



House of Commons  
Welsh Affairs Committee

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# Renewable energy in Wales

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**Second Report of Session 2021–22**

*Report, together with formal minutes relating  
to the Report*

*Ordered by the House of Commons  
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## Welsh Affairs Committee

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## Summary

Around 58,000 people work in the energy and environment sectors in Wales, generating over £4.8 billion in revenue. Rapid innovation is taking place in areas of marine energy initiatives and low-carbon projects. Wales currently has 86 operational wind farms, the potential to generate around 10 GW from marine energy, a wide mix of hydro-related companies, a mature solar energy sector and a tidal range capable of providing significant generation opportunities along the Welsh coastline. Renewable generation capacity has grown from 789 megawatts (MW) in 2010 to 3,540MW in 2019, an increase of 449%.

However, further growth will be needed in the near future with ambitious targets set by the UK Government for carbon emissions to be reduced by 78% by 2035, and by the Welsh Government to meet 70% of Wales' electricity demand from Welsh renewable energy sources by 2030.

On 23 November 2020, we launched our inquiry into Renewable Energy in Wales. The inquiry focused on how the UK Government, in co-operation with Welsh Ministers, can best support the development of renewable energy in Wales. Our report looks at the following areas:

- Opportunities for Wales
- Subsidy schemes and finance
- Renewable energy and the local economy
- Issues facing the renewable sector in Wales

### **Opportunities for Wales**

Wales faces significant opportunities across a broad range of renewable energy sources, including onshore and offshore wind, solar and wave and tidal energy. Our report pays particular attention to the role that The Crown Estate plays in helping to unlock some of this potential. Our report acknowledges the crucial role that The Crown Estate plays in managing the UK's seabed and the difficult balance it has to strike between protecting our natural resources and in providing opportunities via seabed leases for economic development to take place in British waters.

Over the course of our inquiry we heard significant demand from energy companies for additional seabed leases to be made available, and our report welcomes the recent announcement from The Crown Estate of a new leasing opportunity for early commercial-scale floating wind projects in the Celtic Sea. This new leasing opportunity will be particularly significant for the marine sector in Wales and, through its focus on projects of circa 300MW in scale, will be an important step towards the UK Government's ambition to deliver 1 GW of floating wind by 2030. We encourage The Crown Estate to continue to work proactively with developers to ensure that adequate leasing rounds continue to be offered on a regular basis in the future. We also recommend that the

Department for Business Energy and Industrial Strategy work with The Crown Estate and energy developers to explore how there can be greater alignment of timeframes for, as well as clearer communications about, leasing opportunities.

### **Subsidy schemes and finance**

The Contracts for Difference (CfD) scheme is the UK Government's main mechanism for supporting low-carbon electricity generation. CfDs incentivise investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with direct protection from volatile wholesale prices, and they protect consumers from paying increased support costs when electricity prices are high.

While we conclude that the Contracts for Difference (CfD) scheme has been highly successful in supporting renewable energy development in Wales, our report argues that emerging marine technologies such as wave and tidal require additional support to bridge the gap between innovation funding and CfDs. Our report recommends that the UK Government must address the funding gap for emerging marine technologies or risk negatively impacting their development.

Another subsidy scheme in this sector was the Feed-in Tariffs (FiTs) scheme. FiTs were hugely successful in attracting investment in small-scale renewable electricity generation. The scheme allowed applicants to apply to get payments from their energy supplier if they generated their own electricity, for example with solar panels or a wind turbine. The FiTs scheme was closed to new applicants in April 2019 and was replaced by the Smart Export Guarantee (SEG) in January 2020.

We express concern, in this report, that the Smart Export Guarantee has been widely criticised by small-scale renewable developers as being too limited in scope and for its apparent lack of ambition. This is in marked contrast to the success and popularity of the FiTs scheme. We call upon the UK Government to explore re-introducing generation tariffs to the Smart Export Guarantee in order to adequately support small-scale renewable energy generation. The UK Government should also examine bringing back a fixed tariff to incentivise further small-scale energy generation.

### **Renewable energy and the local economy**

Our report explores the implications of the shift to net zero for local communities and for local workforces. The shift to a net zero economy will be one of the most significant economic transformations in decades. It will have far reaching consequences for communities and individuals across the UK, for livelihoods and lifestyles. However, while this decarbonisation journey offers potentially rich rewards, it also contains significant risks for the Welsh economy.

Our report therefore calls upon the UK Government to work with the business sector and stakeholders including the Welsh Government to develop a comprehensive strategy for upskilling the current workforce, leveraging new opportunities and tackling the barriers, including grid constraints, that currently threaten to undermine the potential gains from the shift to a net-zero economy. As a sign of the UK Government's commitment

to securing progress at the COP26 summit, as well as of its broader net-zero agenda, we also call on the UK Government to convene, prior to the COP26 summit this Autumn, a high-level panel of stakeholders to begin work on a reskilling strategy.

The UK Government's Ten Point Plan pledges £12 billion of government investment and envisages up to three times that from the private sector to create and support 9,000 jobs in clean energy across the UK within the current Parliament, and up to 250,000 by 2030. Our report notes that Wales's natural resources, coastline and all round renewable energy potential should mean that it benefits significantly from the UK Government's Ten Point Plan for the Green Industrial Revolution. However, we are concerned that the UK Government has provided no information on how many of the jobs envisaged by the plan will be located in Wales. Our report calls for a clear vision, and a specific plan, for job creation from the UK Government. Using the Ten Point Plan as a starting point, the UK Government should develop a Wales specific plan that provides a detailed route-map and aspirations, including in terms of job numbers, for the Ten Point Plan in Wales.

### **Issues facing the renewable sector in Wales**

The final chapter of our report looks at a number of issues with implications for Wales' ability to meet its renewable energy generation potential.

One such issue is intergovernmental relations. Our report emphasizes that effective collaboration and co-operation between the UK and Welsh governments will be essential if Wales is to achieve net zero by 2050. Significant issues such as grid capacity and port infrastructure, in particular, require cross-government working if they are to be resolved, and there are a number of key areas where there are common interests and opportunities for further collaboration between the UK and Welsh governments. We call on the UK Government to focus on maintaining a close working relationship with the Welsh Government, and recommend that, where renewable energy projects in Wales are under consideration, the UK Government should invite Welsh Government Ministers to attend and participate in the Ministerial Delivery Group.

Grid capacity was another issue raised by a number of witnesses. We received a considerable amount of evidence arguing that grid capacity issues are currently significantly hindering renewable energy deployment throughout Wales, and are likely to continue to do so in the future. We call on the UK Government to work in collaboration with Ofgem to plan anticipatory investment in Wales, so that the significant uplift in renewables generation which is likely to occur is not handicapped by our currently severe grid constraints.

Finally, our report discusses the issues with the supply chain and port infrastructure that must be addressed if the country wants to take advantage of the opportunities available for Wales as a potential renewables powerhouse. We call on the UK Government to make clear the likelihood of further funding of ports infrastructure in Wales to support the emerging offshore wind sector. Our report notes that Freeports are one current area where significant investment is being discussed by the UK Government, and our report urges the UK and Welsh governments to reach agreement, as soon as possible, on the funding arrangements for a freeport in Wales. We recommend that, if these discussions

can be unblocked, the competition process for a Welsh freeport should place a heavy emphasis on renewable and net-zero considerations and should look to facilitating investment in the development of renewable energy generation.

Our report also acknowledges the importance of Wales looking elsewhere for best practice. In particular, we recommend that the UK and Welsh governments, as well as port operators, and energy companies with developments in Wales, should work together to learn the lessons from the North East of England, where a clear strategy, focus, and public and private sector investment have led to the Port of Blyth becoming a hub for renewable energy development and jobs.

# 1 Introduction

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## Context

### *Energy Generation in Wales*

1. Around 58,000 people work in the energy and environment sectors in Wales, generating over £4.8 billion in revenue. Rapid innovation is taking place in areas of marine energy initiatives and low-carbon projects. Wales currently has 86 operational wind farms, the potential to generate around 10 GW from marine energy, a wide mix of hydro-related companies, a mature solar energy sector and a tidal range capable of providing significant generation opportunities along the Welsh coastline.<sup>1</sup>
2. Wales harnesses energy from a diverse range of renewable energy sources. Of these sources, wind (both onshore and offshore) provides the most renewable electricity. 145 MW of new renewable electrical capacity was commissioned in Wales in 2019. This brings the total electrical capacity to 3,372 MW from 56,807 installations.<sup>2</sup> Despite this increase in capacity, only 26.9% of Wales' electricity generation 2019 came from renewables - as opposed to 61.1% in Scotland, 44.6% in Northern Ireland and 33% in England.<sup>3</sup>
3. The rapid growth of renewable energy has been a critical feature of the decarbonisation of the power sector. In Wales, renewable generation capacity has grown from 789 megawatts (MW) in 2010 to 3,540MW in 2019, an increase of 449%. 7.5% of the UK's current renewable energy generation capacity is in Wales, compared to 63.3% in England, 25.2% in Scotland and 4% in Northern Ireland.<sup>4</sup> According to the Welsh Government, in 2019 there were 72,834 renewable energy projects in Wales, 3,841 more than in 2018.<sup>5</sup>

### *Current targets*

4. In April 2021, the Prime Minister, the Rt Hon Boris Johnson MP, announced new climate change commitments which are intended to set the UK on course to cut carbon emissions by 78% by 2035. The Prime Minister's commitments, which will become law, bring forward the previous target for reducing carbon emissions by 15 years. This would be a world-leading position. For the first time, climate law will be extended to cover international aviation and shipping.<sup>6</sup>
5. In 2017, the Welsh Government announced their target of meeting 70% of Wales' electricity demand from Welsh renewable electricity sources by 2030. In 2019, it was estimated that over half (51%) of Wales' energy needs were met through renewable energy generation. The Welsh Government has additionally set a target for at least 1 GW of renewable energy capacity to be locally owned by 2030. Wales is 83% of the way towards

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1 Trade and Invest Wales, [Energy and Environment](#)

2 Welsh Government (September 2019), [Energy Generation in Wales 2018](#)

3 Department for Business, Energy and Industrial Strategy (22 December 2020), [Electricity generation and supply in Scotland, Wales, Northern Ireland and England, 2016 to 2019](#)

4 UK Government. [\(REW0044\)](#)

5 Welsh Government (October 2020), [Energy Generation in Wales 2019](#)

6 UK Government (20 April 2021), [UK enshrines new target in law to slash emissions by 78% by 2035](#)

meeting its local ownership target—with 825 MW of renewable energy capacity currently under local ownership. There is an additional expectation for all new energy projects in Wales to have at least an element of local ownership from 2020.<sup>7</sup>

## COP26

6. The 26th UN Climate Change Conference of the Parties (COP26) will be held in Glasgow 1–12 November 2021. The summit will bring together heads of state, climate experts and campaigners to agree coordinated action to tackle climate change. The summit will provide a significant opportunity for Wales to showcase its achievements in fighting climate change and lowering emissions on a global stage. At our Ministerial session, David T.C. Davies MP, Under-Secretary of State for Wales, informed us that the COP President has been meeting regularly with the Welsh Government and that Welsh stakeholders are already applying to be present at the conference.<sup>8</sup>

## Our inquiry

7. On 23 November 2020, we launched our inquiry into Renewable Energy in Wales. The inquiry focused on how the UK Government, in co-operation with Welsh Ministers, can best support the development of renewable energy in Wales.

8. To inform our work we have taken evidence from a range of stakeholders, including academic and financial experts, industry representatives, renewable energy developers and UK Government ministers. We also received written evidence submissions from various organisations, and we would like to thank everyone that contributed to our inquiry. A full list of those who have provided oral and written evidence can be found at the back of this report.

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7 Welsh Government (September 2019), [Energy Generation in Wales 2018](#)

8 [Q155](#).

## 2 Opportunities for Wales

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### Onshore Wind

9. Offshore renewable energy tends to dominate current discussions of future renewable energy development; however, onshore renewable energy projects have also made significant contributions to renewable energy generation in Wales. In their written evidence, EDF stated that “onshore wind and solar are very low cost, mature technologies which can be deployed at pace”. According to EDF, the development of these technologies has been proven “to create jobs, community investment opportunities and provision of direct investment into communities across the UK”. Their submission went on to contend that the “same economic benefits can be realised if further investment is made into onshore renewable development in Wales”.<sup>9</sup>

10. Onshore wind plays a major role in Welsh renewable electricity generation, accounting for 38% of renewable generation in 2019.<sup>10</sup> Increasing turbine size and cheaper finance, as well as more efficient construction and operations, have been credited with substantially reduced costs. Ongoing onshore wind projects in Wales include the Garn Fach wind farm in Powys, which has been developed by EDF. The project is likely to consist of up to 22 turbines, each producing around 5MW. That’s 110MW capable of generating enough low carbon electricity for the domestic needs of 66,000 households.<sup>11</sup>

### Solar

11. The Committee on Climate Change estimates the UK as a whole will need 54GW of solar PV by 2035 to achieve the Government’s net zero targets, representing a deployment rate of roughly 3.7GW per annum through to 2050.<sup>12</sup> Wales is able to contribute to this effort, with 1.2GW in the planning pipeline and of this 250MW having already secured planning permission. Solar is also credited as being a powerful job creator and an inherently rapid technology to deploy, as well as one of the cheapest forms of power generation today, with costs of solar PV having fallen by over 80% in the last decade.<sup>13</sup>

12. Rooftop solar, particularly the residential sector, benefits from very short project lead times alongside minimal design and permitting requirements. Current projections show that due to the high labour intensity of solar as many as 1.5 million jobs could be created across the solar value chain throughout Europe by 2030. Workers can easily be up skilled to deliver the installation, operation, and maintenance of solar projects.<sup>14</sup>

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9 EDF. [REW0033](#).

10 Welsh Government (September 2019), [Energy Generation in Wales 2018](#)

11 Smart Energy International (10 January 2020), [EDF announces 110MW Welsh onshore wind farm](#)

12 The Committee on Climate Change (May 2019), [Net Zero Technical report](#)

13 Solar Energy UK. [REW0037](#).

14 Solar Energy UK. [REW0037](#).

## Offshore Wind

13. Offshore wind plays a major role in Welsh renewable electricity generation, accounting for 29% of renewable generation in 2019.<sup>15</sup> Floating offshore wind has strong deployment potential in Welsh waters, particularly in the Celtic Sea off the coast of South West Wales and England where wind speeds are high and deep seas are accessible from major strategic ports.<sup>16</sup> In a recent report, the Offshore Renewable Energy Catapult advised that there could be as much as 50GW of electricity capacity available in the Celtic Sea in Irish and UK waters. It is estimated that the first GW in the Celtic Sea could potentially deliver over 3,000 jobs and £682m in supply chain opportunities for Wales and Cornwall by 2030.<sup>17</sup>

14. Welsh waters are already home to one of the largest wind farms in the UK: Gwynt y Môr, based off the north coast of Wales. Run by RWE, Gwynt y Môr, with an installed capacity of 576 MW, generated 1.9TWh of electricity in 2020. Gwynt y Môr created over 700 jobs during construction and over £90 million was spent within Wales. Since becoming operational, 100 long term, skilled jobs have been created with the wind farm typically investing around £8 million into the Welsh economy each year. A project is currently ongoing to double the capacity of the farm.<sup>18</sup>

## Wave and Tidal

15. According to the Offshore Renewable Energy Catapult (OREC), the UK's practical resource has been estimated at 15GW for tidal stream and 23GW for wave energy.<sup>19</sup> Written evidence received from the Offshore Renewable Energy Catapult argues that tidal stream technologies are ready for pre-commercial deployment, having made significant progress in reliability and cost levels.<sup>20</sup> The Anglesey Demonstration Zone has been designated by The Crown Estate for the deployment of tidal energy devices.<sup>21</sup> This has been recognised by Welsh and UK Government in the funding of the Morlais Tidal Demonstration Zone off Anglesey, through the North Wales Growth Fund.<sup>22</sup>

16. A study commissioned in 2006 by the Welsh Government concluded that Pembrokeshire has the highest concentration of wave resource in Wales equating to an indicative capacity of up to 5600MW. Pembrokeshire is home to one of the sites identified by The Crown Estate as being suitable for wave demonstration activities. Located 13km offshore and covering an area of 90km<sup>2</sup>, the Pembrokeshire Demonstration Zone offers a Mean Wave resource level (annual mean power density) of 19.3kW/m to wave array developers.<sup>23</sup> Organisations such as Marine Energy Wales have argued that wave energy could add a net cumulative benefit to the UK of £4 billion and 8,100 jobs by 2040. Predictions for the whole of the UK see the sector supporting a total of 22,600 jobs by 2040.<sup>24</sup>

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15 Welsh Government (October 2020), [Energy Generation in Wales 2019](#)

16 Welsh Government. [REW0042](#).

17 Offshore Renewable Energy Catapult (2020), [Benefits of floating offshore wind to Wales and the South West](#)

18 The Crown Estate. [REW0041](#).

19 Offshore Renewable Energy Catapult (2018), [Tidal Stream and Wave Energy Cost Reduction and Industrial Benefit](#)

20 Offshore Renewable Energy Catapult. [REW0019](#).

21 Marine Energy Wales, [Anglesey Demonstration Zone](#)

22 [Morlais Energy](#)

23 Marine Energy Wales, [Pembrokeshire Demonstration Zone](#)

24 Marine Energy Wales. [REW0039](#).

## The work of the Crown Estate

17. The Crown Estate is an independent commercial business, created by an Act of Parliament, with a diverse portfolio of UK buildings, shoreline, seabed, forestry, agriculture, and common land. The business generates valuable revenue for the government and over the last 10 years has contributed £2.6 billion to the Consolidated Fund. The management of The Crown Estate in Scotland was devolved in 2017.

18. The Crown Estate has played an important role to date in expanding offshore renewable energy capacity in Welsh waters. It is effectively the landlord of the seabed and is responsible for balancing a range of maritime and stakeholder interests when exercising its duties.<sup>25</sup>

19. In their written evidence, The Crown Estate firmly emphasised its belief that Welsh waters offer a significant economic and environmental opportunity for the country, as well as that there is potential to generate a substantial proportion of the nation's clean energy needs by developing established technologies, such as offshore wind. According to The Crown Estate, in light of the UK's net zero target, and the Energy White Paper, the scale of development that we are likely to see across Welsh waters has grown significantly. The seabed is getting busier, and The Crown Estate has recognised that a new approach is needed to optimise the environmental, economic and social potential of the seabed.<sup>26</sup>

### Seabed licensing

20. Seabed licensing has been cited as key for developing offshore wind in Welsh waters. In its written evidence, RWE advised the “UK Government to work in collaboration with developers like RWE to ensure that there are adequate seabed leases available from The Crown Estate in Welsh waters at an appropriate scale to deploy innovative projects”.<sup>27</sup> In our previous oral evidence session, Rhys Wyn Jones from RenewableUK Cymru singled out resolving issues with seabed licensing as one of the key determinants of renewable development success for the decade ahead.<sup>28</sup>

21. A recent report by the ORE Catapult, suggested that a key enabler to cost reduction of floating offshore wind in Wales would be a Crown Estate leasing round within the Celtic Sea within the next two years, with clear commitments to future rounds.<sup>29</sup>

22. In March 2021, The Crown Estate announced that it was commencing work to design and deliver a new leasing opportunity for early commercial-scale floating wind projects in the Celtic Sea. According to The Crown Estate, this new leasing process will focus on projects of circa 300MW in scale, “up to 3 times larger than any rights previously awarded to floating wind in the UK”.<sup>30</sup>

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25 UK Government. [\(REW0044\)](#)

26 The Crown Estate (February 2021). [Written evidence \(REW0040\)](#).

27 RWE [REW0038](#).

28 Welsh Affairs Committee (January 2021). [Oral evidence: Renewable energy in Wales, HC 1021. Q2.](#)

29 ORE Catapult (January 2021). [Floating Offshore Wind: Cost Reduction Pathways to Subsidy Free.](#)

30 The Crown Estate (24 March 2021). [The Crown Estate to create new floating wind leasing opportunity in the Celtic Sea](#)

23. The Crown Estate plays a crucial role in the management of the UK's seabed and in ensuring that economic development arising from leases to developers works in tandem with the conservation and protection of our natural resources. We recognise that this is not an easy balance and we thank The Crown Estate for their hard work and the judicious way in which they discharge their responsibilities.

24. Over the course of our inquiry we heard significant demand from energy companies for additional seabed leases to be made available. These leases are essential to the development of offshore energy generation in Welsh waters. We therefore welcome the recent announcement from The Crown Estate of a new leasing opportunity for early commercial-scale floating wind projects in the Celtic Sea. This new leasing opportunity will be particularly significant for the marine sector in Wales and, through its focus on projects of circa 300MW in scale, will be an important step towards the UK Government's ambition to deliver 1 GW of floating wind by 2030.

25. *We encourage The Crown Estate to continue to work proactively with developers to ensure that adequate leasing rounds continue to be offered on a regular basis in the future. Of most importance is that there is, as far as possible, alignment between the timetables being used by The Crown Estate for its leasing rounds and the timeframes which underpin developers investment decisions. The Department for Business Energy and Industrial Strategy should work with The Crown Estate and energy developers to explore how there can be greater alignment of timeframes for, as well as clearer communications of, leasing opportunities. We also recommend that the UK and Welsh governments should explore mechanisms for more effectively distributing wealth generation from renewable energy projects to communities in Wales.*

## 3 Subsidy schemes and finance

### Contracts for Difference and Innovation Power Purchase Agreements

26. The Contracts for Difference (CfD) scheme is the UK Government's main mechanism for supporting low-carbon electricity generation. CfDs incentivise investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with direct protection from volatile wholesale prices, and they protect consumers from paying increased support costs when electricity prices are high.<sup>31</sup> The CfD scheme has been largely successful in supporting established renewable energy generators throughout the UK. However, it has faced criticism from stakeholders for its limited success in supporting emerging renewable energy generators, such as wave and tidal.

27. Wales has significant potential in this emerging sector with 16 marine energy developers actively progressing projects in Wales and seabed agreements in place for over 362 MW of marine energy sites.<sup>32</sup> According to Marine Energy Wales, "Wales has the potential to establish an early mover advantage in an export market worth an estimated £76 billion by 2050, exporting marine energy technologies, skills, knowledge and intellectual property across the globe".<sup>33</sup> However, the costs to support such deployments are higher and represent a difficult challenge to the UK Government in terms of balancing industry development with value to the taxpayer.<sup>34</sup>

28. Although the creation of a 'CfD Pot 2' for emerging technologies as part of BEIS recent AR4 process has addressed parts of the problem, some pre-commercialisation technologies may still experience a funding gap. To address this, emerging technology stakeholders have been advocating for the creation of Innovation Power Purchase Agreements (IPPA). The use of IPPAs would allow a project to sell power in excess of market rates with the additional costs to the buyers reclaimed through the tax system.<sup>35</sup>

29. The marine energy and emerging sector and a cross-party delegation of MPs met the-then Minister Claire Perry in February 2019 to present their initial proposals for the IPPA. However, because the IPPA is primarily a tax-based instrument any decisions on its adoption subsequently reside with the Treasury. According to correspondence from Minister of State for Energy and Clean Growth, the Rt Hon Anne-Marie Trevelyan MP, the sector is currently seeking a meeting with Treasury Ministers to discuss IPPAs. BEIS has indicated its interest, in principle, in determining whether there could be more effective funding models to support emerging technologies while they bring their costs down to a point where they can compete in the market.<sup>36</sup>

**30. The Contracts for Difference (CfD) scheme has been highly successful in supporting renewable energy development in Wales. However, emerging marine technologies such as wave and tidal require additional support to bridge the gap between innovation funding and CfDs.**

31 UK Government (2 March 2020), [Policy Paper: Contracts for Difference](#)

32 RenewableUK Cymru. [REW0031](#).

33 Marine Energy Wales (2019). [State of the sector 2019: Economic benefits for Wales](#)

34 RenewableUK Cymru. [REW0031](#).

35 Simply Blue Energy. [REW0045](#).

36 information supplied to the Committee by the Minister of State for Energy and Clean Growth

31. *The UK Government must address the funding gap for emerging marine technologies or risk negatively impacting their development. As a first step, Ministers from Her Majesty’s Treasury, in cooperation and coordination with Welsh Government Ministers, should arrange to meet with representatives from the marine energy sector as a matter of urgency to investigate the feasibility of introducing Innovation Power Purchase Agreements. Such Agreements could provide a powerful catalyst for investment in emerging technologies and help support innovation and development in renewable energy projects.*

## Feed-in Tariffs to Smart Export Guarantee

32. The Feed-in Tariffs (FiTs) scheme was hugely successful in attracting investment to small-scale renewable electricity generation. The scheme allowed applicants to apply to get payments from their energy supplier if they generated their own electricity, for example with solar panels or a wind turbine. This is called a ‘feed-in tariff’ (FiT). Users would also receive a set amount for each unit (kilowatt hour or kWh) of electricity generated - a ‘generation tariff’.<sup>37</sup> As well as the generation tariff, users could also sell any extra units they did not use back to their electricity supplier. This is called an ‘export tariff’. In Wales, the FiTs scheme supported over 50,000 installations which amounted to over 450MW in capacity (made up of 76% solar PV, 17.5% wind and 6.5% hydro and anaerobic digestion).<sup>38</sup> On 18 December 2018, the government announced their decision to close the FiTs scheme to new applicants from 1 April 2019.<sup>39</sup>

33. In their written evidence to our predecessor committee’s inquiry in 2018, the Welsh Government expressed their dismay that the FiTs scheme was being closed to new applicants. The Welsh Government explained that “support services for the public sector and for communities were developing a pipeline of projects, the majority of which were no longer deemed immediately viable following the reductions in Feed in Tariffs”.<sup>40</sup>

34. The FiTs scheme was subsequently replaced by the Smart Export Guarantee (SEG) in January 2020. There are a few key differences between the two schemes. Notably, the SEG does not financially reward consumers for generating their own electricity and instead they will only receive payment for the excess electricity that they export. Furthermore, the SEG scheme does not have a universal payment amount other than to stipulate it must be above zero at all times. The FiTs scheme, on the other hand, offered the same tariff for all applicants, regardless of electricity supplier and set by Ofgem, and the tariff received was fixed for 20–25 years after installation.

35. For the reasons mentioned above, the SEG has been widely criticised by small-scale renewable energy developers. Robert Proctor, of Community Energy Wales, told us that he did not think it has been “very effective”. According to Mr Proctor, “all it does is ensure that energy companies will buy power from schemes. It is better than nothing. You are

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37 UK Government, [Feed-in tariffs: get money for generating your own electricity](#)

38 UK Government. [REW0043](#).

39 Ofgem. (10 September 2020), [Feed-in Tariffs: Essential guide to closure of the scheme](#)

40 Welsh Government. [REW0042](#).

guaranteed to have someone buy your power and pay more than zero for it”.<sup>41</sup> The Welsh Government has gone further to state that the SEG is “not sufficiently ambitious to sustain the rate of growth in small scale renewables we will need to meet our carbon targets”.<sup>42</sup>

36. The Rt Hon Anne-Marie Trevelyan MP, Minister of State for Energy and Clean Growth, told us that Ofgem will release an annual report on the provisions later this year. The report will analyse the effectiveness of the SEG scheme at delivering a wide range of competitive options for consumers.<sup>43</sup>

**37. The Feed-in Tariffs scheme had been hugely successful in attracting investment in small-scale renewable energy generation. We are concerned, however, that its replacement scheme the Smart Export Guarantee has been widely criticised by small-scale renewable developers as being too limited in scope and for its apparent lack of ambition. We are also concerned at reports that the roll out of smart meters has been hindered in rural areas due to infrastructure problems and urge the UK Government to work with the Welsh Government to resolve these issues.**

***38. This is a critical moment for the climate agenda. If the UK Government is to achieve its ambitious net-zero targets, it needs to have a subsidy programme that succeeds in attracting private sector and community investment in small-scale renewable energy generation. The UK Government should therefore, as a matter of urgency, explore re-introducing generation tariffs to the Smart Export Guarantee in order to adequately support small-scale renewable energy generation. As consumers are currently only guaranteed to be paid less than zero, the UK Government should also examine bringing back a fixed tariff to incentivise further small-scale energy generation. The UK Government should report back to us within the next three months on its review of these proposals.***

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41 [Q91](#)

42 Welsh Government. [REW0042](#).

43 [Q164](#)

## 4 Renewable energy and the local economy

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### Local ownership and “upskilling” the Welsh workforce

39. Numerous stakeholders told us that the UK Government should focus on supporting local employment as part of its shift towards a ‘net zero’ economy. Written evidence from Vattenfall stated that the Covid-19 pandemic has presented an opportunity to rebuild national resilience and support the clean energy transition through retraining and upskilling the UK workforce. They argue that, although focusing on opportunities that maximise benefits for the UK economy may increase the cost of new infrastructure in the short term, this will best support local economies in the long-term and provide additional opportunities for export-driven growth.<sup>44</sup> The Crown Estate also argued that building a net zero workforce will only be achievable through cross-sector efforts to up-skill workers.<sup>45</sup>

40. However, stakeholders such as EDF expressed concern over whether Wales would have the capacity to create more jobs following the Covid-19 pandemic. This is because the rate of local deployment of renewable energy has significantly slowed in recent years, partly due to the long-standing challenge of electricity grid constraints on development in Wales.<sup>46</sup>

41. Oral evidence from Michelle Davies, International Head of Clean Energy and Sustainability at Eversheds Sutherland, told us that “over the next five years all companies in Wales will have to be on some kind of decarbonisation journey”. Due to this, Wales could be well-placed to take advantage of the significant skills shortage globally within the decarbonisation sector. Ms Davies told us that “if Wales is a country that pulls together a strategy for this, it could not only be delivering those jobs for solutions in Wales, but it could be exporting that expertise to other areas as well”. However, if Wales is unprepared for the transition, those who are seeking an organisation to provide decarbonisation services and solutions - they could be technical, operating or financial-will source help from outside the country.<sup>47</sup>

42. At our session on 29 April 2021, David T.C. Davies MP, the Parliamentary Under-Secretary of State for Wales, was questioned about how the transition to a green economy will impact jobs in Wales:

[Chair] A 78% cut in carbon emissions by 2035, that is less than 14 years away. Implicit in those targets, as you have both alluded to, are big changes in society and in the economy. Are you absolutely confident that the plans are indeed in place for achieving the kind of transition in the Welsh economy that you are talking about and for seeing new jobs created to replace the ones which, frankly, will be lost as a result of these changes?

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44 Vattenfall. [REW0028](#).

45 The Crown Estate. [REW0040](#).

46 EDF. [REW0033](#).

47 [Q130](#).

[David T.C. Davies] I think you are right that the plans are ambitious. They are achievable, but there will certainly be consequences as a result. I think we have to accept that the public want us to be ambitious about cutting carbon emissions. I don't accept that that is going to lead to job losses. I think it will be job changes rather than job losses, but of course there will be consequences for society.<sup>48</sup>

**43. The shift to a net zero economy will be one of the most significant economic transformations in decades. It will have far reaching consequences for communities and individuals across the UK, for livelihoods and lifestyles. While this decarbonisation journey offers potentially rich rewards, it also contains significant risks for the Welsh economy. While Wales' natural resources may lend themselves to renewable generation projects, there is no guarantee that the supply chains and workforces involved in the development of these programmes will be based in, or come from, Wales. Securing the benefits of, and minimising the risks from, the shift to net zero will, among other things, require a comprehensive strategy, and focus, on upskilling the Welsh workforce.**

*44. If the UK Government intends to ensure that jobs will not be lost during the transition to a greener economy, it needs to work with the business sector and stakeholders including the Welsh Government to develop a comprehensive strategy for upskilling the current workforce, leveraging new opportunities and tackling the barriers, including grid constraints, that currently threaten to undermine the potential gains from the shift to a net-zero economy. As a sign of the UK Government's commitment to securing progress at the COP26 summit, as well as of its broader net-zero agenda, we call on the UK Government to convene, prior to the COP26 summit this Autumn, a high-level panel of stakeholders to begin work on a reskilling strategy.*

## The Ten Point Plan for a Green Industrial Revolution

45. In November 2020, the UK Government's Ten Point Plan for a Green Industrial Revolution was launched. The Ten Point Plan pledges £12 billion of government investment and up to three times that from the private sector to create and support 9,000 jobs in clean energy across the UK within the current Parliament, and up to 250,000 by 2030. The Government has set an additional target to produce 40GW of offshore wind by 2030, which they believe should support up to 60,000 jobs on its own. The plan sets out that most jobs created in Wales will be in the installation and construction sectors, but does not explain how the 250,000 jobs will be split across the four nations.<sup>49</sup>

46. At our oral evidence session on 14 January 2021 with the Secretary of State for Wales, the Rt Hon Simon Hart MP, the Secretary of State told us that he was "very optimistic that almost a disproportionate number of the jobs that will be available in the next five to 10 years will be in various different parts of Wales, particularly coastal areas".<sup>50</sup> However, no evidence was provided to support this statement.

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48 [Q150](#).

49 UK Government (November 2020), [The Ten Point Plan for a Green Industrial Revolution](#)

50 Welsh Affairs Committee. [Oral evidence: Responsibilities of the Secretary of State for Wales, HC 96. Q230](#).

47. **Wales, natural resources, coastline and all round renewable energy potential should mean that it benefits significantly from the UK Government's Ten Point Plan for the Green Industrial Revolution. However, we are concerned that the UK Government has provided no information on how many of the jobs envisaged by the plan will be located in Wales.**

*48. While Wales has the potential to benefit from the Ten Point Plan, it will not do so automatically or by right. Rather, it will require a clear vision, and a specific plan, for job creation from the UK Government. Using the Ten Point Plan as a starting point, the UK Government should develop a Wales specific plan that provides a detailed route-map and aspirations, including in terms of job numbers, for the Ten Point Plan in Wales. The UK Government should also commit to set aside parliamentary time for this Wales specific plan to be debated by MPs. This plan should be published, and time made available for a debate on the floor of the House of Commons, or in a special session of the Welsh Grand Committee, before the end of the current year.*

## 5 Issues facing the renewable sector in Wales

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### Competence over energy policy and intergovernmental relations

49. Energy is a policy area where responsibilities are shared between the UK and Welsh governments. The UK Government is responsible for regulating the UK oil and gas industry and the electricity industry, including the generation, transmission, distribution and supply. While the Wales Act 2017 devolved more energy policy responsibilities to the Senedd Cymru/Welsh Parliament, it is still largely a reserved policy area.

50. The Senedd and Welsh Government have responsibility for: the licensing and granting of consent for onshore oil and gas projects, all onshore wind projects, renewable energy projects under 350MW that are developed in the Wales inshore and offshore regions and the promotion of energy efficiency.<sup>51</sup>

51. There are some areas of energy policy that are shared between the two governments. For example, energy conservation is reserved, but with the exception of “the encouragement of energy efficiency otherwise than by prohibition or regulation”.<sup>52</sup> In practice, this means the Welsh Government can develop schemes that incentivise energy efficiency such as the Nest scheme which offers advice and support on energy efficiency. While energy is a largely reserved policy area, this distribution of responsibilities, highlights the importance of co-operation and collaboration between the UK and Welsh Governments.

52. As well as having separate responsibilities for certain energy policies, the UK and Welsh governments also have differing energy targets. The UK Government’s recent change to its climate change commitments, bringing forward the target to cut carbon emissions by 78% by 15 years (now 2035) has aligned itself more with the Welsh Government’s target of 70% of Welsh electricity demands being met by renewable electricity sources by 2030. However, the UK Government lacks a cohesive strategy to incentivise local ownership of renewable energy generation in the UK. By contrast, the Welsh Government has a target of at least 1GW of renewable energy capacity being locally owned by 2030. Currently, the Wales is 83% of the way there, with 825 MW of renewable energy capacity currently under local ownership. There is also an additional expectation for all new energy projects in Wales to have at least an element of local ownership from 2020.<sup>53</sup>

53. For the most part, renewable energy generators in Wales have been relatively reliant on subsidy schemes provided by the UK Government such as Contracts for Difference, Feed-in Tariffs and the Smart Export Guarantee. However, the Welsh Government also offers its own support schemes. The Welsh Government Energy Service (WGES) provides free technical, commercial and procurement support to develop energy efficiency and renewable energy projects. The energy service helps with financial planning and funding, for example interest free loans and grants. More than 70% of public sector bodies in Wales

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51 D. Hirst and N. Sutherland (September 2017). [Energy in Wales](#), House of Commons Library - Debate Pack, No. CDP 2017/0163

52 [Wales Act 2017, Schedule 1 \(section D6\)](#)

53 Welsh Government (September 2019), [Energy Generation in Wales 2018](#)

have benefited from using the WGES and associated Wales funding programme. Despite challenges posed by Covid-19, the service is on track to commit more than £15m to deliver projects in 2020–21.<sup>54</sup>

54. In December 2020, the UK Government’s Energy White Paper *Powering our Net Zero Future* was published. The White Paper sets out how the UK will clean up its energy system and reach net zero emissions by 2050, as well as how the UK Government plans to support and expand the clean energy sector.

55. The White Paper referenced the establishment of a “Ministerial Delivery Group, which brings together the relevant Government departments to oversee the expansion for renewable power in the UK”. Its remit includes, “development of appropriate network infrastructure to support future renewables deployment”.<sup>55</sup> Written evidence from RenewableUK Cymru and RWE suggested that such a forum would benefit significantly from an inter-governmental remit. The group could then consider major energy systems challenges such as grid capacity, which will significantly impact the viability of the expansion of renewable power.<sup>56</sup>

**56. Effective collaboration and co-operation between the UK and Welsh governments will be essential if Wales is to achieve net zero by 2050. Significant issues such as grid capacity and port infrastructure, in particular, require cross-government working if they are to be resolved, and there are a number of key areas where there are common interests and opportunities for further collaboration between the UK and Welsh governments. Existing programmes and schemes to develop the supply chain’s capacity and capability through clusters such as the South Wales Industrial Cluster and Celtic Sea Cluster should continue to enable cross-border working.**

*57. The UK Government should focus on maintaining a close working relationship with the Welsh Government, particularly in regard to major energy systems challenges such as grid capacity and port infrastructure. To facilitate effective collaboration, where renewable energy projects in Wales are under consideration, the UK Government should invite Welsh Government Ministers to attend and participate in the Ministerial Delivery Group.*

## Interconnection

58. Interconnectors are high voltage cables that are used to connect the electricity systems of neighbouring countries. They allow them to trade excess power, such as renewable energy created by the sun, wind and water. Interconnection has been shown to have clear benefits for decarbonisation. Analysis published alongside the Energy White Paper illustrated that an increased level of interconnection could result in considerable reduction in emissions in both the UK and the European Union to 2050.<sup>57</sup> This is because interconnection supports the integration of intermittent renewables by enhancing the flexibility of energy systems, allowing excess renewable energy to be exported rather than curtailed.

54 Welsh Government (15 December 2020). [Written Statement: Energy Statement](#)

55 UK Government (December 2020), [Energy White Paper: Powering our Net Zero Future](#), CP 337

56 RenewableUK Cymru. [REW0031](#); RWE. [REW0038](#).

57 UK Government. [REW0044](#).

59. 6 gigawatts (GW) of interconnector capacity is currently installed in GB, including a 2GW and a 1GW connection to France, 1GW to the Netherlands, 1GW to Belgium, 500MW to Northern Ireland and 500MW to Ireland. Wales is currently connected to Ireland by EirGrid Group's 500MW East West Interconnector (EWIC). Greenlink is a proposed 200km interconnector between Pembroke and County Wexford; the project is currently in the final stages of obtaining necessary planning permission and consents.<sup>58</sup> Written evidence from RenewableUK Cymru suggested that the opportunity for export from Welsh waters to the continent should be considered in the future given the EU's requirement for 300GW of offshore wind by 2050.<sup>59</sup> The UK Government and the European Union have previously agreed to enhance their co-operation on renewable energy in the North Sea. This is intended to facilitate the development of hybrid projects that combine interconnectors and offshore windfarms and opens up the potential for a North Sea grid.<sup>60</sup>

60. RenewableUK Cymru have argued that this agreement is equally applicable to the Celtic Sea. They explained that there is an opportunity for the creation of a Celtic Sea Economic Zone, allowing the UK to benefit economically from sites being developed in Irish waters as well as using the sea to help deliver Net Zero.<sup>61</sup> The Welsh Government, Irish Government and Cornwall & Scilly Isles LEP, along with numerous business stakeholders are already developing routes for greater co-operation on this issue.<sup>62</sup>

61. According to Simply Blue Energy, "a key opportunity for the Celtic Sea is to support the European Union's aspiration for 300GW of floating wind by 2050". Given the scope for cooperation proposed in the Trade and Cooperation Agreement reached with the EU, Simply Blue Energy went on to express hope that some of this could be provided by UK projects in the Celtic Sea, but also by projects in Irish waters delivered by the UK supply chain".<sup>63</sup>

**62. Interconnectors have been proven to provide strong benefits for decarbonisation, because of this the role of interconnectors is expected to greatly increase in the decades leading to net zero. As an interconnector in Wales would allow excess energy, which is likely to be created due to the abundance of wind energy in the country, to be exported rather than curtailed, there are clear opportunities for Wales to benefit. This is particularly significant for Welsh waters in light of the EU's requirement for 300GW of offshore wind by 2050.**

**63. *Further to the UK Government's recent collaboration with the EU on a potential North Sea grid, the UK Government should consider the opportunity for further export from the Celtic Sea to the continent and the creation of a Celtic Sea Economic Zone.***

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58 UK Government. [REW0044](#).

59 RenewableUK Cymru. [REW0031](#).

60 UK Government (December 2020), [UK-EU Trade and Cooperation Agreement: Summary](#)

61 RenewableUK Cymru. [REW0031](#).

62 Marine Energy Wales (9 October 2019), [Ireland, Wales and Cornwall combine to capture floating wind opportunity in the Celtic Sea](#)

63 Simply Blue Energy. [REW0045](#).

## Grid capacity

64. A lack of grid capacity in Wales is constraining the deployment and development of renewable energy installations of all sizes and, because of this, it was a recurring issue throughout the course of our inquiry. Areas of the country—including mid Wales in particular—have already reported power lines as close to full capacity, leaving developers of potential energy schemes facing prohibitive upfront costs to upgrade the local networks before they can start generating. This often results in projects being abandoned or being downgraded so that they are unable to generate to their full potential.<sup>64</sup>

65. Witnesses told us that onshore developments face existing constraints in the form of a lack of grid availability and considerable competition for connections. In their written evidence, Natural Resources Wales suggested that, “a lack of grid capacity is widely recognised as the single biggest constraint to further development of onshore wind and solar in mid-Wales and is a significant constraint to locations in both North and South Wales”.<sup>65</sup> EDF expressed their concern that grid constraints were a significant contributing factor to blame for the reduced rate of renewable energy deployment in Wales, and therefore needed to be addressed as a matter of urgency.<sup>66</sup>

66. Written evidence from RWE stressed that, “there is an urgent need for capacity upgrades to the Welsh electricity grid if the expansion of renewable power necessary to meet net zero is to take place”.<sup>67</sup> The constraints on Wales’ grid are likely to be exacerbated by the requirement for significant development of offshore wind generation (fixed bottom and floating offshore wind) within a short time scale (40GW by 2030).<sup>68</sup> As Juliet Davenport, Chief Executive of Good Energy, summarised, “there is no capacity to connect renewables”.<sup>69</sup>

67. As the National Grid explained in its written evidence to our inquiry, “the increase of renewable energy generation, such as offshore wind, onshore wind and solar—required to achieve net zero, is often sited in remote areas where there is a lack of existing grid infrastructure”.<sup>70</sup> Indeed, “there is currently no National Grid electricity transmission infrastructure within Mid-Wales. Any new energy generation in this area would need to be used locally, stored or transmitted”.<sup>71</sup>

68. Investments in grid infrastructure are currently limited by the regulator, Ofgem, through five-yearly price controls (called RIIO). Ofgem’s final determination in relation to the RIIO2 pricing period 2021–6 does, however, refer to the possibility that projects with a value <£100m would be able to apply for funding throughout each year of the pricing control period through the ‘re-opener’ mechanism. The net zero re-opener mechanism is intended to provide investment that developers can use to increase funding if unforeseen circumstances affect project development. The mechanism is able to provide upwards of £10bn for perceived good value projects and £450 million for strategic investment, with the potential to provide additional innovation funding if needed. Ofgem is also set to

64 S. Messenger (3 November 2020), [Climate change: Welsh green energy hindered by ‘strained’ grid capacity](#), BBC News

65 Natural Resources Wales. [REW0010](#).

66 EDF. [REW0033](#).

67 RWE. [REW0038](#).

68 RenewableUK Cymru. [REW0031](#).

69 [Q115](#).

70 National Grid. [REW0035](#).

71 National Grid. [REW0035](#).

implement “a Net Zero and Re-opener Development ‘use it or lose it’ allowance to fund small Net Zero facilitation projects” and allow early development work on projects that companies intend to bring forward under the net zero and medium Sized Investment Projects (MSIP).<sup>72</sup>

69. However, Renewable UK Cymru have voiced concern that it is not known whether, in discussions with Ofgem, the Welsh Government have made clear the extent to which it has sought to make the case in relation to Wales’ future requirements to strengthen its networks.<sup>73</sup>

70. When we asked UK Government Ministers about Welsh grid capacity issues, the severity of the problem was not recognised. David T.C. Davies MP, Parliamentary Under-Secretary of State for Wales, told us that he was “not aware” of any grid capacity issues, and that it was “not a problem I see on the horizon at the moment”.<sup>74</sup>

**71. We received a considerable amount of evidence arguing that grid capacity issues are currently significantly hindering renewable energy deployment throughout Wales, and are likely to continue to do so in the future. If the UK Government is unaware of the severity of this issue, it would suggest that their engagement with stakeholders on issues affecting renewable energy development has not been sufficient.**

***72. The UK Government must recognise that Wales’ increase in renewable energy development and generation may be significantly hindered by grid constraints if action is not taken. To mitigate this risk, the UK Government must work in collaboration with Ofgem to plan anticipatory investment in Wales, so that the significant uplift in renewables generation which is likely to occur is not handicapped by our currently severe grid constraints. The UK Government must also engage with key stakeholders to ensure that these constraints are adequately addressed in such a way that will not delay the Welsh decarbonisation roadmap.***

## Supply chain and port infrastructure

73. Wales is well-placed to generate a significant amount of wind energy. The Offshore Renewable Energy Catapult has advised that there could be as much as 50GW of electricity capacity available in the Celtic Sea alone,<sup>75</sup> and the Crown Estate has recently announced a new leasing opportunity for early commercial-scale floating wind projects there.<sup>76</sup> Given the potential of fixed bottom and floating offshore wind surrounding the Welsh coast over the coming decades, there may be opportunities for Wales to capitalise. In order for this opportunity to be realised, ports and their immediate inland infrastructure must be developed to accommodate the scale of projects which could materialise.

74. Numerous stakeholders have raised concerns over supply chain and port infrastructure capabilities to support new offshore developments. In their written evidence, EDF stated that the space requirements for floating foundation assembly, along with ‘wet storage’

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72 RenewableUK Cymru. [REW0031](#).

73 RenewableUK Cymru. [REW0031](#).

74 [Q169](#).

75 Offshore Renewable Energy Catapult (2020), [Benefits of floating offshore wind to Wales and the South West](#)

76 The Crown Estate (24 March 2021). [The Crown Estate to create new floating wind leasing opportunity in the Celtic Sea](#)

(required until turbine components are ready for serial installation upon the foundations), are “likely to be a significant constraint to large scale deployment of floating offshore wind that captures significant elements of the supply chain”.<sup>77</sup>

75. Simply Blue Energy told us that there is “the opportunity for a collaborative approach to a port strategy in Wales to support renewables and Welsh Government and UK Government should identify areas for cooperation and potential co-investment”, pointing to the Pembroke Dock marine project which forms part of the Swansea Bay City Deal. According to Simply Blue Energy, the role ports will play in local supply chain benefits “cannot be overstated and currently there are challenges for Welsh ports to support, in particular, the fabrication and integration of platforms and wind turbines due to the scale and development of floating wind”.<sup>78</sup>

76. The Welsh Government is due to publish its recommendations for port infrastructure development in Wales sometime in 2021. In its own Ten Point Plan for a Green Industrial Revolution, the UK Government pledged to invest £160 million into modern ports and manufacturing infrastructure. This announcement followed the Government’s October 2020 announcement of a £200m investment fund for ports to invest in new infrastructure as part of the preparation for the end of the Brexit transition period.<sup>79</sup> The first ports competition was won by Teesside and Humberside, who received funding. According to the Minister of State for Energy and Clean Growth, the Rt Hon Anne-Marie Trevelyan MP, this was because “the east coast is further ahead in its offshore wind activity”.<sup>80</sup>

77. One recent success story in terms of the sustained development of Port, and surrounding, infrastructure can be found in the North East of England. In February 2021, the Port of Blyth launched a new clean energy terminal with facilities for companies in the renewables and offshore energy sectors (the port claims to offer a ‘one stop shop’ for the offshore sector with facilities for building and maintenance of infrastructure available on site).<sup>81</sup> The Port has been building a hub of companies in this sector for a number of years, and it is also located next to the Offshore Renewable Energy Catapult (OREC).<sup>82</sup> The Port has been at the heart of Blyth’s regeneration into a magnet of investment and skills development in the renewables sector.

78. In light of the Crown Estate’s recent announcement of a new leasing opportunity for early commercial-scale floating wind projects in the Celtic Sea,<sup>83</sup> stakeholders have called for funding of the Celtic seaports in future rounds.<sup>84</sup> Stakeholders have also emphasised a need for the UK Government to recognise that, although different areas of the UK have different requirements and are moving at differing speeds, funding should support offshore wind development and ports infrastructure throughout the country.<sup>85</sup>

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77 EDF. [REW0033](#).

78 Simply Blue Energy. [REW0045](#).

79 UK Government (October 2020), [£200 million Port Infrastructure Fund opens for bids](#)

80 [Q190](#).

81 G. Whitfield (15 February 2021). [Port of Blyth launches clean energy terminal to capitalise on booming renewables market](#), BusinessLive

82 T. Dillon (27 May 2020), [Blyth drives UK’s renewable energy future](#), ChronicleLive

83 The Crown Estate (24 March 2021). [The Crown Estate to create new floating wind leasing opportunity in the Celtic Sea](#)

84 Simply Blue Energy. [REW0045](#).

85 RenewableUK Cymru. [REW0031](#).

79. Wales is well-placed to benefit from the significant potential of fixed bottom and floating offshore wind around the Welsh coast. However, existing issues with the supply chain and port infrastructure must be addressed if the country wants to take advantage of these opportunities.

80. *The UK Government should make clear the likelihood of further funding of ports infrastructure in Wales to support the emerging offshore wind sector. Further port investment should be encouraged for Welsh ports, particularly the Celtic Sea ports, in any future funding rounds. Freeports are one current area where significant investment is being discussed by the UK Government, and we urge the UK and Welsh governments to reach agreement, as soon as possible, on the funding arrangements for a freeport in Wales. If these discussions can be unblocked, the competition process for a Welsh freeport should place a heavy emphasis on renewable and net-zero considerations and should look to facilitating investment in the development of renewable energy generation.*

81. *The UK and Welsh governments, as well as port operators, and energy companies with developments in Wales, should work together to learn the lessons from the North East of England, where a clear strategy, focus, and public and private sector investment have led to the Port of Blyth becoming a hub for renewable energy development and jobs. If Wales is to make the most of its offshore potential, then her ports will need to have the right infrastructure and the skills base which can ensure that investment in energy development also results in investment in jobs and skills in Wales.*

## Conclusions and recommendations

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### Opportunities for Wales

1. The Crown Estate plays a crucial role in the management of the UK's seabed and in ensuring that economic development arising from leases to developers works in tandem with the conservation and protection of our natural resources. We recognise that this is not an easy balance and we thank The Crown Estate for their hard work and the judicious way in which they discharge their responsibilities. (Paragraph 23)
2. Over the course of our inquiry we heard significant demand from energy companies for additional seabed leases to be made available. These leases are essential to the development of offshore energy generation in Welsh waters. We therefore welcome the recent announcement from The Crown Estate of a new leasing opportunity for early commercial-scale floating wind projects in the Celtic Sea. This new leasing opportunity will be particularly significant for the marine sector in Wales and, through its focus on projects of circa 300MW in scale, will be an important step towards the UK Government's ambition to deliver 1 GW of floating wind by 2030. (Paragraph 24)
3. *We encourage The Crown Estate to continue to work proactively with developers to ensure that adequate leasing rounds continue to be offered on a regular basis in the future. Of most importance is that there is, as far as possible, alignment between the timetables being used by The Crown Estate for its leasing rounds and the timeframes which underpin developers investment decisions. The Department for Business Energy and Industrial Strategy should work with The Crown Estate and energy developers to explore how there can be greater alignment of timeframes for, as well as clearer communications of, leasing opportunities. We also recommend that the UK and Welsh governments should explore mechanisms for more effectively distributing wealth generation from renewable energy projects to communities in Wales.* (Paragraph 25)

### Subsidy schemes and finance

4. The Contracts for Difference (CfD) scheme has been highly successful in supporting renewable energy development in Wales. However, emerging marine technologies such as wave and tidal require additional support to bridge the gap between innovation funding and CfDs. (Paragraph 30)
5. *The UK Government must address the funding gap for emerging marine technologies or risk negatively impacting their development. As a first step, Ministers from Her Majesty's Treasury, in cooperation and coordination with Welsh Government Ministers, should arrange to meet with representatives from the marine energy sector as a matter of urgency to investigate the feasibility of introducing Innovation Power Purchase Agreements. Such Agreements could provide a powerful catalyst for investment in emerging technologies and help support innovation and development in renewable energy projects.* (Paragraph 31)
6. The Feed-in Tariffs scheme had been hugely successful in attracting investment in small-scale renewable energy generation. We are concerned, however, that its

replacement scheme the Smart Export Guarantee has been widely criticised by small-scale renewable developers as being too limited in scope and for its apparent lack of ambition. We are also concerned at reports that the roll out of smart meters has been hindered in rural areas due to infrastructure problems and urge the UK Government to work with the Welsh Government to resolve these issues. (Paragraph 37)

7. *This is a critical moment for the climate agenda. If the UK Government is to achieve its ambitious net-zero targets, it needs to have a subsidy programme that succeeds in attracting private sector and community investment in small-scale renewable energy generation. The UK Government should therefore, as a matter of urgency, explore re-introducing generation tariffs to the Smart Export Guarantee in order to adequately support small-scale renewable energy generation. As consumers are currently only guaranteed to be paid less than zero, the UK Government should also examine bringing back a fixed tariff to incentivise further small-scale energy generation. The UK Government should report back to us within the next three months on its review of these proposals.* (Paragraph 38)

### Renewable energy and the local economy

8. The shift to a net zero economy will be one of the most significant economic transformations in decades. It will have far reaching consequences for communities and individuals across the UK, for livelihoods and lifestyles. While this decarbonisation journey offers potentially rich rewards, it also contains significant risks for the Welsh economy. While Wales' natural resources may lend themselves to renewable generation projects, there is no guarantee that the supply chains and workforces involved in the development of these programmes will be based in, or come from, Wales. Securing the benefits of, and minimising the risks from, the shift to net zero will, among other things, require a comprehensive strategy, and focus, on upskilling the Welsh workforce. (Paragraph 43)
9. *If the UK Government intends to ensure that jobs will not be lost during the transition to a greener economy, it needs to work with the business sector and stakeholders including the Welsh Government to develop a comprehensive strategy for upskilling the current workforce, leveraging new opportunities and tackling the barriers, including grid constraints, that currently threaten to undermine the potential gains from the shift to a net-zero economy. As a sign of the UK Government's commitment to securing progress at the COP26 summit, as well as of its broader net-zero agenda, we call on the UK Government to convene, prior to the COP26 summit this Autumn, a high-level panel of stakeholders to begin work on a reskilling strategy.* (Paragraph 44)
10. Wales natural resources, coastline and all round renewable energy potential should mean that it benefits significantly from the UK Government's Ten Point Plan for the Green Industrial Revolution. However, we are concerned that the UK Government has provided no information on how many of the jobs envisaged by the plan will be located in Wales. (Paragraph 47)
11. *While Wales has the potential to benefit from the Ten Point Plan, it will not do so automatically or by right. Rather, it will require a clear vision, and a specific plan, for job creation from the UK Government. Using the Ten Point Plan as a starting point,*

*the UK Government should develop a Wales specific plan that provides a detailed route-map and aspirations, including in terms of job numbers, for the Ten Point Plan in Wales. The UK Government should also commit to set aside parliamentary time for this Wales specific plan to be debated by MPs. This plan should be published, and time made available for a debate on the floor of the House of Commons, or in a special session of the Welsh Grand Committee, before the end of the current year. (Paragraph 48)*

### Issues facing the renewable sector in Wales

12. Effective collaboration and co-operation between the UK and Welsh governments will be essential if Wales is to achieve net zero by 2050. Significant issues such as grid capacity and port infrastructure, in particular, require cross-government working if they are to be resolved, and there are a number of key areas where there are common interests and opportunities for further collaboration between the UK and Welsh governments. Existing programmes and schemes to develop the supply chain's capacity and capability through clusters such as the South Wales Industrial Cluster and Celtic Sea Cluster should continue to enable cross-border working. (Paragraph 56)
13. *The UK Government should focus on maintaining a close working relationship with the Welsh Government, particularly in regard to major energy systems challenges such as a grid capacity and port infrastructure. To facilitate effective collaboration, where renewable energy projects in Wales are under consideration, the UK Government should invite Welsh Government Ministers to attend and participate in the Ministerial Delivery Group. (Paragraph 57)*
14. Interconnectors have been proven to provide strong benefits for decarbonisation, because of this the role of interconnectors is expected to greatly increase in the decades leading to net zero. As an interconnector in Wales would allow excess energy, which is likely to be created due to the abundance of wind energy in the country, to be exported rather than curtailed, there are clear opportunities for Wales to benefit. This is particularly significant for Welsh waters in light of the EU's requirement for 300GW of offshore wind by 2050. (Paragraph 62)
15. *Further to the UK Government's recent collaboration with the EU on a potential North Sea grid, the UK Government should consider the opportunity for further export from the Celtic Sea to the continent and the creation of a Celtic Sea Economic Zone. (Paragraph 63)*
16. We received a considerable amount of evidence arguing that grid capacity issues are currently significantly hindering renewable energy deployment throughout Wales, and are likely to continue to do so in the future. If the UK Government is unaware of the severity of this issue, it would suggest that their engagement with stakeholders on issues affecting renewable energy development has not been sufficient. (Paragraph 71)
17. *The UK Government must recognise that Wales' increase in renewable energy development and generation may be significantly hindered by grid constraints if action is not taken. To mitigate this risk, the UK Government must work in collaboration*

*with Ofgem to plan anticipatory investment in Wales, so that the significant uplift in renewables generation which is likely to occur is not handicapped by our currently severe grid constraints. The UK Government must also engage with key stakeholders to ensure that these constraints are adequately addressed in such a way that will not delay the Welsh decarbonisation roadmap. (Paragraph 72)*

18. Wales is well-placed to benefit from the significant potential of fixed bottom and floating offshore wind around the Welsh coast. However, existing issues with the supply chain and port infrastructure must be addressed if the country wants to take advantage of these opportunities. (Paragraph 79)
19. *The UK Government should make clear the likelihood of further funding of ports infrastructure in Wales to support the emerging offshore wind sector. Further port investment should be encouraged for Welsh ports, particularly the Celtic Sea ports, in any future funding rounds. Freeports are one current area where significant investment is being discussed by the UK Government, and we urge the UK and Welsh governments to reach agreement, as soon as possible, on the funding arrangements for a freeport in Wales. If these discussions can be unblocked, the competition process for a Welsh freeport should place a heavy emphasis on renewable and net-zero considerations and should look to facilitating investment in the development of renewable energy generation. (Paragraph 80)*
20. *The UK and Welsh governments, as well as port operators, and energy companies with developments in Wales, should work together to learn the lessons from the North East of England, where a clear strategy, focus, and public and private sector investment have led to the Port of Blyth becoming a hub for renewable energy development and jobs. If Wales is to make the most of its offshore potential, then her ports will need to have the right infrastructure and the skills base which can ensure that investment in energy development also results in investment in jobs and skills in Wales. (Paragraph 81)*

# Formal minutes

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**Tuesday 20 July 2021**

Virtual meeting

## **Members present**

Rt Hon Stephen Crabb MP in the Chair

Simon Baynes

Geraint Davies

Ben Lake

Robin Millar

Rob Roberts

Beth Winter

## **Renewable energy in Wales**

Draft report (*Renewable energy in Wales*) proposed by the Chair, brought up and read.

*Ordered*, That the Chair's draft report be read a second time, paragraph by paragraph.

Paragraphs 1 to 81 read and agreed to.

Summary agreed to.

*Resolved*, That the Report be the Second Report of the Committee to the House.

*Ordered*, That the Chair make the Report to the House.

*Ordered*, That embargoed copies of the Report be made available (Standing Order No. 134)

## **Adjournment**

Adjourned till Thursday 22 July at 8.20am.

## Witnesses

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The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

### Thursday 28 January 2021

**Rhys Wyn Jones**, Director, RenewableUK Cymru; **Hywel Lloyd**, Chair of Re-energising Wales project advisory board, Institute of Welsh Affairs; **Professor Nick Jenkins**, Leader of the Centre for Integrated Energy Generation and Supply Research Group, Cardiff University

[Q1–33](#)

### Thursday 4 March 2021

**Jess Hooper**, Programme Manager, Marine Energy Wales; **Christoph Harwood**, Director of Policy and Strategy, Simply Blue Energy; **Paul Hewett**, CEO, Belltown Power; **Tom Glover**, UK Country Chair, RWE

[Q34–68](#)

### Thursday 18 March 2021

**Huub den Rooijen**, Director of Energy, Minerals and Infrastructure, The Crown Estate; **Matthieu Hue**, CEO, EDF Renewables UK; **Frank Elsworth**, Head of Onshore Business Development, Vattenfall

[Q69–86](#)

**Robert Proctor**, Business Development Manager, Community Energy Wales; **Simon Hamlyn**, CEO, British Hydropower Association; **Gary Newman**, Chief Executive, Wood Knowledge Wales

[Q87–109](#)

### Thursday 15 April 2021

**Michelle Davies**, International Head of Clean Energy and Sustainability, Eversheds Sutherland; **Juliet Davenport**, Founder and CEO, Good Energy; **Maf Smith**, Director, Lumen Energy and Environment

[Q110–146](#)

### Thursday 29 April 2021

**Rt Hon Anne-Marie Trevelyan MP**, Minister of State for Business, Energy and Clean Growth, Department for Business, Energy and Industrial Strategy; **David T C Davies MP**, Parliamentary Under-Secretary of State for Wales, Wales Office

[Q147–203](#)

## Published written evidence

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The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

REW numbers are generated by the evidence processing system and so may not be complete.

- 1 Active Building Centre ([REW0024](#))
- 2 British Hydropower Association ([REW0017](#))
- 3 Civil Engineering Contractors Association Wales ([REW0021](#))
- 4 Community Energy Wales - Ynni Cymunedol Cymru ([REW0013](#))
- 5 Conwy County Borough Council ([REW0009](#))
- 6 De Laurentis, Dr Carla (ESRC Post Doctoral Fellow, Cardiff University); and Cowell, Prof Richard (Professor, Cardiff University) ([REW0030](#))
- 7 EDF ([REW0033](#))
- 8 Energy Saving Trust ([REW0026](#))
- 9 Institute for Welsh Affairs ([REW0025](#))
- 10 Institution of Civil Engineers Wales Cymru ([REW0032](#))
- 11 Jessop, Mr Christopher; Bullimore Mr Blaise; and Mason, Mr Charlie ([REW0022](#))
- 12 Liquid Gas UK ([REW0036](#))
- 13 MCS Charitable Foundation ([REW0023](#))
- 14 Marine Energy Wales ([REW0039](#))
- 15 Marine Energy Wales; Cornwall and Isles of Scilly Local Enterprise Partnership; Marine Renewable Industry Association (Ireland); Simply Blue Energy; RWE; DP Energy; Offshore Renewable Energy Catapult; and Irish Wind Energy Association ([REW0027](#))
- 16 Marloes & St Brides Community Council ([REW0034](#))
- 17 Menter Mon - Morlais ([REW0020](#))
- 18 Milford Haven Energy Kingdom ([REW0011](#))
- 19 National Union of Rail, Maritime and Transport Workers (RMT) ([REW0042](#))
- 20 National Grid ([REW0035](#))
- 21 Natural Resources Wales/Cyfoeth Naturiol Cymru ([REW0010](#))
- 22 North Wales Tidal Energy & Coastal Protection Ltd ([REW0008](#))
- 23 Office of the Secretary of State for Wales; and Department for Business, Energy and Industrial Strategy ([REW0044](#))
- 24 Offshore Renewable Energy Catapult ([REW0019](#))
- 25 Orbital Marine Power ([REW0006](#))
- 26 Powys Hydropower ([REW0005](#))
- 27 RSPB ([REW0015](#))
- 28 RWE ([REW0038](#))
- 29 RenewableUK Cymru ([REW0031](#))
- 30 Seawind Ocean Technology Ltd ([REW0012](#))

- 31 Simply Blue Energy ([REW0045](#))
- 32 Solar Energy UK ([REW0037](#))
- 33 The Crown Estate ([REW0041](#))
- 34 Tidal Engineering and Environmental Services Ltd ([REW0007](#))
- 35 Tidal Lagoon Power ([REW0029](#))
- 36 Tidal Range Alliance ([REW0018](#))
- 37 Vattenfall ([REW0028](#))
- 38 Welsh Government ([REW0043](#))

## List of Reports from the Committee during the current Parliament

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All publications from the Committee are available on the [publications page](#) of the Committee's website.

### Session 2021–22

Number	Title	Reference
1st Report	Railway Infrastructure in Wales	HC 438

### Session 2019–21

Number	Title	Reference
1st Report	Pre-appointment hearing with the Government's preferred candidate for the Chair of S4C	HC 89
2nd Report	Freeports and Wales	HC 205
3rd Report	The Welsh economy and Covid-19: Interim Report	HC 324
4th Report	Wales and the Shared Prosperity Fund: Priorities for the replacement of EU structural funding	HC 90
5th Report	Brexit and trade: implications for Wales	HC 176
1st Special Report	The Armed Forces and Defence Industry in Wales: Government Response to the Committee's First Report of Session 2019	HC 97
2nd Special Report	City Deals and Growth Deals in Wales: Government Response to the Committee's Second Report of Session 2019	HC 146
3rd Special Report	Freeports and Wales: Government Response to Committee's Second Report of Session 2019–21	HC 667
4th Special Report	Wales and the Shared Prosperity Fund: Priorities for the replacement of EU structural funding: Government response to the Committee's Fourth Report of Session 2019–21	HC 1083
5th Special Report	Brexit and trade: implications for Wales: Government response to the Committee's Fifth Report of Session 2019–21	HC 1223