



Ein cyf/Our ref LG/02446/18

David John Rowlands AM
Chair of the Petitions Committee

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9 January 2019

Dear David John Rowlands AM

Thank you for your letter of 7 December, regarding the Petition P-05-837: Green Energy for the Wellbeing of Future Generations in Wales. I welcome the additional information provided by the petitioner.

Energy is a key economic imperative underpinning our aims for a secure and prosperous Wales by delivering secure and affordable low carbon energy. The recent Intergovernmental Panel on Climate Change (IPCC) report suggests renewables will need to provide 70-85% of electricity if we are to limit global warming to 1.5 degrees. The IPCC report suggests a renewables led system, supported by nuclear and fossil fuels, with carbon capture and storage. Carbon capture and storage would allow gas to generate around eight per cent of electricity world wide, to provide a flexible base load and ensure supplies are secure. I have asked the UK Committee on Climate Change for advice on what the IPCC report means for our targets and future carbon budgets.

Decarbonising the energy system requires a transformation in the ways we use and generate energy. In order to accommodate more low carbon generation, the system will need to become 'smarter' and more flexible to match generation and demand on a more local basis.

Nuclear projects, including new build, operation & maintenance and decommissioning, can bring a boost to the Welsh economy, in terms of direct and indirect employment, and contracted jobs in the wider supply chain. If we are to host the Wylfa Newydd project then we must aim to maximise the economic and social benefits. We cannot overlook the fact this project could present a once in a lifetime opportunity for the North Wales Region, having real economic transformation potential by utilising our existing nuclear capability and skilled workforce to deliver high value jobs now and for future generations.

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Rydym yn croesawu derbyn gohebiaeth yn Gymraeg. Byddwn yn ateb gohebiaeth a dderbynnir yn Gymraeg yn Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome receiving correspondence in Welsh. Any correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not lead to a delay in responding.

Renewable Baseload Alternatives

We recently published this year's [Energy Generation in Wales report](#). In 2017, Wales generated an estimated 32.5 TWh of electricity, more than twice what we consume, making Wales a significant exporter of electricity. The equivalent of 48% of Wales's electricity consumption was met by renewables, against our target of 70% by 2030. Despite this positive position, a significant proportion of the electricity generated in Wales, 78%, was from the combustion of fossil fuels. Wales hosts 19% of the UK's gas fired electricity generation, a key factor in the recent increase in emissions from the power sector. If we are to achieve our Environment Act commitments, and in line with the IPCC report, it is clear fossil fuel generation must significantly reduce and generation from renewables significantly increase.

Electricity demand is likely to increase as both transport and heating become electrified. Renewable electricity generation must continue to increase to meet this demand. The intermittent nature of renewables and the need to respond to the large peaks in heat demand in winter months require additional changes to the energy system to provide greater flexibility. New innovative technologies and mechanisms will be an important part of the low carbon transition. However, we should not put all our faith in new, yet-to-be developed approaches to overcome the challenges in decarbonising the energy system.

Energy storage can be part of the solution to these challenges. We are seeing an increasing number of battery storage systems installed alongside solar PV, allowing households and small businesses to generate, store and consume their own electricity. At a larger scale, current battery storage technology is mainly used for maintaining the frequency of the grid, rather than for back up power. Wales hosts two of the UK's largest pumped hydro storage schemes at Dinorwig and Ffestiniog, providing energy storage to help meet peak loads and balance. We are yet to see an energy storage project which provides large scale power output over the long term. Energy storage can enable better use of intermittent renewable energy. However, dispatchable power which can flexibly increase or decrease output is also needed. The IPCC suggests modern gas turbines, with carbon capture and storage, are going to be needed to provide reliable baseload energy out to 2050.

Electricity Costs

Onshore wind is already the lowest cost large scale form of renewable energy and is on a trajectory to becoming commercially viable within just a few years. If we are to limit the impact on energy bills from new energy generation, we need to invest in least cost low carbon technologies such as solar and wind. I released a public statement in 2017 in support of onshore wind and solar, which was developed in partnership with a broad range of Welsh organisations. The position reflects a collective view of the economic, social and environmental benefits from enabling the continued deployment of onshore wind and solar developments.

I expect all new projects coming forward should include an element of local ownership. I believe this will retain wealth in Wales, provide real benefit to communities and offers an opportunity for local people to become shareholders in energy projects. Earlier this year we published a call for evidence on achieving our local ownership target of 1GW of locally owned renewable energy by 2030. The call for evidence gave stakeholders the opportunity to comment on our targets and local ownership definition and to provide evidence on what is needed to meet the target. A summary of the responses and workshop report is available [here](#).

The recent publications from the Institute of Welsh Affairs' Re-energising Wales project provide a useful insight into what our energy system may look like in the future. We have worked with IWA to ensure the Re-energising Wales work is well informed and to link it with our work on developing carbon budgets and supporting energy targets. The IWA's work highlights the opportunities which could be available from investment in energy efficiency and renewables across Wales and in the Swansea Bay area, and the need for a consistent policy framework to unlock the opportunity. I look forward to the release of the delivery plan.

How Welsh Government could improve and increase investment in renewable / energy saving technologies across Wales

The new Welsh Government Energy Service (WGES) provides support to public sector organisations and communities to help them generate benefit for Wales from our transition to a low carbon energy economy. The service is the main vehicle for delivering the support needed to bring a range of Wales owned projects to fruition. The service provides technical feasibility, delivery, commercial, procurement and project management support. WGES integrates our existing Local Energy Service and Green Growth Wales support services, recognising the inter-connected nature of the future energy system and the ability of the public sector and communities to work together for common benefit.

We are taking action across a number of other policy areas to help to deliver a low carbon economy. I have detailed some of them below. This is not an exhaustive list, but demonstrates the cross Government actions we are taking to achieve our decarbonisation and energy targets:

Planning - new policy proposals in Planning Policy Wales include a requirement for local planning authorities to set local targets for the generation of renewable energy in their development plans. I have set out a preference for renewable and low carbon energy sources and generation over fossil fuel extraction through proposing an energy hierarchy in the revised PPW. Our WGES is also providing support for regional energy mapping and modelling, to support integrated energy planning at a strategic level. The National Development Framework (NDF), to be published for consultation next year, gives us the opportunity to set out national development management policies for renewable energy and identify where in Wales will be the most suitable for new large-scale wind and solar developments.

Permitted Development Rights – earlier this year we consulted on extending permitted development rights for some micro-generation equipment. This included proposals for small scale, low risk hydropower and non-domestic rooftop solar. The Minister for Housing and Local Government is currently considering the responses received and will publish a response early in 2019 with accompanying new secondary legislation.

Building regulations - Part L of the building regulations (conservation of fuel and power) is currently being reviewed to increase the energy efficiency of new homes and deliver as a minimum nearly-zero energy (NZE) standards. I will consider imposing more stringent standards if NZE does not meet our energy ambitions.

The Innovative Housing Programme aims to create demonstrator schemes to help inform us about the type of homes we should support in the future. The programme seeks to stimulate the design and delivery of new quality, energy efficient and affordable homes to tackle the pressing housing need, fuel poverty and help carbon reduction targets.

Energy Efficiency - Wales has some of the oldest and least thermally efficient building stock in Europe. Therefore, it takes more energy to keep our homes warm and this drives up energy bills and carbon emissions. The Welsh Government Warm Homes programme takes a whole house approach to improving the energy efficiency of properties, making them more efficient and cheaper to heat. The programme is designed to lever in additional funding from other sources such as the Energy Company Obligation (ECO) and EU funding. I am working jointly with the Minister for Housing and Local Government to develop achievable proposals for decarbonising existing buildings. The size of the challenge is large but there are also huge opportunities, for example to create jobs and training opportunities in our poorest communities.

An Advisory Group on the Decarbonisation of Homes in Wales was established in May 2018 to provide Welsh Ministers with advice on the development of a long term programme of action to deliver on its commitment to reduce the carbon emissions of homes in Wales. The Group is led by Chris Jofeh, Global Buildings Retrofit Leader at Arup, and comprises representatives from all the key stakeholders who will help us deliver this programme. It will not just consider the carbon challenge but also fuel poverty and related housing quality issues.

The Advisory Group will draw on research undertaken by the Welsh School of Architecture at Cardiff University looking at evidence of what works in decarbonisation terms by housing construction types. Early findings support the need to make homes as energy efficient as possible through a fabric first approach. Technology solutions can then be applied to those homes in order to directly address the decarbonisation of heating.

Electric Vehicles - we have committed £2 million of funding for electric charging points. The funding will be used to help create a publicly accessible national network of rapid charging points. The focus will be on locations on/near our strategic road network, with a particular emphasis on North-South and East-West journeys. We are also working with SP Energy Networks, who have recently been awarded funding for a major project to explore the distribution grid requirements for up-scaled electric vehicle charging, which will be delivered in North Wales and set the context for this work across the UK. We will be working with others to ensure the learning from this work is used across Wales.

Oil and Gas Licensing - we held a consultation over the summer on a future policy for petroleum extraction in Wales, in preparation for Welsh Ministers acquiring responsibility for onshore oil & gas licensing. I made a statement in Plenary in December which sets out our policy clearly in this area. We are fully responsible for onshore petroleum extraction and our policy prevents fracking from happening in Wales. We will not undertake new licensing rounds, preventing further areas of Wales being open to petroleum extraction.

Energy Planning - I have committed funding towards the work agreed with Plaid Cymru in relation to an Energy Atlas. Identifying renewable resource is just one step in bringing forward new generation. Local energy planning will be needed to ensure we meet 2030 targets and we are working with regional development initiatives to support them in maximising strategic thinking on energy as a key part of their work.

Energy Company for Wales - we delivered a series of events in March 2017 to initiate a stakeholder conversation about the potential for an energy company for Wales. The events created a clear consensus around the risks, challenges and tensions inherent in Welsh Government setting up and running an energy supply company which would heavily outweigh the potential benefits of doing so. However, there may be other areas where a not for profit energy body may be helpful, where a clear purpose can be demonstrated to deliver benefits commensurate with the necessary level of investment and we will continue to consider this in future.

In relation to the debate on the development of, and support for, green energy, I have had two debates recently on similar topics. The transcript of these debates can be found on the National Assembly for Wales website ([24 October - Climate Change](#) & [20 November - low carbon energy system for Wales](#)).

Decarbonisation presents a significant challenge and energy is one of the areas where we can make a significant impact. The actions Welsh Government is taking are broad, demonstrate our commitment to the challenge and indicate there is no one single solution or technology which can guarantee delivery of our carbon and energy targets.

Yours sincerely

A handwritten signature in black ink that reads "Lesley Griffiths". The signature is written in a cursive style with a large, sweeping flourish at the end of the name.

Lesley Griffiths AC/AM

Gweinidog yr Amgylchedd, Ynni a Materion Gwledig
Minister for Environment, Energy and Rural Affairs