised. But, unless the UK ceases all trade with the EU, the ECJ will continue to be relevant to the UK after it leaves the EU. At a minimum, its rulings will apply to products sold in the EU, and it is unlikely that it will have no say over future electricity and gas trading.

A wider negotiation on the future of ECJ jurisdiction in the UK will determine its future relevance to the energy and climate sector. Options compatible with the best outcomes on climate and energy that we have identified span a range of post-Brexit models, including, but not limited to, membership of the European Economic Area (EEA), membership of European Free Trade Association (EFTA), a Swiss-style bilateral deal or a bespoke 'association agreement' building on existing EU models.

Whatever the outcome of the UK's negotiations with the EU, it could seek to adopt one form of association agreement, as outlined below. This would ensure that any issues around ECJ jurisdiction do not obstruct co-operation between the EU and the UK in future. This could form part of a transition deal after 2019, be a destination in its own right or be superseded by a joint decision on another arrangement.

An association agreement: a viable alternative?

The UK's Brexit white paper has suggested exploring judicial systems similar to those proposed under CETA (EU-Canada Comprehensive Economic Trade Agreement), NAFTA or other global free trade agreements that provide arbitration as the main dispute resolution mechanism.[18]

However, this approach would not provide the regulatory coherence we propose is necessary in the context of energy and climate. The ECJ's jurisdiction over CETA is, as yet, unclear as there remains some doubt over whether its rules comply with EU law.

An alternative arrangement, as briefly referenced in the European Parliament's Brexit resolution and proposed by one of EU's chief negotiators, is that an association agreement or mixed agreement could be struck between the UK and the EU.[19, 20] Such an agreement is a treaty between the European Union and a non-EU country which creates a framework for co-operation.[21] The EU's association agreement with Ukraine offers a useful example where the aim is to establish "deep and comprehensive trade relations" between the two regions.[22,23]

Key features of an association agreement relevant to the UK include:

- a free trade agreement between both parties on negotiated terms;
- regulatory alignment with the EU acquis with significant technical co-operation, in return for access to the single market;
- financial contributions and access to various EU R&D programmes;
- continued access to the European Investment Bank;
- three of the four freedoms of movement (capital, services and goods), and endeavouring to achieve a gradual and managed provision of free movement of people;
- an association council at a ministerial level and an association committee at civil servant level, designed to implement and monitor the terms of the agreement; these structures provide an additional layer of negotiation and pre-empt some aspects of ECJ jurisdiction.

The UK is not Ukraine and the reasons behind the agreement with Ukraine are significantly different to Brexit. But an association agreement, nonetheless, provides a legal framework to build upon for the post-Brexit relationship with the EU, while taking into consideration the principles that the UK has laid out in its white paper.

Accessing any part of the internal market, for instance, energy, will entail the jurisdiction of the ECJ, but the combined ministerial council and committee would ensure its role will primarily be to perform the procedural functions of interpreting EU law and obligations applicable to both parties. Disputes would be resolved through the association council. Failure to arrive at a resolution would result in setting up an arbitration panel with binding rulings on the disputing parties. Under such an agreement, enforcement would be governed by the rules of civil procedure of domestic courts in the UK.

The House of Commons Justice Committee, in its report on the implications of Brexit for the justice system, highlighted the need for continued mutually beneficial co-operation with the EU, where the continued role of the ECJ "in respect of essentially procedural legislation concerning jurisdiction, applicable law, and the recognition and enforcement of judgements, is a price worth paying to maintain the effective cross border tools of justice discussed throughout our earlier recommendations."[24]

If adopted, such an association agreement would be compatible with our recommendations in relation to climate and energy policy.

Overcoming the challenges

The rules governing the IEM for gas align with the UK's long term energy security interests. The UK should, therefore, negotiate to retain influence over the rules governing gas transmission by actively participating in groups like the Energy Transmission Operators-Gas (ENTSO-G) and ACER. This would allow it not just to maintain regulatory coherence with continental Europe but also to exercise its expertise in ensuring smooth market coupling and unrestricted trade.

On the question of the solidarity principle, the UK should acknowledge that the principle could, in theory, have a net positive impact for the UK, as the EU will be driven to ensure long term gas supplies for the entire region. The UK is included in two North Sea risk groups and the Norwegian corridor group, jointly with 11 other countries including Ireland. Regional co-operation between these risk groups is important in mutually reinforcing the security of gas supplies.[25]

Integrated single energy market in Ireland

Another reason for the UK to stay within the single energy market is the integrated single energy market in Ireland (I-SEM), which ensures free movement of energy across the Irish border. Given the current political context in the UK and the DUP's call for "as frictionless a border as possible" with the UK, the I-SEM could prove to be a significant driver for co-operation between the UK and the EU.

Northern Ireland and the Republic of Ireland currently benefit from a fully linked energy network with shared infrastructure and joint regulatory bodies. An estimated £6 billion worth of energy products were imported by Ireland through the UK in 2014.[26]

Ireland is heavily dependent on the UK for its oil, electricity and over 90 per cent of its gas supplies. Further interconnection between the Republic of Ireland and other European countries could alleviate this to an extent, but the potential for increased tariffs on imports via the UK could have a knock on effect and increase consumer bills across Ireland. As the UK leaves the EU, regulatory divergence, potential trade tariffs and the additional burden of new governance and institutional capacity between the UK and Ireland could result in market disruption and higher costs for both parties.

The UK and the EU have stated in their initial negotiating positions that they regard the Irish situation as important and will work towards maintaining unhindered trade and its associated benefits to Ireland. Staying within the IEM would be an important step towards achieving those outcomes.

The EU Emissions Trading Scheme

The EU Emissions Trading Scheme (ETS) is a trading mechanism for reducing emissions from the power and industrial sectors, covering over 45 per cent of the EU's total greenhouse gas emissions. Through market based carbon price discovery, the ETS is expected to stimulate investment in efficiency and low carbon energy. But a very low carbon price (currently £4 per tonne) has undermined the scheme's efficacy, driving the UK to introduce a unilateral domestic carbon floor price; this is a top up tax above the ETS carbon price, which is currently capped at £18 per tonne.

What does a positive outcome for the UK look like?

To avoid business disruption, the UK initially commits to staying within the ETS mechanism until 2020. The UK subsequently continues with a reformed ETS during its fourth phase beyond 2020 for diplomatic reasons, but not relying on it to drive decarbonisation in the short term.

"Staying within the ETS would allow a straightforward, future market linkage to China's ETS, which is expected to become the largest in the world."

Rationale

Leaving the EU ETS when Brexit happens in 2019 without a transitional plan in place could cause considerable uncertainty for UK firms tied to the scheme, further reducing investment in less carbon intensive heavy industry.

Under the Paris Agreement, countries may engage in so-called co-operative approaches that could include the linking of ETS mechanisms across different jurisdictions. Such an approach, sometimes referred to as the Carbon Market Clubs (CMC), is intended to achieve low cost pathways to meeting enhanced climate ambition.[27] In this specific context, staying within the ETS would allow a straightforward, future market linkage to China's ETS, which is expected to become the largest in the world. In the long run, this could reduce risks of carbon leakage and market distortions.[28]

Creating a domestic carbon market as a potential alternative could be expensive and require years of civil service time to redesign.[29] As the UK has a relatively small market for emissions compared to the EU, it might be less attractive for larger economies to link with. A domestic carbon market will subsequently have to link with the EU and, with the current oversupply in allowances, such a linkage would simply maintain the status quo of very low carbon prices. In the short to medium term, the UK should sustain its domestic carbon price floor to drive low carbon investments. In the long run, an effective ETS can provide a route to market driven climate action.

The UK has been a strong proponent of carbon trading and has considerable expertise in designing markets around it. Assuming the UK intends to continue using some form of a trading mechanism for reducing its emissions post-Brexit, staying in the ETS could allow the UK to contribute to its much needed reformation. However, leaving the ETS for political reasons could negatively affect the UK's standing as a global climate leader and its economic prospects in the global low carbon market.

Challenges

The primary challenge for the UK in remaining in the ETS is the jurisdiction of the ECJ.

Overcoming the challenges

The role of the ECJ is discussed in detail on page 12. Countries like Norway and Iceland participate in the EU ETS but under the jurisdiction of the EFTA courts which follow the relevant case laws of the ECJ as applicable to a particular dispute.

Effort sharing

The effort sharing regulation (ESR) applies to non-ETS sectors including transport, buildings, agriculture, small industry and waste. It allows the EU to set greenhouse gas emission limits for these sectors for individual member states, based on their GDP per capita, to meet a cumulative target of 30 per cent reduction by 2030 (based on 2005 levels).

What does a positive outcome for the UK look like?

The UK maintains policy coherence with the EU in relevant areas of transport, buildings and waste under the ESR. As a climate leader participating in the ESR, the UK negotiates for greater ambition in the EU on its 2030 ESR targets so both the UK and EU are able to meet their Paris climate pledges at least cost.

Rationale

Domestic legislation designed to meet the obligations under the EU ESR is expected to deliver more than half of the UK's emission reductions up to 2030 in the non-traded sector.[30] Policy coherence with the EU post-Brexit will, therefore, ensure a stable baseline for

"The UK's ambitious renewable energy targets have made it a front runner in the offshore wind sector."

businesses regulated outside the ETS to secure the necessary certainty for financial decisions. The Committee on Climate Change has also identified significant gaps in policy design and funding that can gradually be filled by domestic legislation in line with the fifth carbon budget and through consultations with relevant stakeholders.

The ESR, in its current form, delivers very little additional reduction in greenhouse gas emissions over business as usual trajectories and the UK's absence from it could result in either the EU keeping its current weak target or further reducing it.[31] Keeping the existing cumulative target yields a marginal increase in targets for all the remaining 27 EU member states, as the UK's share gets redistributed among them. Reducing the cumulative target, however, could either maintain existing individual country targets or worse, further reduce them. Both options are significantly misaligned with the mitigation requirements under the Paris Agreement.[32]

The UK under its fifth carbon budget is expected to deliver a 53 MtCO2e reduction more than its requirement under the current effort sharing allocation, which is more than the entire contribution from the Netherlands in 2030. This ambition should be leveraged by the UK to raise the EU's targets in line with Paris commitments.

Challenges

The ESR, as it currently stands, requires, among other things, an annual linear reduction of emissions in the non-traded sector through the 2020s, which is currently not supported by the UK.[33] It also proposes annual reporting and compliance requirements with clear rules on penalties for not meeting targets.

Overcoming the challenges

We believe the UK's continued participation in the ESR should be contingent on enhanced ambition from the EU. If it remains within the ESR, the UK should aim to align its Monitoring, Reporting and Verification (MRV) requirements in line with the Paris Agreement, reducing the administrative burden.

Renewable energy targets

EU renewable energy targets are enforced through the Renewable Energy Directive which requires the UK to source 15 per cent of its energy from renewables by 2020, and to contribute to an EU-wide target of 27 per cent by 2030. The EU will not set binding commitments for countries post 2020 but will monitor and guide progress to ensure the cumulative target is met. The UK has made considerable progress in the power sector, reaching almost 25 per cent of its 30 per cent renewable electricity target by 2020 but, overall, it has only met eight per cent of the target so far, with significant lag in the heating and transport sectors.

What does a positive outcome for the UK look like?

Under a non-binding framework, the UK sets its own renewable energy targets in line with its carbon budgets to stimulate stable, long term investment in cheap, renewable energy. The UK renegotiates its timelines to meeting the 2020 targets while voluntarily contributing to the EU's 2030 target. It then establishes clear arrangements with the EU on the impact of its domestic targets on the IEM.

Rationale

One hundred and seventy four countries around the world have established some form of domestic renewable energy targets. Well-designed targets provide the forward visibility for investment in the low carbon innovation. The UK's ambitious renewable energy targets have

made it a front runner in the offshore wind sector, meeting over 11 per cent of the country's electricity demand in 2015. The result is that renewables are now undercutting fossil fuels and nuclear on cost.

Challenges

The main challenge is that the UK is unlikely to meet the renewable transport and heat components of its 2020 targets, principally due to policy delay since 2015. This could result in the UK facing penalties under the Renewable Energy Directive. A further challenge is that Brexit might mean an end to the UK's commitment to monitor and report its progress on implementing EU directives on a biennial basis. Another issue for the UK negotiators is the strong political objection to renewable energy targets that are either perceived as distorting the market or instituted from Brussels.[34]

Overcoming the challenges

On renewables targets, the UK should negotiate an extension and recommit to meeting the 2020 renewables targets by 2022.[35] To meet its own carbon budgets, the UK is likely to need to generate 60-65 per cent of its electricity from renewables and 25 per cent of heat from low carbon sources by 2030, providing a significant contribution to EU's collective target.[36,37] Such an arrangement could be a plausible option for the UK to negotiate, avoiding any penalties.

EU monitoring and reporting requirements are not onerous and, if the UK did not report them, it would need to develop its own systems for accounting, verifying and reporting to deliver on the new compliance requirements under the Paris Agreement. Using existing reporting processes will reduce bureaucracy but, even if the UK does reinvent its own accounting requirements, this should not pose a barrier to co-operation with the EU.

"Energy efficiency policies for appliances are almost entirely dependent on EU legislation."

Energy efficiency

The revised EU Energy Efficiency Directive currently proposes an EU wide non-binding target of 30 per cent by 2030. The directive also proposes energy efficiency obligation schemes that include a 1.5 per cent linear annual reduction in energy sales by volume.

What does a positive outcome for the UK look like?

To ensure a stable framework and direction of travel for energy efficiency, the UK fully transposes relevant EU energy efficiency legislation and subsequently commits to improving the domestic legislation that implements the directives and their relevant obligations, making them fit for purpose. The UK also remains involved in the EU's product standards process and ensures adequate supply of labour to buildings and other relevant sectors.

Rationale

So far, measures driven by obligations under the EU Energy Efficiency Directive: the Ecodesign Directive, the Energy Performance of Buildings Directive and the Efficiency Labelling Directive, have resulted in bill savings of up to £290 per household between 2008 and 2016.[38] By contrast, the UK's domestic energy efficiency policy progress has stalled, and there is currently no long term coherent strategy, particularly for the buildings sector.[39]

Challenges

Energy efficiency policies for appliances are almost entirely dependent on EU legislation, specifically the Ecodesign Directive, which cannot be simply transposed in to UK law through the European Union (Withdrawal) Bill.[40] This is because ecodesign rules are made via direct regulation, rather than new directives, and these regulations need to be regularly updated.

Once outside the EU, there is likely to be a shortage of skilled labour in the buildings, manufacturing and other sectors needed to improve energy efficiency, potentially increasing labour costs by 15 to 20 per cent.[41]

Overcoming the challenges

UK manufacturers selling into the single market will need to apply EU standards on efficiency and durability to their products, even if the UK has no formal relationship with the EU post-Brexit. Like the internal energy market, the UK should negotiate to opt-in to the products standards improvement process. It should provide robust technical support to relevant standards bodies to offset the power it will lose by not having a seat in the European Council or Parliament.

The UK needs to carefully assess its labour requirements in the building and manufacturing sectors, relevant to energy efficiency, and either make provision to continue to meet them from EU states or step up training in the domestic labour market.

Energy innovation and infrastructure finance

"Losing EU funding without clarity on its replacement could severely affect forward visibility for investors."

The UK has accessed significant low cost finance from the European Investment Bank (EIB), the European Investment Fund and other agencies for its energy infrastructure and research and innovation projects over the years.

What does a positive outcome for the UK look like?

To retain access to funding on favourable terms for infrastructure development, the UK remains a shareholder in the EIB and contributes to European funds for innovation and infrastructure to promote low carbon technologies.

Rationale

UK energy infrastructure has received over £8 billion from the EIB between 2011 and 2015, more than double the lending from the Green Investment Bank.[42] In addition, roughly £2 billion was received from the EU Horizon 2020 research funding scheme and £59 million on projects of common interest between 2014 and 2015 and further support from Connecting Europe Facility (CEF). These investments have accelerated the development of offshore wind, electric vehicles and interconnectors in the UK.

To replace retiring coal and nuclear plants in the 2020s, the UK will require large scale investment in energy infrastructure, estimated at £14-19 billion a year in the electricity sector alone up to 2020, and roughly £138 billion through the 2020s.[43] Companies located outside the UK are responsible for more than 50 per cent of the expenditure associated with planning, building and running offshore wind projects. Losing EU funding without clarity on its replacement could severely affect forward visibility for investors.[44]

Challenges

Countries outside the EU do not receive the preferential treatment from the EIB afforded to member states. This could raise the cost of debt and the overall cost of UK infrastructure. In the absence of government action, a significant decrease in UK energy funding and finance will occur post 2020.[45] Limiting the movement of people may reduce skills available for energy research and innovation in the UK.

Overcoming the challenges

As one of the largest EIB shareholders, the UK should aim to negotiate relatively lower lending rates, particularly for projects that contribute to the common goals of European energy security and decarbonisation. Given the mutual benefit of continued R&D

"The EU is the UK's biggest market for car exports, so maintaining EU product and emissions standards will be critical for continued trade."

co-operation, the UK may wish to provide for easy movement and settlement of skilled researchers and workers from the EU in this sector. However, significant investment in skills and training may compensate for part of this in the medium to long term. Similarly, domestic investment institutions able to mobilise finance from global markets could considerably offset EIB and Horizon 2020 funding reductions.

Low carbon transport

Brexit will have wide ranging impacts on the transport sector, including roads, rails, ports and aviation. To support energy and climate policy ambitions, maintaining vehicle emission standards and low carbon transport trade across borders will be important.

What does a positive outcome for the UK look like?

The UK maintains emissions standards on a par with EU regulations and adopts the latest guidelines under the Fuel Quality Directive to improve air quality. It synchronises standards testing mechanisms with new methods being implemented by the EU, so long as these adequately reflect real world emissions.

Rationale

The EU is the UK's biggest market for car exports, so maintaining EU product and emissions standards will be critical for continued trade. For the UK, further reductions in carbon intensity (grams of CO_2 per km) standards for conventional vehicles will be necessary to meet carbon budgets. And, similarly, EU air pollution standards are driving improvements to UK air quality.

The Fuel Quality Directive imposes a carbon intensity target of 88.5gCO_2eq per megajoule of energy on transport fuels by 2020. This ensures highly polluting fuels, like tar sands, can be kept out of the UK's energy mix.

Challenges

There are no significant challenges for the UK to adopt these emission standards but the UK will lose a strong compliance and dispute settlement mechanism through the ECJ.

Overcoming the challenges

The UK will need to develop a robust domestic compliance and governance system to ensure strict vehicle emissions standards are met through appropriate enforcement mechanisms. The VW scandal was a clear example of how lax compliance systems have led to vehicle emissions several times higher than accepted standards.[46] Considering the significant amount of trade in the transport sector, convergence in standards and compliance makes sense.

Industrial emissions

The Industrial Emissions Directive (IED) regulates pollution across the EU. It aims to achieve a high level of protection of human health and the environment by reducing harmful industrial emissions, in particular through the application of best available techniques or best practice in a specific industry.

What does a positive outcome for the UK look like?

The UK fully adopts and implements the Industrial Emissions Directive and the revised Best Available Technique Reference Document (BREF), to ensure large polluting plants are operating at a minimum and are gradually phased out.

Rationale

The IED sets limits on mercury, NOx, SO_2 and particulate emissions from large combustion plants above 50 MW. It is estimated that the new Large Combustion Plant BREF (LCP BREF) will reduce the number of premature deaths caused by coal to approximately 8,900 deaths per year by mid-2021 across the EU.[47] The UK has acknowledged this and voted in favour of these standards after the EU referendum.

Challenges

The UK will lose a strong compliance and dispute settlement mechanism through the ECJ.

Overcoming the challenges

The UK has already signed up to the revised Large Combustion Plants BREF Directive but once outside the EU, it should establish its own robust domestic compliance and governance system to ensure these standards are maintained.

Conclusion

While the UK remains within the EU, it should continue to play a constructive role in negotiations on the clean energy package, contributing to the EU's 2030 energy and climate strategy and the legislative and policy measures devised to achieve it.

We have highlighted the common international framework of the Paris Agreement as an opportunity for continued co-operation on energy and climate change. The EU and the UK have strongly aligned goals of mitigating climate change, keeping energy bills low for consumers and ensuring the long term security of energy supply. Negotiating for the outcomes we have identified would maximise the opportunity for both the UK and EU to achieve these shared goals.

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The Green Alliance Trust
Registered charity no 1045395
Company limited by guarantee
(England and Wales) no 3037633

Negotiating Brexit: positive outcomes for the UK on energy and climate

ISBN: 978-1-909980-90-7

Acknowledgements
Thanks to Dustin Benton and partners in the Greener UK network, particularly IEEP, Futureproof and E3G, for their inputs.

We are grateful to the European Climate Foundation for supporting this work.

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