



A low carbon pathway for Wales: Institute of Welsh Affairs' Response

1. About the Institute of Welsh Affairs (IWA)

We are the Institute of Welsh Affairs, Wales' leading think tank. We challenge, inspire and drive change, making Wales a better place to live and work for everyone.

We are independent of government and political parties. We bring together experience and expertise from all backgrounds to collaborate on the most important issues facing Wales.

We come up with ambitious but practical and informed ideas to improve the economy, education, governance, health and social care and the media. Our vision is to create a Wales where everyone can thrive.

2. About Re-energising Wales

'Re-energising Wales' project is a 3 year project (April 2016-April 2019) that will deliver a plan to enable Wales to meet its projected energy demands entirely from renewable sources by 2035. Detailed information about the Re-energising Wales project is available on the IWA [website](#).

Through our Re-energising Wales project we have brought together representatives from industry, regional stakeholders and academia that have an interest in the future development and transformation of the energy system in Wales. We have produced a number of evidence based studies which outline the types of actions needed in order to ensure that Wales maximises its renewable energy potential.

In our response, we provide a summary of the evidence to date from our reports, which includes actions for reducing emissions between now and 2030. We encourage the Welsh Government to consider in detail the Re-energising Wales reports we refer to in our response.

3. Overall, to what extent do you agree with the potential actions for reducing emissions set out in this document? (1=completely agree, 5=completely disagree). Please explain the reasons for your answer.

3.1. 3 = somewhat agree

3.2. We largely agree with the potential actions for reducing emissions set out in the consultation. There are, however, a number of critical actions missing that we feel will strengthen Wales' ability to achieve its low-carbon pathway to 2030. We expand on these in the body of our response.

4. Please tell us if you have any ideas for how we should deliver the potential actions for reducing emissions.

4.1. The IWA Re-energising Wales evidence base

4.1.1.

4.1.2. The ideas we highlight below originate from 5 reports that have been published as part of the Re-energising Wales project. Namely, the '[Swansea Bay City Region: A Renewable Energy Future](#)', '[The Economic Impact of Energy Transition in Wales](#)', '[Building a Picture of Energy Demand in Wales](#)', '[Funding Renewable Energy Projects in Wales](#)' and '[Decarbonising Transport in Wales](#)' reports.

4.2. Swansea Bay City Region

4.2.1. Our report '[Swansea Bay City Region: A Renewable Energy Future](#)' presents a case study of the targets, challenges and actions that would be needed to achieve a radical transformation of an energy system at a local level up to 2035. These insights can be applied to other Welsh regions and at a national level.

4.2.2. The report highlights the need for turning national goals and policy targets into short to medium-term objectives and targets that can be actioned at a local and regional level. These need to be specific enough to act as a call to action for the many individuals, communities, businesses and other organisations that need to deliver the new low carbon Wales. Engagement with local communities is crucial to garner support and also to ensure that decarbonisation strategies make best use of local resources to deliver the maximum benefit to communities in Wales.

4.2.3. This case study very much supports the intentions outlined in the consultation document to **develop regional and local energy planning** to address the supply, distribution, and use of energy. We believe it is important for different governance structures, such as the city regions, to understand their role they can and need to play in tackling carbon emissions. Targets are needed at a regional and local level to bring people on board and to help drive collaboration. The varied geography of Wales alone is reason to adopt a variety of measures according to the needs of the locality for the different emission sectors.

4.2.4. Within our report, we highlight a number of key areas of action for the Swansea Bay City Region (SBCR) to realise its energy potential, many of which can be applied across Wales. Some of the greatest opportunities highlighted in our report include:

- Creating an exemplar Welsh building efficiency and local power generation sector
- Harnessing onshore/offshore wind and marine energy
- Maximising the commercial potential of bioenergy

We describe the actions required to realise these three key opportunities below.

4.3. Creating an exemplar Welsh building efficiency and local power generation sector

4.3.1. Wales can be a leader in building efficiency and local power generation. This vision could be delivered by a comprehensive programme of efficiency measures for domestic and commercial properties, combined with heat-pump technology and on-site generation through roof-top and integrated building PV.

- 4.3.2.** A step change in energy efficiency is needed to achieve a 20% or 30% energy reduction. This is the reduction target necessary to meet future climate change targets. Within our report we highlight how this is possible within the SBCR.
- 4.3.3.** Two of the potential actions to 2030 in the consultation state “Set higher energy efficiency standards for new builds through reviewing Building Regulations Part L” and “Develop a long-term residential retrofit programme based on evidence”. Based on our SBCR study findings, we make the following recommendations for action:
- 4.3.4. Recommendation:** Welsh Government should lead on an implementation plan to drastically improve energy efficiency in Wales, delivering on the ambitions set out in Welsh Government’s *Energy Efficiency in Wales*. We believe this plan should be developed and delivered in partnership with local authorities, registered social landlords and the private sector. This should be developed during 2018 in parallel to the development of policies and proposals for the ‘Low Carbon Delivery Plan’ as part of the implementation of the Environment Act 2016 and the delivery of the carbon budgeting framework in Wales. An implementation plan should include:
- Local authority level targets and progress milestones, which take account of local building stock, off-gas properties and fuel poverty
 - Actions to incentivise and engage a wide-range of partners, including commercial property owners; businesses; private, public and social housing. This will include being clear about costs and expected savings, and provide clear finance routes for public and private initiatives
 - Plans for a public education campaign to secure public support and action on energy efficiency
- 4.3.5. Recommendation:** The Welsh Government should explore how building regulations could significantly increase energy efficiency standards and increase on-site renewable energy generation, as part of the ongoing review of Part L of the Building Regulations due to be concluded in 2018. This could include consideration of the benefits of using regulation to mandate that all new buildings must be partially covered in either plants or solar panels, such as those set out in [France](#), and making it compulsory for buildings to use renewables to meet a significant percentage of a building’s energy demand, such as those set out in [Barcelona](#).
- 4.3.6.** The consultation states that Welsh Government wish to

“Establish the baseline of energy use and associated emissions from business sector buildings”. We encourage Welsh Government to look at the data and approach we used in our [‘Building a Picture of Energy Demand in Wales’](#) report, published in April 2018. This work produced estimates of the energy demand of Welsh domestic and non domestic buildings in half-hourly intervals for electricity and heating in 2016, and offers valuable evidence for consideration.

4.4. **Harnessing onshore/offshore wind and marine energy**

- 4.4.1. One of the potential actions to 2030 in the consultation states “Accelerate the deployment of renewable generation whilst encouraging local ownership”. We largely agree that renewable energy generation and local ownership should be encouraged, but we must also ensure that communities and local organisations have the interest and resources available to deliver on community, shared or local ownership at the scale expected.
- 4.4.2. As pointed out in the Re-energising Wales [‘The Economic Impact of Energy Transition in Wales’](#) report, unfortunately, the challenges for local communities in becoming involved in renewable electricity generation have proved significant throughout this millennium. In previous ‘energy booms’ Wales has proved able to capture only a small portion of total economic benefit, usually that related to local labour, some professional services and rental, sales or lease of landscape. Some of this lack of past economic capture relates to a narrow economic base and lack of locally available skills and relevant companies. Additionally, there is almost no Welsh capital ownership in the energy sector.
- 4.4.3. In order to ‘Accelerate the deployment of renewable generation whilst encouraging local ownership’, based on our [‘Swansea Bay City Region: A Renewable Energy Future’](#) study findings, we make the following recommendations for action:
- 4.4.4. **Recommendation:** The Welsh Government and Wales Office of the UK Government should push for more onshore wind farms in Wales. They should also seize the opportunity to push for offshore wind schemes in Wales in the upcoming Crown Estate leasing rounds, due in 2018/19. In pushing for offshore wind schemes, this should include potential sites off the north Wales coast, in the Bristol Channel and Celtic Sea. To achieve these objectives, the Welsh Government should ensure they:
- Establish a strategic policy in Wales on infrastructure, building on the TAN 8 policy.

- Identify new strategic search areas (SSAs) for development in areas with good wind resource.
- Support new network infrastructure with strategic grid and network upgrades removing constraints to wind development in SSAs by mid 2020s.
- Support the industry to achieve price parity with other forms of generation by 2020.
- Articulate the strong case for offshore wind in Wales, including the advantage of a more balanced UK energy portfolio and regional economic benefits
- Help to ensure a positive economic and social climate for wind – including additional support for local and community energy schemes, and wind farms providing energy directly to end users through local supply initiatives.
- Restate the case for infrastructure to support increased offshore marine generation
- Work with and encourage project developers to bring forward site proposals
- Support the supply chain in Wales to be able to play a full part in the installation, operation and maintenance of any new wind scheme
- Support early stage project development, including support to identify and assess potential development zones such as through funded geophysical surveys and wind resource assessments
- Continue to invest in innovation, such as the Pembrokeshire demonstration zone, particularly for floating wind and new foundation solutions for deeper and more challenging sites
- Encourage civic, institutional and community ownership of new wind farms in Wales. This will require an investment vehicle to aggregate and channel investment funds.

4.4.5. Recommendation: As highlighted in our [‘Funding Renewable Energy Projects in Wales’](#) report, to further help the above recommendation, Welsh Government should support the development of a new investment vehicles such as a cooperative, charitable or not for profit body which has a clear brand and supports investment in Welsh renewable energy projects. This entity could be an obvious local partner for developers and investment platforms such as Abundance to build significant renewable energy sites, creating joint investments.

4.4.6. Recommendation: As highlighted in our [‘Funding Renewable Energy Projects in Wales’](#) report, and to again support the two recommendations above, Welsh Government, non-governmental organisations and other parties should strongly explore the need to devolve a range of powers over renewable energy subsidy setting to Wales. Well designed and time-bound sustainable energy support policies are vital to attract finance and improve

risk-return profiles.

4.5. **Maximising the commercial potential of bioenergy**

4.5.1. Decarbonising heat is arguably the biggest challenge, but the decarbonisation of heat will also create opportunities for Wales to develop new capabilities and accelerate its transition to a thriving low carbon economy. Hybrid heat pumps, district heat networks and hydrogen production offer exciting opportunities. The commercial exploitation of bioenergy – biomethane, bioSNG and biomass – perhaps offers the greatest overall opportunity. Sustainable bioenergy production would enable Wales to create a world class circular economy that fully utilises of waste and residual resources from industry, agriculture and domestic households.

4.5.2. **Recommendation:** We believe there is a strong case for the Welsh Government to conduct an evidence-based assessment of bioenergy potential in Wales. This should be developed during 2018 in parallel to the development of policies and proposals for the ‘Low Carbon Delivery Plan’ as part of the implementation of the Environment Act 2016 and the delivery of the carbon budgeting framework in Wales.

It should consider:

- The route to commercialisation of bioenergy and creation of a market, including consideration of policy and regulatory levers
- Competing and alternative sources and uses of bioenergy and how they are supported
- Best and most efficient use of bioenergy for carbon reduction and economic development
- Job creation and economic potential for the local rural (and urban) Welsh economies
- Opportunities for farm based and community schemes to make best use of agricultural and waste resources

4.6. **Transport**

4.6.1. Through our ‘Decarbonising Transport in Wales’ report, we highlighted opportunities that could significantly improve and decarbonise the transport sector in Wales. The full report is available [here](#).

4.6.2. Even in a strictly devolved context, Wales’ action on carbon

emissions from transport have been extremely limited. As highlighted in our report's evidence, carbon emissions from transport are flatlining and action to date has not been effective in bringing about any meaningful reduction.

- 4.6.3. The Committee on Climate Change's forecast for a 'business as usual' scenario indicates that emissions from transport in Wales will increase in each of the five year budget periods up to and including 2030 set out in the Environment (Wales) Act 2016. On that basis, the contribution from transport needs to be both radical and comprehensive.
- 4.6.4. Our report is clear that we need a comprehensive route map to wean our transport system away from its over-reliance on the car and towards much greater use of active travel and public transport. We therefore support the statement in the planning section of the consultation for a clear requirement to reduce the use of the private car. However, there is no mention of this within the transport section, with one of the actions suggesting electric cars in bus lanes, which ultimately favours private vehicles over public transport and active travel. We judge this inconsistency needs to be addressed so that expectations are clear to all parties.
- 4.6.5. We support the action set out in the consultation document to "Explore the relationship between speed limits and greenhouse gas emissions, with a view to considering environmental factors in speed limit reviews". This relationship is already well established, with a number of studies supporting this highlighted within our report. The key significance of speed limits is the positive impact of lower limits in producing modal shift away from the car and towards active travel.
- 4.6.6. **Recommendation:** Welsh Government should impose a default 20mph limit in urban areas, allowing local authorities discretion in exempting routes where justified.
- 4.6.7. The consultation proposes action to "Double the percentage of adults making cycling journeys at least once a week and increase the percentage of people making walking journeys at least once a week by 25% from the 2016 baseline". We judge this is not ambitious enough. The Active Travel (Wales) Act 2013 set out an aim to make walking and cycling the most natural and normal way of getting about for short journeys. We urge the Welsh Government to accept and implement the Economy, Infrastructure and Skills Committee's recommendation that funding for active travel, capital and resource combined, should be set at £17-£20 per head per annum.

- 4.6.8. In considering the proposed action in the consultation document to “Reduce the carbon footprint of taxis and buses to zero within 10 years to achieve the aim in the Economic Action Plan”, attention must be paid to understanding the difference between greening and cleaning, as upgrading to Euro VI diesel buses, for example, is a clean air measure, not a decarbonising measure. In our [‘Decarbonising Transport in Wales’](#) report we note the need to disincentive ‘grey fleets’. The Energy Savings Trust have [written a report](#) highlighting why grey fleets need to be tackled and the savings this could bring in terms of costs and CO₂ emissions. They also provide a [best practice guide](#) on how businesses can manage their grey fleet.
- 4.6.9. Our [‘Decarbonising Transport in Wales’](#) recognises the important contribution that electric vehicles (EVs) could make to decarbonisation but does not accept that they are a panacea. When analysed in the light of the Well-being of Future Generations (Wales) Act (2015) it is clear that the more sustainable transport modes make a greater contribution to a greater number of the national goals.
- 4.6.10. **Recommendation:** Although active travel is the preferred investment option, investment in EVs should be prioritised in rural areas, where the absence of effective alternatives makes the use of the car essential. Electricity grids need to be ‘future proofed’ for decarbonisation when considering electric vehicle rollout and the need for EV charging points in such areas. We need to address the availability of grid issues in Wales, especially mid Wales, in order to both allow the rollout of EVs and also allow Wales to connect more renewable energy schemes to hit renewable energy targets.
- 4.6.11. Particular attention needs to be paid to planning infrastructure for new housing estates which should have sustainable active travel infrastructure. New housing developments offer an important opportunity to bring about behaviour change on active travel transport but unfortunately this is not happening: bus services and active travel routes are all too often not in place until people have already established a car based travel pattern.
- 4.6.12. **Recommendation:** The planning system must ensure that new developments are located and designed to support a modal shift to walking, cycling and public transport and therefore reduce Wales’ reliance on the private car.
- 4.6.13. Detailed analysis of transport in Wales is seriously hampered by the lack of specifically Welsh data. The UK Committee on

Climate Change suggests that the average car trip length in Wales is slightly longer than the Great Britain average, yet we are unsure as to where this data comes from. A good level of evidence is needed across different sectors as a starting point, as we need to build the evidence base to drive good decision making.

- 4.6.14. **Recommendation:** We believe that the Welsh Government should commission a national transport survey with a sufficiently large sample to collect high quality transport data which would allow accurate analysis down to local authority level. The first survey should be undertaken as quickly as accuracy permits to establish a baseline for the Transport Decarbonisation Plan.

5. **What other ideas do you have for reducing emissions between now and 2030?**

5.1. Through our ‘Decarbonising Transport in Wales’ report, we highlighted opportunities that could significantly improve and decarbonise the transport sector in Wales. The full report is available [here](#). We would urge Welsh Government to consider the reports 22 recommendations for action, many of which are actions not considered within the consultation document.

5.2. Through our ‘[Funding Renewable Energy projects](#)’ in Wales report, we suggested 18 recommendations to attract existing and potentially new vehicles to support investment in renewable energy projects within Wales. We would again urge Welsh Government to consider the report’s 18 recommendations for action, many of which are actions not considered within the consultation document.

5.3. Within the [Swansea Bay City Region](#) report, there are a number of key ‘areas of opportunity’ and ‘key enablers to achieve our energy vision to 2035’. We would again urge Welsh Government to consider these.

5.4. Please also see the reference to some of the new ideas raised in section 4 above, but please also see all the recommendations highlighted to date in [Re-energising Wales](#) reports.

6. **Considering the opportunities and challenges in each sector, what are your views on whether action should be prioritised in some sectors over others?**

6.1. We need systems thinking across different sectors. Greatest focus should be paid to those areas that Welsh Government can have the most impact with the powers and levers held at a Welsh Government

level.

- 6.2.** We urge the Welsh Government to report on emissions progress from a sectoral perspective, so that there is a clear understanding on which sectors are performing well and which sectors are performing poorly in impacting emission reductions. This will allow a better understanding as to where clear action should be focused.

7. **How could we encourage more collaboration and innovation between sectors?**

- 7.1.** When it comes to the energy sector in particular, we need to consider a whole energy system approach (as we did in our SBCR report) which not only considers how the different elements interact (heat, transport and electricity), but also considers the social, environmental, and economic impacts of energy pathways. Welsh Government has a clear role in enabling collaboration between relevant organisations to ensure that we can achieve this whole energy system approach that delivers a wide range of benefits. This could be one particular benefit of the 'Energy Atlas for Wales' as it will set out where there is potential to develop renewable energy sites across Wales, accompanied by actions needed across these different sectors to achieve relevant renewable energy targets.

8. **How do you think the potential actions to reduce emissions might affect the following?**

- 8.1. **Public Health:**** The central call from the IWA '[Decarbonising Transport in Wales](#)' report is for a 'Transport Decarbonisation Plan' to be co-produced by Welsh Government (across a range of departments including health), key public bodies such as Public Health Wales, the transport sector in Wales and others.
- 8.2.** The report examines the significant adverse health impact of the car, particularly the tide of obesity and associated diseases arising from the sedentary lifestyle the car encourages, the increasing concerns over air quality and the toll of deaths and injuries arising from collisions with motor vehicles. Public Health Wales estimate that each year an equivalent of around 1,600 avoidable deaths in Wales are due to particulate matter (PM_{2.5} and PM₁₀), and 1,100 due to nitrogen dioxide (NO₂) exposure. The primary source of both NO₂, and particulate matter pollutants is vehicle emissions, especially those from diesel powered vehicles.
- 8.3.** The way we utilise our planning system to modify the use of the car within our communities impacts not only on levels of carbon emissions, air quality and physical activity, it also affects our mental health. Given

Welsh Government's declaration that tackling loneliness is a national priority and the strong evidence linking heavy traffic flows in residential areas with reduced social contact amongst the people living there.

8.4. Recommendation: we believe that the new edition of Planning Policy Wales should take account of the impact of traffic flow on social isolation and loneliness. We believe that our evidence will provide important arguments in support of Public Health Wales' endeavours to make promoting healthy lifestyles a key element in public policy.

9. **How do you think the potential actions to reduce emissions might contribute to achieving the national well-being goals? You can read descriptions of the goals at <https://futuregenerations.wales/about-us/future-generations-act/>.**

9.1. The IWA 'Decarbonising Transport in Wales' report is a good example of how potential actions to reduce emissions might contribute to achieving the national well-being goals. This paper argues that it is only by changing its relationship with the automobile that Wales can hope to meet its environmental targets. The paper sets out why and how that change should be achieved and does so in accord with another key Welsh law, the Well-being of Future Generations (Wales) Act (2015).

9.2. Recommendation: The forthcoming review of Wales' National Indicators should incorporate indicators on public transport provision.

9.3. Recommendation: We need to budget and design Welsh Government funding schemes to take account of the carbon budgeting process and the wider goals of the Well-being of Future Generations (Wales) Act 2015. This should include the impact of investment programmes on emissions.

10. **Do you have any other comments about this consultation?**

10.1. We largely agree with the potential actions for reducing emissions set out in the consultation. There are, however, a number of critical actions missing that we feel will strengthen Wales' ability to achieve its low-carbon pathway to 2030. We believe that the actions to reduce emissions should more ambitious.