MANIFESTO FOR INFRASTRUCTURE IN WALES 2016: PROSPERITY, GROWTH AND JOBS

#commit2infra
@ICEWalesCymru
Recommendations

Wales needs a 'Vision for Infrastructure'. The next steps in the development of the Wales Infrastructure Investment Plan (WIIP) are crucial to the delivery of sustainable and effective infrastructure in Wales.

Most forecasts of population growth recognise that it will focus on urban areas, driving particular infrastructure requirements around current and future cities to ensure that they are smart and liveable for people who work in, live in, and visit them.

In this context population growth will have particular challenges for transportation, energy, water, communications and waste management provision.

Resilience

Wales must continue to invest in new and existing infrastructure assets and speed the transition to a low carbon economy.

Skills

Wales must continue to invest to grow the next generation of engineers and upskill our current workforce so that we can deliver infrastructure that drives our economy and society.

Infrastructure Pipeline

The Wales Infrastructure Investment Plan (WIIP) must be progressed to develop a pipeline of infrastructure projects with timelines developed and supported by the proposed Wales Infrastructure body.

Introduction

Our quality of life depends on infrastructure. There would be little economic activity without energy generation and distribution, water supply and disposal, transportation by rail, road, sea and air, and waste management.

As the 'voice of infrastructure', ICE Wales Cymru is making the case for continued investment in Wales' infrastructure, not just for the benefit of industry and the economy, but for the benefit of society as a whole. The ICE Wales Cymru State of the Nation Report, Infrastructure 2014¹ considered the condition of vital infrastructure in Wales and made the case for continued investment.

There is a clear link between Wales' infrastructure and its economy. Ongoing investment will protect the current service levels of infrastructure, ensure that Wales is well-placed to take advantage of greater economic prosperity, and help us meet our climate change obligations.

What We Do

The Institution of Civil Engineers (ICE) is made up of over 86,000 professional civil engineers. Most of whom work in the UK, but ICE members also operate in 180+ countries worldwide. ICE Wales Cymru represents over 3,600 professional civil engineers across Wales.

ICE's Royal Charter obliges it to always have regard to the public benefit, and always to act in a manner which is consistent with the public good.

True to these obligations, ICE is an independent, professional body which aims to harness engineering knowledge and expertise for the benefit of society. ICE has long worked with the governments of the day to help it to achieve its objectives, and has worked with industry to ensure that construction and civil engineering remain major contributors to the UK economy and UK exports.

ICE Wales Cymru considers that the lack of overview of the vulnerabilities of Wales’ infrastructure networks has created gaps in our approach to defending critical infrastructure. The interdependence of our infrastructure assets must be recognised with increased levels of information sharing and joint forward planning.

**Transport**

Wales must have a safe, affordable, integrated and accessible transport network that supports local and regional economic growth, productivity and a vibrant society. ICE Wales Cymru recommends that we should:

- Deliver the M4 Corridor around Newport as a priority. ICE Wales Cymru supports the ‘Black Route’. This will deliver an efficient and resilient Trans-European Transport Networks (TEN-T) road and freight network.
- Resolve the longer term arrangements for the Severn Crossings Toll.
- Deliver the Electrification of Wales’ rail lines. Prioritise the Swansea – Cardiff – London line together with the Welsh Valley lines.
- Resolve the challenges of the Severn Tunnel. Rail links between south Wales and southern England rely on the Severn Tunnel, this is an ageing asset with little spare capacity presenting a significant risk to efficient links to London and Heathrow.
- Improve road links across all Wales, north – south as well as east – west in north Wales and in south Wales.

Wales would benefit from a robust and resilient transport network with genuine choices for the travelling public and freight carriers alike. Improved connectivity and capacity of road and rail links with London, southwest England, the Midlands and northwest England would drive economic growth within Wales and ensure that Wales has the ability to compete for investment with other parts of the UK. Transport requirements across the porous border are particularly important and collaboration between Wales and the English border areas deserve particular attention in terms of capacity and resilience.

Wales has a National Transport Finance Plan and the devolution of further transport powers can deliver integrated and innovative transport schemes. These additional powers should include responsibilities for rail infrastructure.

Given the clear health benefits of walking and cycling, these forms of transport should be supported and promoted. The Active Travel (Wales) Act 2013 leads the way in this regard.

There is a need for continued collaboration between the Welsh and UK Governments to expedite infrastructure delivery, particularly where innovative solutions or funding requirements may be required (e.g. Cardiff City Region Metro) or where investment may benefit aligned Welsh / English regions.

Energy security is one of the key issues facing Wales and the UK today. ICE Wales Cymru recommends that we must:

- Ensure the sufficient supply of electricity to avoid interruptions.
- Reduce the production of harmful emissions.
- Promote energy efficiency measures.

ICE Wales Cymru believes that there is potential for a demand and supply imbalance unless Governments take prompt action to prevent future shortfalls. Security of supply should be at the very top of the agenda. This means a mixed approach to our energy generation – including nuclear and renewables. Full use should be made wherever possible of the heat produced by electricity generation plants through combined heat and power schemes.

Wales should take full advantage of its natural resources and can deliver innovative, sustainable energy from a wide variety of sources. ICE Wales Cymru envisages Wales becoming an ‘energy hub’ for the UK. Wales is ideally placed to play a very significant role in clean energy generation due to its many advantages including topography, tidal range and stream, consistent, higher than average wind speeds and areas of low population density.

In order to realise these opportunities ICE Wales Cymru urges Government to progress proposed new nuclear reactors at Wylfa on Anglesey and avoid taking decisions which cast uncertainty on the energy industry, such as the termination of support for onshore wind farms.

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ICE Wales Cymru believes Wales, in its use of ecological footprinting, is leading the way forward in targeting reductions in the UK carbon footprint. ICE promotes and supports the innovative development of renewable energy technologies, particularly wind and marine power.

ICE Wales Cymru also recognises the need for strict energy efficiency standards for buildings, for example the BREEAM (Building Research Establishment Environmental Assessment Methodology) sustainability assessment.

There are differing views on the devolution of energy powers to Wales; ICE Wales Cymru calls on all parties to resolve these issues so that Wales can realise its energy potential.

**Water and Waste Water**

Wales has great potential to harness and benefit from its invaluable supply of water. Water is not only essential for communities, but for business and industry alike. ICE Wales Cymru recommends that we must:

- Produce innovative low carbon ways to transfer water across river catchments.
- Invest in and improve the existing water network – improving efficiency and security of service. Reservoirs must be upgraded to meet future water demand with a long term strategic plan for water resources in Wales.
- Promote Wales’ plentiful water supplies linked to inward development – domestic and commercial opportunities. Availability of water can be a business differentiator in some sectors.
- Help the public to view water as a valuable resource to improve water efficiency and reduce demand.

ICE Wales Cymru recognises the unique situation in Wales where the majority of the country’s services are provided by a water company owned by a not for profit organisation (Glas Cymru), which is able to reinvest financial surpluses into both clean water supplies and the treatment of waste water. Continued capital investment in these aging systems needs to continue.

While Wales has abundant water resources it is still important to manage our resources efficiently. A greater focus on demand management is essential and ICE Wales Cymru is keen to play its part in educating the public on the value of water and how it can be used more efficiently.

**Flood Risk Management**

Effective flood risk management requires collaboration across a range of stakeholders. ICE Wales Cymru recommends that the following actions must be addressed:

- Welsh Government must:
  - Develop a long term capital and maintenance investment programme.

- Lead Local Flood Authorities must:
  - Develop strategies to improve property level resilience in flood risk areas, and identify and protect exceedance flood pathways to operate in extreme events. This will build on the good progress made in Wales on the implementation of Sustainable Urban Drainage schemes (SUDs).

- Industry must:
  - Work with the research community to innovate in the use of flood resilience technology. Research and innovation should result in the development of resilient buildings that meet high sustainability standards in other aspects.
  - Work with planners to proactively create flood resilient community systems. Education, training and Continuing Professional Development (CPD) for designers, builders, product manufacturers and property managers is necessary.
ICE Wales Cymru believes that flood risk management should be placed at the heart of urban design. A different approach to flood risk management is required for the future. This will require a collaborative approach.

Current estimates show that

one in six
properties in Wales are at risk of flooding from rivers, the sea and surface water.

Whilst the number of properties at risk from coastal erosion is less well defined, the numbers are considered to be significantly smaller. The majority of these would not be affected until the medium to long term, i.e. within the next 30-100 years so it is essential that we begin to plan now.

The Welsh Government has recently published interim national standards on an advisory basis. ICE Wales Cymru recognises the important role that Sustainable Urban Drainage systems (SUDs) take, and supports the development of SUDs across Wales. These systems, along with a full range of other measures are required for effective Flood Risk Management.

Waste Management

There must be a fundamental shift in the way waste is addressed. ICE Wales Cymru recommends that:
• Waste must be treated as a resource
• Wales must shift towards a Circular Economy

ICE Wales Cymru believes that Wales must deliver a fundamental shift in public and business attitudes for waste - to resource management, creating new jobs, delivering reductions in CO₂ emissions, and unlocking new sources of energy. Waste should be reused or recycled, and, where possible, treated as a resource. Wales should shift to a ‘circular economy’ in which the waste and resources sector continues to evolve from a disposal industry, into a sector which collects surplus materials and reprocesses them into commercial quality products.⁴

In order to deliver the skills required for infrastructure delivery ICE Wales Cymru recommends that we must:

- Continue to invest in Apprenticeship initiatives
- Develop accredited engineering courses in north Wales
- Develop a skills strategy for Wales

Ensuring that Wales has the right skills in place is a key part of addressing the current productivity lag, improving infrastructure delivery and yielding economic growth.

ICE Wales Cymru supports and promotes continued investment in the skills needed to deliver current and future infrastructure. Long term investment programmes are required to provide a longer term approach to boost skills growth in the industry.

ICE Wales Cymru is proud of its strong links with colleges and universities with its accredited courses for progression to professional engineering qualifications.

Accredited civil engineering degree courses are available in south east Wales at Cardiff University, Swansea University and the University of South Wales. However, there are no such accredited courses available in Wales, north of Pontypridd. ICE Wales Cymru strongly supports and encourages the development of suitable accredited courses in north Wales.

ICE has led the way in recognising the status of Technicians by granting the use of the designatory letters ‘MICE’ (Member of the Institution of Civil Engineers) for these Engineering Technicians.

The continued investment in Apprenticeships and support for more Welsh apprentices is required together with investing in Technicians and Graduates.
The Welsh Government’s Welsh Infrastructure Investment Plan for growth and jobs (WIIP) is the first step in delivering a long term approach to infrastructure provision. ICE Wales Cymru recommends that:

- The Wales Infrastructure Investment Plan (WIIP) must be progressed to develop a pipeline of infrastructure projects with timelines developed and supported by the proposed Wales Infrastructure body.

The WIIP needs to evolve and ICE Wales Cymru supports the creation of the Infrastructure body to provide the necessary industry advice and support to help Government achieve this.

Wales needs a joined up infrastructure vision for Wales, looking forward twenty five years and developed through engagement with governments, clients, investors, operators and delivery teams.

This will lead to the development of a wider built environment sector that encourages and fosters confidence, capability, creativity and ambition.

http://gov.wales/funding/wiipindex/?lang=en
About ICE
Established in 1818 and with over 85,000 members worldwide, ICE is a leading source of expertise in infrastructure and engineering policy and is widely seen as the independent voice of infrastructure. ICE provides advice to all political parties and works with industry to ensure that civil engineering and construction remain major contributors to the UK economy.

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