



BEIS Committee - Financing Energy Infrastructure Inquiry Written evidence submitted by Scottish Renewables

Executive Summary

- UK Government energy policy has had very clear impacts on some areas of the renewable energy industry harming its ability to manage risk and draw in finance
 - Reducing the cost of capital is one of the key drivers of the downward trend of cost within the renewable energy sector
 - Higher costs in some areas mean the ability for generators to compete is unequal within the UK market
 - Policy certainty as well as regulatory stability and predictability are key underpinning elements of investor confidence
1. Scottish Renewables is the representative body for the renewable energy sector in Scotland, working to grow a sustainable industry which delivers secure supplies of low-carbon, clean energy for heat, power and transport at the lowest possible cost. We represent around 270 organisations ranging from large suppliers, operators and manufacturers to small developers, installers and community groups, and companies right across the supply chain.
 2. We welcome the opportunity to input to the Committee's Inquiry on Financing Energy Infrastructure.

How do recent investment decisions on nuclear and trends in low carbon investment affect the UK investment outlook for energy infrastructure?

Is there a case for changing the Government's current approach to delivering a low cost, low carbon energy system? How could the 'nuclear gap' be filled?

3. Our sector is at a critical point. Among our most mature technologies, solar PV and onshore wind have reduced costs in recent years to the point that they are now the cheapest forms of new-build electricity generation. Our level of acceptance and attractiveness to the public is at an all-time high, however the financial support mechanisms controlled by the UK Government which have driven deployment to date have each been abruptly removed or quickly eroded.
4. The early closure of the Renewable Obligation scheme, steep depressions in rates of support offered by both the Feed-in Tariff and Renewable Heat Incentive and the exclusion of onshore wind and large-scale solar PV from the Contracts for Difference scheme have all created a challenging environment for renewable energy development in the UK. The latter, in fact, locks the [cheapest forms of any energy generation](#) out of the market during the term of a Government which was elected on a manifesto commitment "that the UK should have the lowest energy costs in Europe".
5. That hostile investment climate has contributed in no small part to a drop-off in deployment of our most affordable and scalable energy generation technologies at a time when a supply gap

looms, and when uncertainty over Brexit puts the future of the interconnectors on which the UK relies for around 5% of its power at risk.

6. The UK Government's support for offshore wind has been welcome. Its commitment to the technology through ongoing competitive auctions has [driven down costs](#) at a rate which would have seemed incredible just a handful of years ago. The evidence of that price journey, though, has not persuaded Government to shift its attitude to green energy technologies which are supported through other schemes (as outlined above), or indeed to recognise, to date, the different needs of other promising technologies which have not yet achieved the economies of scale which would allow them to compete in Contracts for Difference auctions.
7. The UK Government's current approach to renewable energy at all scales has also largely failed to recognise the positive effects low-carbon energy generation has not just on the UK's power mix, but on its economic health as a whole. Renewables power the growth of other sectors in a way that is more sustainable and inclusive by supporting the development of low-carbon assets and energy generation that is more widely distributed than our current energy system. As part of this, the decarbonisation of our heat supply – in addition to energy efficiency measures – through the roll-out of renewable heat solutions and low-carbon district heat networks in both rural (off-gas) and urban areas will be transformational for communities and businesses across the country.

How attractive is the UK energy sector for investment compared to other countries? Are there particular technologies which are more – or less – attractive to investors under current arrangements?

8. EY's [Renewable Energy Country Attractiveness Index](#) report ranks 40 countries on the attractiveness of their renewable energy investment and deployment opportunities. The UK slipped from seven to eight in the list between 2017 and 2018 and scored particularly badly when investment attractiveness of solar PV and hydropower were considered.
9. Despite energy being a reserved matter, the publication in December 2017 of the Scottish Government's Energy Strategy and its headline target to deliver 50% of Scotland's energy demand from renewable sources by 2030, as well as the inauguration of the Scottish National Investment Bank, have offered strong signals to industry of its commitment to low-carbon energy deployment, meaning the investment climate for renewable energy is not level across UK regions.
10. Scotland's geography has also lent itself to the development of 'islanded' grid networks, where innovations like the integration of battery storage with small-scale renewables (Eigg and Canna) and larger-scale projects (Fair Isle), as well as renewable electrically-powered electric heating (Applecross). These projects are at the very cutting edge of this technology globally but have relied on investment from either the Scottish Government, EU or third sector. The UK Government's Industrial Strategy's Clean Growth Grand Challenge sets out to "maximise the advantages for UK industry from the global shift to clean growth – through leading the world in the development, manufacture and use of low carbon technologies, systems and services that cost less than high carbon alternatives". While these technologies are central to the UK's trajectory towards that future, the financial climate in which projects like this are operating in the UK is challenging, with the end of the Feed-in Tariff last month (and the uncertainty surrounding its replacement) adding to this promising sector's woes.
11. Cost of capital was one of the main drivers of the cost reductions which have been seen in offshore wind in recent years. The Contracts for Difference (CfD) processes, which emerged from the UK's Electricity Market Reform, are predicated upon price competition. Aspects of Scotland's geography, such as deeper waters offshore and consequently higher transmission charges, make projects here relatively less competitive because the risks attached are perceived, and priced, higher in capital markets. Some of this can be offset by resource abundance here in Scotland, but there are areas where a level playing field on costs is simply not achievable, and therefore our ability to compete is impinged. This will reduce our success rate in a system such as CfD and effectively lock away the associated jobs and investment benefits that can be achieved through projects of CfD scale.

How has Government policy improved the UK energy investment environment over the last three years?

12. The UK Government's Industrial Strategy and Clean Growth Strategy have signalled a commitment to continue a decarbonisation journey which has been one of the fastest in Europe, but continued policy hiatus on onshore wind and large-scale solar PV has made the aims of both challenging to fulfil.
13. The impacts of Brexit cannot be overstated, with Bloomberg New Energy Finance reporting 2017 Q3 renewables investment [fell 46% year-on-year](#) amid speculation around how the outcome of Brexit will impact power exports to the European Union and the price of imported equipment. Renewable energy is a global business, and Scottish Renewables' anecdotal experience has shown investors who may have been considering investing in the UK are considering the impacts of the UK's exit from the EU before committing funds here. According to [Norton Rose Fulbright](#), following Brexit, unless the UK remains part of the EEA, the UK would be released from its renewable energy targets under the EU Renewable Energy Directive and from EU State aid restrictions - potentially giving the Government more freedom both in the design and phasing out of renewable energy support regimes. Uncertainty over any future changes, married to the uncertainty already produced by politically-motivated changes in support schemes for low-carbon deployment, will only serve to complicate an investment climate and potentially deter foreign capital.

What types of investor can we expect to finance future UK energy infrastructure? What are their criteria for investment, including on risks and returns? Does it matter if investors for specific technologies are largely from overseas?

14. While established investors such as pension funds are now financing both new-build and portfolio acquisitions across renewable energy, notably in onshore wind, most projects are still developed by small companies which rely on policy certainty at a UK level in order to secure funds.
15. These types of investors will be easily deterred by rapid and unpredictable changes in policy, like those seen in 2015, as well as by government commitments to technology such as fracking, which directly contradict a stated agenda of decarbonisation.
16. It is also important to consider the scale of investment required in renewable energy projects. Developing nationally-significant infrastructure like offshore wind and larger onshore wind projects requires large amounts of capital, which it is unrealistic to expect domestic investors to be able to provide. Instead, projects are being developed on a global basis. For example, the Beatrice Offshore Windfarm, currently being deployed off Scotland's east coast, is one of the largest private investments ever made in UK infrastructure, at £2.6 billion. Investors come from Denmark (35%), China (25%) and the UK (40%).
17. We expect to see future global growth in both fixed and floating offshore wind farms, which are highly-complex projects and need specific physical infrastructure to enable them to be delivered both within the domestic market and across future export markets. These export opportunities will come through proving competence in a domestic market or early-stage market elsewhere, but will require concerted effort from other areas of Government and its arms-length agencies. As well as investment required in the wind farm itself, future growth will be predicated on the availability of finance for very large investment such as port and harbour facilities, or serial production manufacturing facilities. These different investments would require a different approach to risk and return appetite, but if successful it may be that the investment would support more than one sector (for example oil & gas or nuclear new build activity) but be based on an anchor, renewables project in the first instance.

What role should the Government play in providing financial support and sharing risks for new energy infrastructure?

Are existing financing mechanisms, notably the Contracts for Difference, fit for purpose? Are there any practical issues, or potential unintended consequences, that could affect the feasibility of implementing alternative support models (such as a Regulated Asset Base)?

18. In terms of unintended consequences, there is an issue with introducing alternative support models, such as RABs, into particular parts of the generation market such as nuclear. RABs could offer stabilisation/ protection of revenue and potential cost of capital benefits not open to other generators who presumably will continue to be working under continual downwards cost pressures through mechanisms such as the CfD. This could create an unlevel playing field at a time when decarbonisation of the system making best use of the cheapest forms of generation should be the clear objective.
19. Particular consideration should be given to technologies such as pumped storage hydro which have very specific systems benefits and, while presenting high upfront capital costs, are very efficient. The current system and finance mechanism do not recognise their value in terms resilience, as a storage mechanism and a system tool but treats them as generation without these additional benefits. Their cost profile and benefits delivered over the lifetime of the asset are relatively unique and ways to reduce barriers to deployment should be explored.
20. The Paris Agreement, to which the UK is a signatory, will require a major transformation of the global energy system. Renewable power generation is already leading the way in decarbonising the global power sector, but this will not be enough on its own. Deep decarbonisation must also take place in harder-to-reach sectors like heating and transport – and progress here so far is much more limited. Technologies like hydrogen and biofuels will be needed if we are to tackle that deep decarbonisation – and the development of technologies and systems which will link them to both new and existing renewables generation will be of interest to investors around the world. Indeed, [research by EY](#) and the [International Renewable Energy Agency](#) shows “green” hydrogen, generated by electrolysis from renewable power, offers a potential solution to a number of key system challenges: storing large volumes of intermittent renewable energy, as a carbon-free gaseous fuel to enable decarbonisation of heat and transport sectors alongside other technologies, and as an alternative way to mitigate the large investment needed for electrification.
21. Additionally, and as discussed above, earlier-stage technologies which have not yet been able to cut costs far enough to compete in Contracts for Difference auctions also present an enormous opportunity for the UK. The UK has 25% of Europe’s tidal power resource and 10% of its wave energy resource, so is perfectly placed to develop these technologies and capitalise on an existing first-mover advantage, detailed in a report – [UK Marine Energy 2019: a new industry](#) – compiled by the Marine Energy Council earlier this year. A lack of innovation funding from the UK Government – particularly in the context of income from funds like Horizon 2020, which have contributed millions to the marine energy sector – is hampering development of these technologies across the UK, despite Scottish Government’s commitment to fund marine energy through [Wave Energy Scotland](#) and [Saltire Tidal Energy Challenge Fund](#). Research by the University of Strathclyde has [already criticised](#) “other barriers [including] a fast changing, complex and poorly coordinated policy landscape” which have “undermined a long-term wave energy strategy and encouraged the duplication of funds” which have boosted the sector to date.
22. It is critical that early-stage technology like marine, floating offshore wind and smart and micro-grids, as well as enabling technologies such as those which facilitate the production of ‘green’ hydrogen, receive accurately-targeted support, and that that support recognises the risks inherent in developing new technology of any type. In this situation public funding is often required to kick-start investment and progress as well as getting the solutions required to a point where private sector investment could then meet their needs. Government intervention in the funding of early-stage projects of this type pays dividends when the potential global market size is considered. For example, it is [forecast](#) that the global ocean energy industry will be worth £76 billion by 2050. The value of maintaining the UK’s global

lead in developing these technologies is clear, but to realise these benefits the sector requires policy certainty and a viable route to market in the UK.

What further steps should the Government take to increase investor confidence in the UK energy sector?

23. The UK's energy sector, as referenced elsewhere in this evidence, is suffering from multiple, overlapping policy failures which have left investors – particularly those from abroad, on which large-scale projects like the Beatrice Offshore Windfarm (£2.6bn) rely –unwilling to take on the risks associated with uncertainty.
24. We would argue that removal of that uncertainty, perhaps through further commitment to statements made in the UK Government's Industrial Strategy and Clean Growth Strategy, is crucial to protect the reputation of the UK as a place where low-carbon investors can do business.
25. The further deployment of renewable energy is critical to delivering decarbonisation and clean growth. Regulatory stability and predictability are a key underpinning element of investor confidence. We have significant concerns about proposals outlined in the Targeted Charging Review (TCR) are of particular detriment to the renewable energy industry and acts as an example of where a lack of regulatory stability and predictability could jeopardise further project development, damage investor confidence in the sector, and threaten schemes already operational and/or with support contracts secured (as acknowledged by Ofgem in the consultation document).