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## **THE BENEFITS OF EUROPE FOR ENERGY & CLIMATE CHANGE** AND WHAT COULD HAPPEN IF WE BREXIT

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Membership of the EU offers substantial benefits on energy and climate change that a 'leave' vote would require the UK to forego, making the transition to a low carbon economy more expensive and less secure.

This briefing note has been developed by E3G and Green Alliance, and sets out the key evidence that exists on the energy and climate change benefits of the UK remaining part of the European Union and assesses the possible scenarios for what might happen in relation to energy and climate change in the event of a 'leave' vote.

### Key points:

- > The most likely 'leave' scenarios would substantially increase uncertainty for investors in energy projects, which, at best would result in increased risk premiums pushing up energy prices and, at worst, would lead to an investment hiatus that could threaten the UK's energy security.
- > Being part of the EU energy market, including market coupling, cross border balancing and capacity market integration, is expected to be worth £500 million per year to the UK by the early 2020s.<sup>1</sup>
- > A united EU can stand up to Russia's use of international gas supply as a political tool. A divided Europe would allow Gazprom to continue its 'divide and conquer' strategy when negotiating gas contracts with EU Member States.
- > UK entrepreneurs developing new low carbon energy solutions need easy access to the EU, as largest and closest export market, to be competitive. For example, 53% of the output of the UK's nascent ultra-low emissions vehicle market is exported to the EU.
- > Collective EU action on climate change gives all Member States the confidence to reduce emissions together, safe in the knowledge that their trading partners are doing the same. By agreeing collective targets and policy mechanisms, since 1990, the EU28 has reduced CO<sub>2</sub>e emissions by 23 per cent whilst growing GDP by 46 per cent.<sup>2</sup>
- > The UK has had substantial influence over EU positions in international negotiations on climate change and leverages diplomatic impact by operating within the EU bloc.



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## Two Brexit scenarios:

### The Norwegian option

Similar to the EU's relationship with Norway, the most likely scenario, following a vote to leave the EU, is that UK would negotiate to remain part of EU gas and electricity markets. This would require minimal changes to the UK's energy systems. The UK would also likely remain part of the EU Emissions Trading System, to ensure a level playing field for access to the single market. However, the UK's ability to influence the design of the EU energy market and associated policy would be marginal, including carbon emissions reductions levels, renewables goals and state aid decisions. Whilst it is hard to determine the impact of such loss of influence, it is certain that, by not having a place at the table, UK interests would not be taken into account.

### The Swiss option

An alternative scenario is that the UK attempts to negotiate a bespoke energy arrangement with the EU in the same way that Switzerland has. It is possible in this scenario that other EU member states would seek to impose penalties on the UK to deter others from leaving the bloc. For energy, this could include tariffs for the UK's access to the EU electricity market. In this scenario, the UK would be faced with a choice between paying a high price for continental electricity, or rapidly sourcing an additional seven per cent of generation capacity, currently received through interconnectors. Rapid development of any new generation capacity would probably have to be completed at a premium.

Both of these scenarios would substantially increase uncertainty for investors in energy projects, which, at best would result in increased risk premiums pushing up energy prices and, at worst, would lead to an investment hiatus that could threaten the UK's energy security.

## What are the implications of Brexit for UK energy bills

Membership of the EU offers the UK the chance to participate in and influence the direction of the single market for energy. This creates a range of potential benefits that lead to lower energy bills for UK consumers.

### Interconnection to EU energy markets allows the UK to buy cheaper energy

The UK's pre-tax electricity prices are among the most expensive in the EU (see Figure 1). Being able to buy cheaper energy from the continent through linked EU electricity markets is saving the UK about £90 million a year at current levels of interconnection; but this is expected to rise to £160 million a year with more interconnectors by the early 2020s.<sup>3</sup>



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### Interconnection reduces the cost of renewables, by allowing greater sharing of electricity balancing services

UK renewables now supply nearly a quarter of our electricity.<sup>4</sup> As they grow further, they will require more system balancing resources. Research shows that sharing balancing resources with our EU neighbours could save the UK £3 billion a year in system costs.<sup>5</sup>

More co-ordinated and strategic grid planning across onshore, offshore and cross border regimes could save the UK an additional £1.5 billion to £10 billion by 2030.<sup>6</sup>

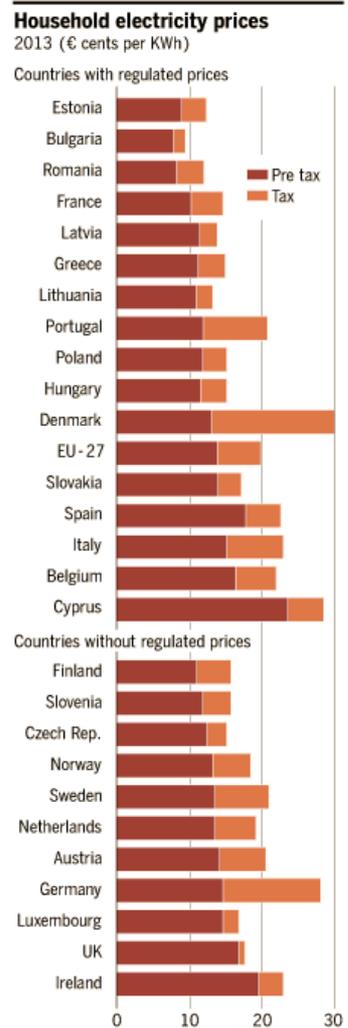
### Reducing the cost of capital for renewable energy

The number of member states involved in EU decision-making can mean a protracted policy design process. However, this is seen as a benefit by investors, especially those operating in sectors with capital intensive assets, because, once set, decisions are seen as more stable and less subject to short term political intervention. This has reduced the political risk of investment for renewable energy and has contributed to reducing the cost of capital for these projects.

“Progressive integration of the GB energy market with other countries in Europe is in the best interests of efforts to deliver clean, affordable and secure supplies of energy. Prices are going to become really important for British consumers and we need to do everything we can to make sure that the market in Europe is as competitive as possible” **Alistair Phillips-Davies, CEO SSE**

“It’s very hard to see what we can do to drive competition in Europe if we are outside. That’s why I think we’re better off in... the UK needs to be fully inside, driving a competitive Europe, rather than outside, because at that point nobody will listen.” **Iain Conn, CEO Centrica**

Figure 1





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## Security of energy supply

### **A united EU can stand up to Russian dominance of gas supply**

A single market for energy in the EU would create a co-ordinated response to Russia's dominance of gas markets in Europe. Currently, EU countries negotiate individual gas contracts and pipeline deals with Gazprom, leading to inflated prices and a strategic European reliance on Russian gas. This 'divide and conquer' approach has enabled Russia to use gas as a political weapon. The EU is currently considering alternative scenarios, where market-based prices would be set at trading hubs across the continent. Contracts would use the prices as a transparent reference. The more united the EU is, the better able member states will be to stand up to Russia's political use of energy supply.

### **Interconnection: an extra option for securing supply**

Greater electricity interconnection and shared demand response measures with the EU provide the UK's system operator National Grid with additional options to prevent supply shortages. Exiting the internal energy market could mean 3.4GW of new interconnection not going ahead.<sup>7</sup>

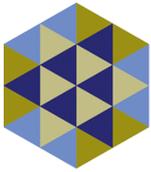
### **Trade competitiveness and innovation**

UK entrepreneurs developing new low carbon goods and services rely on easy access to the EU, as the largest and closest export market, to be competitive. Since 1992, bilateral trade with EU member states has more than trebled and accounts for roughly 3.5 million jobs in the UK, around 11 per cent of the workforce. For example, the UK is developing a specialisation in ultra-low emissions vehicles (ULEVs). Overall, 53% of the sector's output is exported to the EU, and the industry's own assessment is that "collaboration with EU counterparts and access to EU funding will be key enablers in technology leadership and creating a competitive supply chain for the UK's ULEV industry"<sup>8</sup>

## Climate policy and ambition

### **Collective action**

The UK has led the world in addressing climate change and has been able to do so because of its position within the EU. Collective EU action on climate change gives all member states the confidence to reduce emissions together, safe in the knowledge that their neighbours are doing the same. As a result, the UK has persuaded the EU to adopt its own more ambitious domestic target for 2030 greenhouse gas emissions, allowing it to cut emissions in step with major trading partners. By agreeing collective targets and policy mechanisms, since 1990, the 28 member states of the EU have collectively reduced CO<sub>2</sub>e emissions by 23 per cent, despite EU GDP growing by 46 per cent.<sup>6,9</sup>



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The EU's 2020 climate and energy package has had a major impact on European and global low carbon investment and politics. It was the foundation for the largest market for renewables and carbon trading in the world.

## A stronger international voice

The EU, with the UK as one of its key members, has been the most progressive force for an ambitious response to climate change since the first Conference of Parties of the UN Framework Convention on Climate Change in 1995.

By negotiating on climate change as a bloc, the EU wields a greater level of influence to encourage other countries around the world to reduce emissions.

The UK has had substantial influence over the EU's negotiating positions and leverages its impact by operating within the EU bloc. It has many respected experts and has had a significant impact on the positions developed by the EU's negotiating team at international climate talks. This is exemplified by the fact that the UK's chief climate negotiator is also the lead negotiator for the EU.

The success of the Paris climate agreement in 2015 was largely due to the formation of the High Ambition Coalition, which the EU played a leading role in creating and developing. Within the EU itself, the UK founded the Green Growth Group, which helped to shape the EU's approach to the Paris agreement.

Without the EU's ongoing ambitious leadership on climate change, the likelihood of countries around the world forging a solution in good time would be significantly lower.





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## About E3G

E3G is an independent, non-profit European organisation operating in the public interest to accelerate the global transition to sustainable development. E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change. E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere.

[www.e3g.org](http://www.e3g.org)

## About Green Alliance

Green Alliance is a charity and independent think tank focused on ambitious leadership for the environment. We have a track record of over 35 years, working with the most influential leaders from the NGO, business and political communities. Our work generates new thinking and dialogue, and has increased political action and support for environmental solutions in the UK.

[www.green-alliance.org.uk](http://www.green-alliance.org.uk)

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## ENDNOTES

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<sup>1</sup> Vivid Economics (2015) The impact of Brexit on the UK energy sector (report) ([link](#))

<sup>2</sup> EU Commission (2016): Progress made in cutting emissions ([link](#))

<sup>3</sup> Vivid Economics (2015) The impact of Brexit on the UK energy sector (presentation) ([link](#))

<sup>4</sup> Renewable sources of energy: Chapter 6, Digest of United Kingdom Energy Statistics (DUKES) (2015) ([link](#))

<sup>5</sup> Imperial College: Transmission planning and regional power market integration: The opportunities for UK Energy Policy (2015) ([link](#))

<sup>6</sup> Booz&co (2013), Benefits Of An Integrated European Energy Market ([link](#))

<sup>7</sup> Vivid Economics (2015) The impact of Brexit on the UK energy sector (presentation) ([link](#))

<sup>8</sup> KPMG (2014) The UK Automotive Industry and the EU ([link](#))

<sup>9</sup> EU Commission: Progress made in cutting emissions (2016) ([link](#))