

Welsh Government's response to the Welsh Affairs Parliamentary Committee inquiry on renewable energy 2021

Introduction

The Welsh Government provided a response to the Committee's 2018 inquiry into renewable energy. This set out how our policies in Wales contributed to meeting renewable energy and carbon targets. Renewable energy has a key role to play in supporting the green recovery and responding to the climate emergency.

In 2019 the Senedd was first national Parliament in the world to declare a climate emergency. On 9 February 2021 we laid a suite of legislation in the Senedd which includes statutory target for net zero greenhouse gas emissions in 2050 and significant increases in the 2030 and 2040 targets. This reflects the recommendations of the Climate Change Committee (CCC) last December, which recommended the Welsh Government should increase its ambition from the current 80% target. The CCC also recommended the Second Carbon Budget (2021-2025) must be tightened to an average 37% reduction compared to 1990 levels as an absolute minimum, to account for the early closure of Aberthaw power station. Ministers will use the CCC's advice to inform Wales's next climate change action plan, which we will publish before COP26.

In December 2020, the Minister for Environment, Energy and Rural Affairs published an Energy Statement¹ which set out what Welsh Government is doing to support the transition to a more joined up, smarter and more flexible energy system in Wales. The Welsh Government has set a positive policy framework to encourage new investment in renewable energy. *Future Wales: The National Development Framework*² sets out our national spatial strategy and will drive the focus of onshore renewable development over the next 20 years. The Welsh National Marine Plan³ already reflects our ambitions for renewable energy in the marine environment and we have committed to developing spatial guidance to further support the Plan.

The Welsh Government enables action in Wales through a range of mechanisms. The Welsh Government Energy Service brings together our support for the public and community sectors, encouraging a place based focus. We are supporting regions to develop strategic energy plans to meet our future power, heat and transport needs and create the low carbon jobs and industries of the future.

On the basis of the latest published emissions inventory, Welsh emissions fell by 8% in 2018 to 38.9 MtCO₂e and were 31% below 1990 levels. Since 2016, during Wales' First Carbon Budget period, emissions fell by 20%. This was almost entirely due to reductions in fossil-fired power generation. In recent years emissions reductions in Wales have been dominated by the power sector, which was responsible for 85% of the total reduction in emissions from 2016 to 2018.

¹ <https://gov.wales/written-statement-energy-statement>

² <https://gov.wales/future-wales-national-plan-2040>

³ <https://gov.wales/welsh-national-marine-plan-document>

Emissions from the combustion of fossil fuels for electricity generation in Wales are proportionately greater than our share of the total UK emissions. In 2018, Wales contributed 8% of total UK emissions and 12% of UK electricity and heat generation emissions. This is because Wales hosts 16% of the UK's electricity generation from gas. Reduced generation from Aberthaw power station between 2016 and 2018, and its eventual closure in 2020, contributed to 55% of the total fall in emissions in Wales over the current carbon budget period.

Decarbonising the energy system presents both enormous opportunities and challenges for governments and organisations. Renewable energy has a strong role to play in the future energy system. However, if the people of Wales are to welcome and support this change, we must ensure it improves wellbeing within Wales. We are establishing a strong policy and regulatory framework to ensure this happens. Welsh Government has set an expectation for new renewable energy developments in Wales to have at least an element of local ownership from 2020.

We also have ambitious targets for renewable energy generation in Wales:

- to generate 70% of electricity consumption from renewable energy by 2030;
- one Gigawatt of renewable electricity and heat capacity in Wales to be locally owned by 2030

In November 2019, during Wales Climate Week, we published the Energy Generation in Wales 2019⁴ report, which showed 51% of Wales' electricity needs are now met through renewables.

- Wales continues to be a net exporter of electricity, having consumed around 14.7 TWh of electricity in 2019, while generating approximately 27.8 TWh.
- Fossil fuel electricity generation was 20.36 TWh (73%).
- Renewable electricity generation was 7.5 TWh (27%, up from 25% in 2018).
- In 2019, there were 72,841 renewable energy projects in Wales. The projects have a combined energy capacity of 4,060 MW. 83% of this capacity is renewable electricity, 17% is renewable heat capacity.
- Approximately 67% of renewable electricity generated in Wales comes from wind.

The Climate Change Committee recommends, in order to accommodate high levels of renewables, demand will also need to become increasingly flexible, which will require improvements in system flexibility from storage, interconnection, and demand-side response. Under the CCC's preferred Balanced Pathway scenario variable renewables across the UK reach 60% of generation by 2030, 70% by 2035, and 80% by 2050. CCC does see a future role for gas fired generation in the UK energy system, with development of CCS infrastructure coming forward from the mid-2020s. Their scenario suggests by 2035, 30 TWh of generation comes from gas CCS, meeting 6% of demand. The Welsh Affairs committee should therefore frame any recommendations regarding delivery of renewable energy within this context.

⁴ <https://gov.wales/sites/default/files/publications/2021-01/energy-generation-in-wales-2019.pdf>

How can the UK Government best support the deployment of renewable generators in Wales?

The principal barrier to deployment of renewables in Wales and the rest of the UK continues to be the lack of a consistent and predictable route to market. The UK Government's Energy White Paper identifies the huge challenges for the UK in achieving net zero by 2050. However, we need UK Government to take a more nuanced approach than is currently the case to provide stable environment for investment and to ensure deployment of renewables in Wales can proceed at a pace to meet our renewables and carbon targets. The other significant barrier is the need for strategic grid investment. We are working with the network operators to clarify the scale of the investment required but these costs should not all fall on bill payers. Given the pace of change needed to deliver the very challenging climate targets set by the CCC, and the time taken to consent and build grid infrastructure, investment ahead of need is absolutely vital.

In our response to the 2018 inquiry we emphasised the importance of UK Government considering the views of the devolved nations in its management of the UK energy system. We also pointed out a sustainable energy mix in Wales will be different to that in England, due to our different natural environments, resource potential and strategic priorities. This is equally true now in 2021.

In the intervening period both Welsh Government and Scottish Government have published a number of key strategies setting out the path to low carbon. This includes *Prosperity for All: A Low Carbon Wales*, our first low carbon action plan which was published in 2019.

Welsh Government is working with the four regions of Wales to plan for their future energy needs. The key public and private sector stakeholders have helped identify the scale of change needed in each of the four regions of Wales. This is helping us understand the changes low emission vehicles and renewable heat will bring for different areas of Wales. The resulting regional energy strategies, and the partnerships behind them, offer the potential to drive innovative local solutions to generate low carbon energy across Wales. We now need UK Government to acknowledge and build on these local initiatives and deliver the financial instruments which will enable these projects to deliver the investment now required.

Routes to market

Welsh Government supported the main thrust of the recent review of Contracts for Difference (CfD), including the re-opening of the CfD to solar and onshore wind, with a separate pot of funding for floating offshore wind. However, we believe CfD funding should have a separate pot for marine technologies such as wave and tidal stream. We believe BEIS should consider the balance between UK supply chain content and further cost reduction. We would also like to see deployment of CfD projects outside of the North Sea. Awel y Mor, the proposed extension to the 576MW Gwynt y Mor wind project off the North Wales coast, could provide a range of economic and low carbon benefits to the region. It is anticipated Awel y Mor could add an additional 1.2GW of capacity of offshore wind in Welsh waters.

We would also like to see greater certainty regarding support for small scale renewables. The main factor behind the slowdown in the deployment of small-scale renewable electricity projects is the closure of the Feed-in Tariff scheme by the UK Government. Schemes like Smart Export Guarantee (SEG), domestic Renewable Heat Incentive (RHI) and its successor, the Clean Heat Grant (CHG) provide some benefit. However, they are not sufficiently ambitious to sustain the rate of growth in small scale renewables we will need to meet our carbon targets.

If we are to rely on low carbon electricity to decarbonise buildings (via heat pumps) we will also need significant new renewable generation to power these heat pumps. The Ten Point Plan sets an ambition to install 600,000 heat pumps every year by 2028. We would be interested to see the evidence regarding how much additional generation will be needed to power these heat pumps, and how much of this is anticipated to be developed in Wales.

Welsh Government has set a very positive policy framework to encourage small-scale renewable energy generation. The Welsh Government Energy Service provides support to communities and the public sector. Our Local Energy Fund currently has more than £7 million available to loan to communities to develop renewable energy projects. We are considering the future of the Welsh Government Energy Service beyond 2022, in light of our existing Net Zero ambition and the advice for Wales from the Climate Change Committee to achieve a 63% emissions reduction by 2030.

How should the UK and Welsh Governments work together to support the development of renewable energy projects in Wales?

The scale of the transformation required to deliver net zero by 2050 requires joint working between governments in all parts of the UK. In Wales we would like to see a partnership between the two governments where UK investment complements actions being taken within Wales and where the public investment available to support decarbonisation is carefully aligned.

To deliver a fairer, more equal future, Welsh Government must be involved in developing the thinking on delivering existing renewable energy technologies, and developing the approach for innovative solutions. Wales has much to contribute on innovation, with strong industry and academic partnerships already existing here to take forward innovative solutions, such as SPECIFIC⁵ and FLEXIS⁶.

European funding has supported marine energy, energy efficiency, communities and innovation. Our innovation support and Smart Living Programme enable a range of academic/business/public sector collaborations which are actively delivering new approaches and technologies for a smarter energy future for Wales. Our involvement can bring insights from innovation and ensure Welsh interests and stakeholders' views receive appropriate attention, making sure our policies are aligned to maximise impact. This highlights the overwhelming importance of ensuring that the Shared Prosperity Fund can continue to support the Welsh Government's

⁵ <https://www.specific.eu.com/>

⁶ <https://www.flexis.wales/>

decarbonisation efforts and that there should be no reduction in the funding made available in Wales to support innovation in this policy area.

Strategic investment in the grid

Greater strategic planning and management of our energy system will be crucial to deliver benefits while minimising costs and maintaining secure energy supplies. In our 2018 response to Committee we put forward the case for investments in energy networks to be made from the public purse so we can deliver the scale and rate of change necessary to meet carbon targets. Networks were originally built from the public purse and investment in networks has fallen significantly since privatisation. We need to reverse this trend if we are to reach zero carbon targets. There are a number of key areas in which we believe Welsh Government and UK Government should work together to improve the prospects for renewables in Wales.

- Welsh Government is facilitating local energy planning to identify opportunities for all types of renewable projects. This will help local areas develop plans to meet their climate change targets by exploring a range of different local energy scenarios. Local area energy plans will identify the preferred combination of technological and system changes needed to the local energy system, to decarbonise heat and local transport and realise opportunities for local renewable energy production. There are opportunities for us to join up with UK Government and the regions across England, and for joint learning on developing local energy planning approaches. Beyond funding, a coherent approach to data and planning assumptions is necessary in order for this to be possible. We call on the UK Government to work with Welsh Government and Ofgem in agreeing the level of evidence these plans should support, and to require Ofgem to allow anticipatory investment where necessary.
- Future Wales, the National Development Framework, is due to be published in February 2021. This will set out Welsh Government's spatial approach to planning for large scale renewable energy. Future Wales covers the period to 2040, and during this timeframe the energy system is likely to move to a 'multi-vector system' approach. This will require flexibility to fully exploit the inter-relationships and synergies between the power, heat and transport sectors. Welsh Government acknowledges the significant challenge grid infrastructure and capacity will have on the potential for new renewable energy developments across Wales and the limitations of the current regulatory framework in addressing this issue over the last decade. We are committed to working with energy networks and developers to address the barriers and work collaboratively in finding solutions.
- Closer relationships would be essential for determination of applications under the Developments of National Significance (DNS) regime and energy consenting. Welsh transmission and distribution grids experience challenges in connecting both generation and demand. Some consenting powers were devolved under the Wales Act 2017. However, UK Government still plays the key role in decisions on grid in Wales. We continue to believe Wales should have complete control over the consenting and deployment of energy in Wales, in line with the other devolved administrations.

What mechanisms can ensure that subsidies for renewable generators are good value for money?

As we pointed out to Committee in 2018, Welsh Government and other public sector bodies in Wales have obligations under the Wellbeing of Future Generations (Wales) Act 2015 to deliver multiple benefits from available resources.

Many of the UK mechanisms, including the current CfD auction mechanism, only recognise the economic value of electricity and not the wider social and economic benefits. UK Government should also recognise the need for a broader interpretation of value for money in delivering the commitments in the Energy White Paper and Industrial Strategy. As we pointed out in our 2018 response, similar mechanisms used in other countries do leverage these wider benefits. We believe all governments should require more from industry and business in return for its support.

Meeting our joint zero carbon ambitions will require significant levels of decentralised low carbon generation. Small and medium scale developments are able to be more readily incorporated into local networks than large developments. We need to develop approaches with developers to deliver social benefit and low carbon, whilst also providing local solutions to grid constraints.

We should seek to avoid financial benefits of our low carbon transition being exported out of the UK. We need a more decentralised, locally owned system which is able to sell power generated in local communities to local people. We believe local ownership is fundamental to the acceptability of future developments, and it can be achieved at an affordable cost. We need to ensure Wales retains the social and economic benefits of hosting new energy-related developments and we launched a policy on this last February⁷.

We will need a low cost approach, using a range of energy vectors to deliver and interconnected zero energy system. Electricity and gas Distribution Network Operators and National Grid will need sufficient headroom in their price controls to make these investments. Whilst incentives to encourage new generation are funded from energy bills, we need an approach which delivers the majority of energy supply from more affordable sources, in order to protect bill payers.

However, we also need to invest in future technologies necessary for us to fully decarbonise our energy system – including Carbon Capture Use and Storage (CCUS) and hydrogen. Early stage funding needs to be seen as investment and funded through a mechanism unrelated to energy bills if it is not to impact on those in fuel poverty and on lower incomes. This will need to include early stage renewables, such as marine energy, if we are to achieve our collective carbon reduction targets.

⁷ <https://gov.wales/sites/default/files/publications/2020-02/policy-statement-local-ownership-of-energy-generation-in-wales.pdf>

Onshore wind is better value for money than offshore wind and remains generally popular. In the latest UK Government's Public Attitude Tracker⁸, onshore wind registered 73% support across the UK. We are encouraged to see the 2021 CfD auction will provide an opportunity for the lowest cost forms of renewable energy (wind and solar) to come forward in addition to more innovative technologies.

We would be interested to hear how the UK Government is going to support the infrastructure required to connect the scale of generation, potentially 40GW of offshore wind by 2030, which CfD is expected to drive. The situation in the south east of England indicates the challenges and additional costs from a solely project-led approach to grid. In our view the enormous infrastructure challenge can only be met by adopting a co-ordinated, whole system approach for the UK.

What opportunities are there for renewable generators in Wales of greater interconnection with other electricity markets?

My officials established a working group, including National Grid and the District Network Operators to gain a greater understanding of solutions to these issues in Wales. We want grid operators to take a strategic approach to grid development in Wales, to ensure any new infrastructure delivers for Wales and not just for the UK network. This must consider the potential for new generation offshore, as well as the need for more electricity in regions where there is little grid infrastructure.

We should not be over-reliant on other electricity markets or international developers to deliver the low carbon electricity the UK market will require. The Climate Change Committee recommends in order to accommodate high levels of renewables, demand will also need to become increasingly flexible, which will require improvements in system flexibility from storage, interconnection, and demand-side response.

Although not explicitly a renewable energy technology, we suggest UK Government should consider the value of storage services provided by pumped hydroelectric storage within the context of a flexible energy system. Wales hosts the largest pumped hydro storage project in the UK, the 1.7MW Dinorwig project in North Wales. We believe further opportunities exist for pumped hydro storage in Wales, for example the Glyn Rhonwy project new Llanberis.

UK Government has also placed a lot of faith in interconnectors in providing energy security across the UK post EU exit. Gas and Electricity interconnectors are continuing to physically operate as before. There are, however, some very significant changes to electricity trading arrangements. There are also future uncertainties around the carbon content of imported electricity. There may be energy security and carbon risks from being over reliant on interconnectors. Historically Wales has exported significant proportions of its electricity generation to England⁹. Given the

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934647/BEIS_PAT_W35_-_Key_findings.pdf

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951197/Regional_generation_and_supply_of_electricity.pdf

carbon emissions from this generation count against Wales' carbon budgets, this situation may not be sustainable into the future.

UK Government has been very successful in investing in renewables to bring down the carbon content of grid electricity to a level that could not have been anticipated a decade ago. It may be more prudent to repeat this model and invest in flexibility rather than interconnectors. The return in energy independence and exportable technologies could be considerable.

How can the UK Government facilitate Welsh contributions to COP26?

If the UK is going to persuade the rest of the world to make the changes necessary to tackle climate change it needs to demonstrate that all parts of the UK are working together towards that goal. We must show the totality of action across the UK and would expect the UK Government to engage with Welsh stakeholders in a meaningful way, whether through meetings, use of the Welsh language or stakeholder participation. It is important Welsh voices are involved and heard so the UK can demonstrate how different nations can come together to tackle the climate crisis.

The COP Team within Cabinet Office have now issued a call for Expressions of Interest (Eols) in relation to being part of COP events and activities within the Green Zone. The deadline for this is 5 March. Welsh Government is sharing this across policy areas to be cascaded further externally with our stakeholders and partners. We want to encourage stakeholders to work with each other and put forward expressions of interest to the UK COP team. It is important the UK Government ensure there is true UK representation and diversity.

Welsh Government continues to look for opportunities to be involved with the UK COP Team and currently attends official, senior official and also Ministerial level meetings. We will continue to look for opportunities to join up and be visible at COP26, sharing the information with our stakeholders as it becomes available.

What implications is COP26 expected to have for Wales?

COP26 is where world leaders will come together to look at the rule book around climate change. Over the last 20 years Wales has been leading action in ensuring sustainability begins not just at home, but in our global actions too, for example through our work to develop international networks and declarations. Ahead of COP26, we plan to update our climate regulations and show the world Wales is a globally responsible nation, calling upon others to take action with us.

These types of international events not only help to deliver on our international commitments but a collective Welsh presence will promote Wales as a progressive small nation with supportive investment policies.

Wales has been active for more than a decade in highlighting the importance of, and the need for, greater recognition of states and regional tiers of government in being part of the climate emergency solution.

The challenge of climate change requires everyone to work together across geographic and sectoral boundaries, with collaboration essential if we are going to be successful. There is an opportunity here to use the momentum of COP26 to build and mobilise further action here in Wales, engage with our stakeholders and raise further awareness of the climate emergency we, globally, are facing. This is why we are publishing our next All Wales Plan ahead of COP.

Has the COP26 Year of Climate Action had any significant implications for Wales?

In Wales we have been building our own momentum around climate action. This started with our first Climate Change Conference in 2019 on a countdown to the original COP26 in 2020. However, as result of COVID, COP was postponed. Since then we have continued to drive action and momentum through our Wales Climate Week, which marked a year to the rescheduled COP26 and the publication of our next All Wales Plan. During Wales Climate Week we brought together hundreds of people from different sectors, with the aim of creating a low carbon Wales which could strengthen the resilience of our communities, our economy and our environment.

Welsh Government will build on this success and the momentum we have here in Wales to be part of COP and promote the already outstanding examples of the climate action being taken. We will share the many other ways in which the creation of a low carbon Wales is already underway, in housing, recycling, environmental science, in transport and connectivity.

We continue to work with the UK Government on their engagement campaigns, including 'Year of Climate Action', and well as the more recent campaign, 'Together for our Planet', where there is benefit to Wales in doing so.

COP will be an opportunity for Wales' ingenuity and determination to inspire increased ambition for action at a national and global level.

What opportunities are there for renewable energy to aid Wales post-COVID-19 economic recovery?

The world is facing a health and economic crisis as a result of COVID-19. The Welsh Government aims to rebuild a stronger economy which supports a fairer, greener and more prosperous society, more resilient to economic shock. A creative and comprehensive green recovery will accelerate progress towards a low carbon economy and a healthier, more equal Wales.

A green recovery will improve outcomes for Wales, generate a more sustainable and resilient economy for the future, tackle the climate emergency and address declines

in biodiversity. We will focus on ensuring a green recovery support in a more resilient, low carbon, resource efficient economy.

Our overarching ambition to create a more prosperous, equal and greener Wales is stronger than ever and in recovering from the pandemic we are determined to take forward a just and green recovery. For the recovery it's important we look to lock-in some of the positive changes we've seen – the ability to work from home, the increase in shopping locally, the decrease in traffic, the boost to nature, the reduction in emissions, and the increasing awareness of how important resources are.

The Counsel General published [COVID-19 Reconstruction: Challenges and Priorities](#) on 6 October, following wide engagement with key stakeholders and the public about the future vision for Wales emerging from the pandemic. This document is clear the green recovery will be at the heart of our approach with funding announced for a range of activity including living hydrogen hubs to reduce our carbon emissions.

If Wales' recovery from the coronavirus pandemic is to be green, it means addressing the overarching environmental challenges of:

- the Climate Emergency: by decarbonising and increasing resilience to the impacts of climate change;
- the decline in biodiversity: by reversing the decline in Wales and reducing our impact on biodiversity outside of Wales; and,
- unsustainable production and consumption: by improving resource efficiency, sustainably using natural resources and moving to a more circular economy.

In other words, if a green recovery is to be more than 'greenwash', it will need to drive genuine progress, so pollution and emissions are reduced, biodiversity is increased and our use of materials becomes more efficient and responsible.

Renewable energy has a key role to play in supporting the green recovery and responding to the climate emergency. There are a number of benefits from focusing on a green recovery. These include creating greater 'net positive' impact and economic added value – this means joining up our initiatives to achieve more such as using renewable energy infrastructure to supply local public services and businesses, fuelling vehicles and driving improvement in the local environment.

As we have outlined in our response, important work is already underway with regard to infrastructure and support for renewable energy. Other opportunities are being explored such as the conversion of landfill sites to solar farms, processing capacity for materials, and investment in active travel.

We will also double the number of projects to support public sector organisations reduce their carbon footprint delivered by our Energy Service Green Stimulus Package and will invest in developing a number of new local renewable energy plans. These projects not only help to reduce emissions but support jobs and the long changes needed for a low carbon economy.

A green recovery has many benefits for the workforce and for Wales. Renewable energy will be a key part of the green recovery. Benefits include the creation and upskilling of employment in growing markets; increased supply chain resilience; and

nurturing and driving our innovation performance, especially in the technologies of tomorrow.

February 2021