

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

Financial support is needed for innovative tidal lagoons, which could be major suppliers of long-term sustainable energy. Wales has a long coastline and there is great potential in this area. These are Pathfinder projects and can generate almost 24-hour renewable energy. Wales' position on the Western side of the UK, as well as long coastline and high tidal range, emphasises its maritime climate, facing incoming weather systems from the Atlantic and Irish Sea combined with mountainous West coast increases orographic rainfall feeding Wales' lakes and rivers. There are also opportunities for hydro-electric generation and pumped storage schemes, both small and large scale.

There should also be support for all other forms of renewable energy in Wales, including wind, wave, and solar power. There is already a history of many buildings and land in Wales utilising solar power arrays.

In addition, many farms have on-site rainwater storage tanks which could be utilised as an energy source e.g. electrolysis of rainwater to produce hydrogen. Surplus energy from wind farms and tidal lagoons could be used to produce hydrogen for the propulsion of ships, trains, buses and heavy commercial vehicles.

From a planning perspective, there should be a propensity to approve planning applications and environmental consents. Speeding up/easing the grid connection consenting process is needed.

Better connectivity, local and to National Grid is also required. Energy distribution networks will need to be renewed and upgraded.

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

The balance of Wales' and the wider UK's energy mix is shifting, with the role of renewables – both in terms of meeting generation needs and carbon reduction targets – becoming ever more prominent.

The National Infrastructure Commission has advised the UK Government that there should be no more than one agreement to provide support for new nuclear (in addition to Hinkley Point C before 2025). The Commission emphasised that a highly renewable generation mix is a low-cost option for the energy system 'comparable to building further nuclear power plants'.¹

In the medium-term, it is clear that nuclear is still required as part of a diverse energy mix in order to

¹ National Infrastructure Commission (2018) [National Infrastructure Assessment](#)

provide a degree of baseload power. Wales has a proven track record in this area and the potential for other innovative nuclear power – e.g. small modular reactors (SMRs). SMRs could be built more easily, using manufacturing and off-site construction techniques, and could supplement major nuclear sites, promising lower cost, more flexible and more rapidly deployable power generation.

Suitable sites exist on Anglesey (Energy Island and in Snowdonia) with connections to the rail and energy networks already in place. But also, as noted above, tidal power will need the UK Government's financial support.

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

For the most part, the funding and financing mechanisms required to support renewable energy infrastructure already exist. The key will be adapting and iterating existing mechanisms so they can be deployed where appropriate and are tailored to net-zero outcomes. In many instances, this work is already underway within government, including a review of the Regulated Asset Base model and amendments to Contracts for Difference.

These mechanisms could also be considered for the deployment of carbon capture and storage technologies, hydrogen infrastructure and other sources of renewable energy, such as tidal lagoons.

In ICE's 2020 State of the Nation report into infrastructure and the net zero target, we recommended that Contracts for Difference and the Regulated Asset Base model should continue to be used, where appropriate, to unlock the market for net-zero technologies identified by the Committee on Climate Change.²

ICE has also recommended that energy storage and other emerging technologies receive enhanced government support, drawing on the successful impact of Contracts for Difference on the renewable energy market.

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

Improve the grid links (local and UK) and use surplus energy to generate hydrogen. The interconnector from Wales to Ireland needs further consideration.

What implications is COP26 expected to have for Wales?

Increasing the share of UK investment in renewable energy and in green and blue energy market initiatives. COP26 provides an opportunity to showcase Wales' potential as a generator of sustainable

² ICE (2020) [State of the Nation 2020: Infrastructure and the 2050 Net-Zero Target](#)

energy (nuclear, solar, wind, wave, tidal and wave).

How can the UK Government facilitate Welsh contributions to COP26?

Welsh contributions to COP26 should come from within the extensive sustainability and the net zero industry sectors in Wales, stimulated by Welsh Government policies in these areas. This will enable industries to transition to low/zero carbon economic operation - supported by the UK Government. Wales has strong sustainability policies, and these should be developed into sustainable energy production. This support should include research and development.

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

Promotion of Welsh businesses including R&D in sustainable/green industries during the years leading up to COP26. Examples include the development of district heat networks, community renewable energy micro grids, conversion of steelworks to electric arc furnaces or substituting hydrogen for coking coal to make them lower carbon.

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

Investment in energy infrastructure would boost economically depressed areas. Much of Wales was in the former Objective 1 area and needs ongoing support/investment. This also benefits supply chain industries.

February 2021