

National Infrastructure Commission for Wales Annual Report

2020

Contents

- 03 Message from the Chair**
- 08 Digital Communications**
- 09 Energy**
- 10 Transport**

Members of the Commission

The members of the commission are:

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Message from the Chair

This year we have shared the challenges presented by the COVID-19 pandemic. From March, when Wales went into lockdown, we have seen huge changes to everyday life. Some changes already underway have accelerated, such as the move to flexible working patterns. Other changes, such as the dramatic reduction in travel, were unexpected prior to COVID-19. Whether anticipated or not, many of the changes we have experienced will have an effect on the way we use, build and pay for infrastructure in the short term and perhaps for many years to come.

My thanks to everyone who responded to our call for evidence and the many stakeholders who have engaged with the commission this year. Considering everything else going on people have been generous with their time.

The commission's aim remains to give everyone the chance to improve their wellbeing through new and improved infrastructure that boosts economic growth and protects the environment. This year we addressed three themes:

Digital

Digital connectivity has been vital during the pandemic, enabling many of us to work from home, access services and maintain social contact. Those without good digital connectivity have been greatly disadvantaged. Alongside this report we publish our recommendations on Digital Communications Infrastructure in Wales.

We have concluded that the evidence shows households and businesses stand to gain substantial economic benefits from both fibre to the home and 5G. The quality of these communications is critical in determining where new, high growth businesses locate and where young people choose to live. They cannot afford to wait and will move to where fast, reliable broadband is available. Too many parts of Wales still lack adequate broadband connectivity and opportunities are already being lost.

Achieving rapid advances will require more direction from the Welsh Government. That is why we are recommending, as a matter of urgency, the Welsh Government should replace the existing all Wales Digital Infrastructure Group with a new 'barrier busting' taskforce, led by a senior official, with clear objectives and deadlines in which to achieve them. The taskforce would lead the development and implementation of new guidance on the use of public assets and a new planning regime for telecommunications (TAN 19). It would liaise with key stakeholders in the digital roll-out, such as Network Rail and the North and South Wales Trunk Road Agencies.

The UK Government has a clear policy for extending fibre to the home to every household in the UK by 2025. Our report aims to assist the Welsh Government in establishing its own digital communications strategy to best meet the needs of Wales.

We support the UK Government's desire to upgrade fixed digital infrastructure and think the Welsh Government should ensure a proper share of the funds are obtained for Wales. However, we do not think the UK Government's target of having fibre to every home by 2025 is realistic and we are concerned that the particular challenges of deploying fibre in Wales – where population density is lower, demand weaker and the topography more challenging – mean that Welsh households and businesses will find themselves at the back of the queue.

We also think that too much attention has been paid to promoting fibre to the home and not enough to improving mobile broadband provision. We think Wales can and should do more with its mobile infrastructure. Only 3% of all the data carried on UK networks is carried on mobile networks today, a much lower proportion than elsewhere in Europe. 'Home' mobile broadband connections can be a good, low cost option for business and homes in rural areas, on a permanent basis or until fibre to the home arrives.

The UK Government has agreed with mobile operators to deploy a new Shared Rural Network which should significantly improve mobile coverage in the UK and in Wales, assisted with £500 million of public funds.

The Welsh Government should follow this example and explore with the industry whether other initiatives, including through the provision of additional public funds, could be taken to further improve mobile provision, particularly of 5G.

Other recommendations can be found in our report.

Energy

Another of our priorities for 2020 was energy. The UK continues to make progress with decarbonising the energy system. Renewables' share of electricity generation in the UK was 47% in the first quarter of 2020¹ and 45% in the second quarter². Both notably higher than the previous quarterly record of 39% set in the summer of 2019.

Energy is a key part of delivering Wales' climate goals yet the Welsh Government has limited devolved powers over energy. The Welsh Government has committed to putting a 95% emissions reductions target into law, with an ambition to reach net-zero by 2050.

We agree that Wales must decarbonise its energy system. But it would be helpful to have greater clarity about what Wales wants to achieve before making decisions about how to do it. Should the priority be to ensure stability of supply, to generate revenue, to create jobs, to provide price stability for Welsh consumers, or some other option?

¹Energy Trends: June 2020, BEIS https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/894917/Energy_Trends_June_2020.pdf

²Energy Trends: September 2020, BEIS https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/920544/Energy_Trends_September_2020.pdf

Energy bills are already high and many people struggle with fuel poverty. Politicians and regulators are focussed on protecting bill payers. But to decarbonise the energy system will require substantial investment in infrastructure. The energy system is complex and questions remain about what infrastructure to develop and how to fund it.

It is clear we must continue to use energy more efficiently, reduce carbon emissions from fossil fuels and increase electricity generation from renewable and low carbon sources. We will need more renewable energy generation if we are to meet the increased electricity demand from decarbonising heat and transport.

The electricity grid was substantially expanded in the 1960s to carry power from traditional coal power stations to the cities and towns where electricity is used. The increasing rollout of renewable energy generation such as wind and solar, which are often developed in rural areas or offshore, now means the electricity networks are adapting to connect this new generation to where the energy is needed.

The addition of new power supply or demand to the system requires proximity to suitable grid connection points and consideration of the available capacity and constraints on the existing grid.

Reinforcing the grid and adding new grid infrastructure are both expensive, with costs falling to the bill payer.

Undoubtedly the grid needs investment but questions remain about the scale and location of developments and how they will be paid for. To some extent these decisions will be influenced by the decarbonisation pathways we choose to follow.

We set out our plans for further work on these topics over the coming year in the section on Energy below.

Transport

Travel has been hugely affected by COVID-19. In April, vehicle miles travelled (VMT) in the UK dropped to just 26% of pre-COVID-19 levels³. Many reflected on the absence of rush hour congestion and improvements in air quality. By June VMT had returned to 67% of pre-COVID-19 levels. Cycling and walking seem to have increased⁴, a trend we encourage and shall watch with interest. But with use of public transport down significantly the loss of revenue is likely to affect plans to develop services in the near future.

An effective transport system remains critical to the success of our economy. It supports job creation, reduces costs and improves productivity. Goods must be transported. Not all work can be done from home. Many live isolated lives, and frequent, efficient and reasonably priced public transport helps people stay in touch.

³ European Passenger Travel Response to COVID-19, Inrix <https://inrix.com/campaigns/impact-of-covid-19-on-transportation-in-europe/>

⁴ <https://gov.wales/golden-opportunity-change-deputy-minister-lee-waters>

Much of our existing network is a legacy of Wales' past, designed to transport raw materials and manufactured goods. Some rail services are packed during commuter rush hours but otherwise largely underused. Bus passenger numbers have fallen substantially as fares rise and frequency decreases. For many, the privately owned car remains the solution.

COVID-19 has led to a huge reduction in the use of public transport. It may take time to rebuild confidence but if and when passenger numbers do return to pre-pandemic levels, the morning rush hour will continue to put transport networks under enormous pressure.

In rural areas, public transport is often constrained due to low population density with the result that rural communities are more dependent on cars. Placing communities at the heart of transport system design from the outset can save time and money, as well as ensuring we can connect with those facing the most disadvantage and isolation.

Our work on transport for the coming year is outlined in the Transport section below.

Water and waste management

Another unwelcome feature of 2020 was the frequency and severity of flooding. In February, storms Ciara, Dennis and Jorge brought disruption and flooding to all parts of Wales. Again in June and August, heavy rain resulted in hundreds of homes and businesses being flooded, some for the fourth time in the year. We should expect this pattern of rainfall to become a feature of our changing climate. Sadly as we saw with the train derailment in Stonehaven, Scotland, weather events like this are a challenge to the resilience of our infrastructure. This is a subject we plan to investigate further in the coming year.

In Wales, infrastructure is one of the largest consumers of resources and generates more waste than any other sector. We have had exploratory discussions with the Welsh Infrastructure Alliance and regulators around water, resource efficiency and waste. We recognise the key role of infrastructure in the transition to a circular economy and will explore the matter further next year.

Other Matters

Our ability to engage with the issues which we had identified in our 2019 Annual Report has been hindered by a number of factors during the year. The COVID-19 pandemic restricted our ability to engage with stakeholders after March 2020, as well as reducing the capacity of commissioners to engage with each other and reducing the staff support from Welsh Government (with some staff understandably being redeployed to other duties). The COVID-19 pandemic also meant that we were unable to finalise the provision of dedicated financial resources by Welsh Government so as to enable us to commission work from outside experts on a number of the issues where we felt this was necessary. Without this support it has been difficult for us to develop a well-informed view or assemble evidence on some issues. We found ourselves unable to produce comprehensive reports and recommendations on energy and transport issues as a result. Our report on digital communications infrastructure is the result of work which was largely undertaken on a voluntary basis by individual commissioners who are experts in this field.

At the time of publishing this Annual Report, the COVID-19 pandemic continues to inhibit the work of the commission. Our capacity to deliver the programme of work which we outline in this report will depend to a significant degree on when and whether these conditions change, which is uncertain. However, it is important to emphasise that the programme of work we present in this report assumes that the Welsh Government will provide adequate funds to enable us to commission the additional work which we consider is required for us to produce well-evidenced and robust recommendations in relation to both energy and transport.



John Lloyd Jones
OBE FRAgS Hon FLI

Digital Communications

In 2020 we worked on the Digital Communications Infrastructure in Wales (DCIW) report which is being published alongside this Annual Report. We provide an account in the DCIW report of the work we undertook during the year and the organisations we engaged with in connection with the preparation of the report. Chapters 4 and 7 of the DCIW report summarise the evidence we received from stakeholders during our investigation, for which we are grateful.

Our plan for 2021 is to first engage with the Welsh Government and other stakeholders to ensure that the contents of the DCIW report are communicated and understood. Subsequent activities depend upon whether and when the Welsh Government decides to adopt some or all of the recommendations in the report. This is a matter for the Welsh Government itself but the commission stands ready to assist in whatever way is most appropriate.

Although we have not invited further representations following the publication of the DCIW report, we may receive input during our engagements with stakeholders and will consider what, if any, further work is required on digital communications in light of these. We do not currently expect to undertake further significant evidence gathering in relation to digital communications in 2021.

Energy

COVID-19 has impacted some of our planned activities this year. Visits to marine energy stakeholders had to be postponed in March and since then we have been restricted to online meetings. However, we are grateful to the many colleagues who have spoken to us including those from: Arup, Cardiff University, Carmarthenshire Energy, Community Energy Wales, Energy Local, Institution of Civil Engineers Cymru, National Grid, National Infrastructure Commission, National Power, Ofgem, Port of Milford Haven, RenewablesUK Cymru, Scottish Power Networks, Swansea University, UK100, Wales and West Utilities, Welsh Government, Western Power Distribution and WSP. These discussions have been a valuable addition to the submissions we received in response to our 2019 Annual Report, for which we are also grateful.

Over the 5-30 year horizon that this commission considers, we can expect to see significant changes to the way in which energy is produced, transported and consumed. In the coming year we intend to explore how we future-proof our energy networks in Wales, exploring our readiness for smart networks and emerging transmission technologies.

We would welcome further evidence on the economic and practical implications of changes to energy transmission for individual consumers, for industry and for society. We would also welcome evidence on the impact of changing energy trends on Wales' energy security.

Marine energy generation has been proposed within Wales for many years, but to date the "Blue Economy" in Wales is at an early stage of development. With good tidal and wave-power conditions in many locations around the Welsh coast, there is latent potential for a marine energy sector to create jobs in deprived rural and coastal communities and make a contribution to the low-carbon energy needs of Wales. We intend to investigate whether and how Wales can overcome the practical barriers that have prevented previous developments from succeeding.

We would welcome evidence on overcoming the barriers to delivery of marine energy schemes.

Transport

We are grateful for the responses we received to the call for evidence included in our 2019 Annual Report. The evidence we received has influenced our thinking and will feature in future reports from the commission. During the year we have continued to gather evidence through meetings with stakeholders including: Keolis, National Infrastructure Commission, Network Rail, South East Wales Transport Commission and Transport for Wales. And we have engaged in dialogue at events including the Welsh Highways Conference. Sadly some other events were unable to go ahead due to COVID-19.

A focus for our attention during the year has been the Welsh Government's emerging Wales Transport Strategy. The strategy will set the long-term vision for transport in Wales and we feel it is important that we influence its development as best we can. We will continue to advise Welsh Government as it works toward publication of the strategy in spring 2021.

One of the themes from our 2019 Annual Report was resilience. The impact of climate change and the increasing risk of extreme weather events presents a specific challenge to Wales' transport infrastructure, with many of Wales' major road and rail networks affected by flooding, landslides and tree falls on a regular basis. The recent derailment of a passenger service near Stonehaven in Scotland is a sad reminder that such events represent a risk to life, not only a risk to economic development through disruption. Over a 5-30 year horizon it is reasonable to expect that the frequency and severity of such weather events may increase,

and therefore the resilience of our transport networks is a key concern that we intend to explore. We would welcome evidence on these issues, and in particular, evidence from transport bodies on their risk management strategies for long-term climate change.

Continuing our work on improving strategic connectivity, we will study the findings of the Turner Review into Road User Charging in Wales and the final report of the South East Wales Transport Commission before publishing a short report on implications for the strategic North Wales transport corridor.

The move to remote working and meeting online that has been widely adopted during the COVID-19 pandemic may have long term implications for travel, for example between North and South Wales. Our recommendations on digital communications infrastructure are relevant here.

Transport represents a quarter of Wales' energy use⁵. The decarbonisation of transport is therefore critical to meeting Welsh Government carbon targets. During the year we shared the evidence we received on Wales' readiness for zero emissions vehicles with Welsh Government to inform its EV strategy. We shall continue to influence emerging policy in this area during the year ahead.

Another issue on which we received evidence was improvement to transport in rural Wales. We acknowledge that rural Wales is not a homogenous area with a single set of transport needs. However, people living in rural areas frequently need to travel relatively long distances to access work

⁵ Energy Use in Wales 2018, Welsh Government <https://gov.wales/sites/default/files/publications/2020-06/energy-use-in-wales-2018.pdf>

and services. Public transport is often constrained due to low population density with the result that rural communities are more dependent on the car than Wales as a whole. Changes in transport use, digital working patterns and furlough levels have provided useful insight into the way in which the structure of the rural economy, alongside access to community assets and services, are likely to affect future rural transport needs. This is an issue we will come back to in 2021.

The final issue on which we sought evidence in our last Annual Report was how public policy can reduce the need for people to travel. Whilst in the short-term patterns of transport in Wales have been disrupted by the COVID-19 pandemic, it will be some time before longer lasting habits of commuting and home-working are clarified. We are interested to explore the extent to which the structure of Wales' economy and workforce, land planning and public services make reductions in the need for travel possible. We have also noted the efforts to enable greater use of active travel this year and would welcome evidence on the active travel interventions that have been effective in delivering behavioural change in other cities, regions and countries.

How to respond

Responses should be emailed to:

NationalInfrastructureCommissionforWales@gov.wales

Evidence should be submitted by Friday 26 March 2021. Evidence submitted after that date may not be considered.

If further information or clarification is required, the commission secretariat will contact you.

The commission secretariat would be happy to answer any questions by e-mail at the address above.

FOI and privacy statements

We may publish any responses received. If you believe there is a reason why your response or any part of it should be considered confidential, please provide details. Information provided in response to this call for evidence, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or other relevant legislation.

If you want information that you provide to be treated as confidential please be aware that, under the FOIA, there is a statutory code of practice with which public authorities must comply and which deals, amongst other things, with obligations of confidentiality.

In view of this, it would be helpful if you could explain why you regard the information you have provided as confidential. If the commission receives a request for disclosure of the information, it will take full account of your explanation, but cannot give an assurance that confidentiality can be maintained in all circumstances.

The commission will process your personal data in accordance with relevant data protection law.