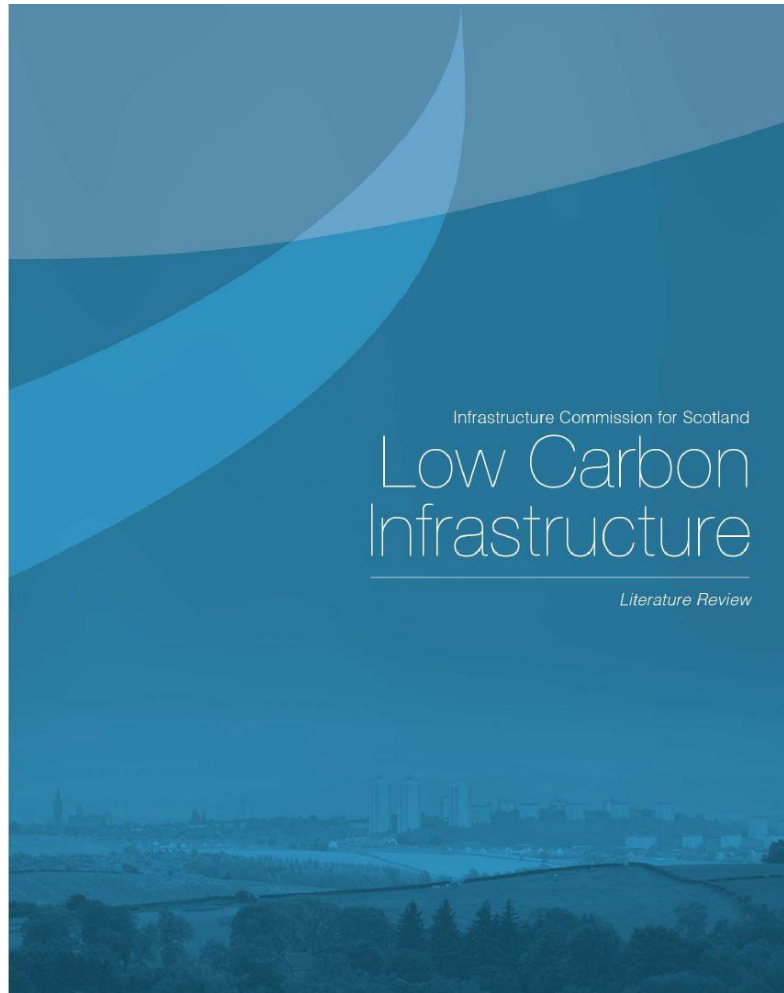




PiP: Working with Climate Change in Mind



Nathan Goode
January 2020

Aventia
CONSULTING

How will Climate Change Influence our Infrastructure Requirements?

Lynne Ward
Infrastructure Commission for Scotland



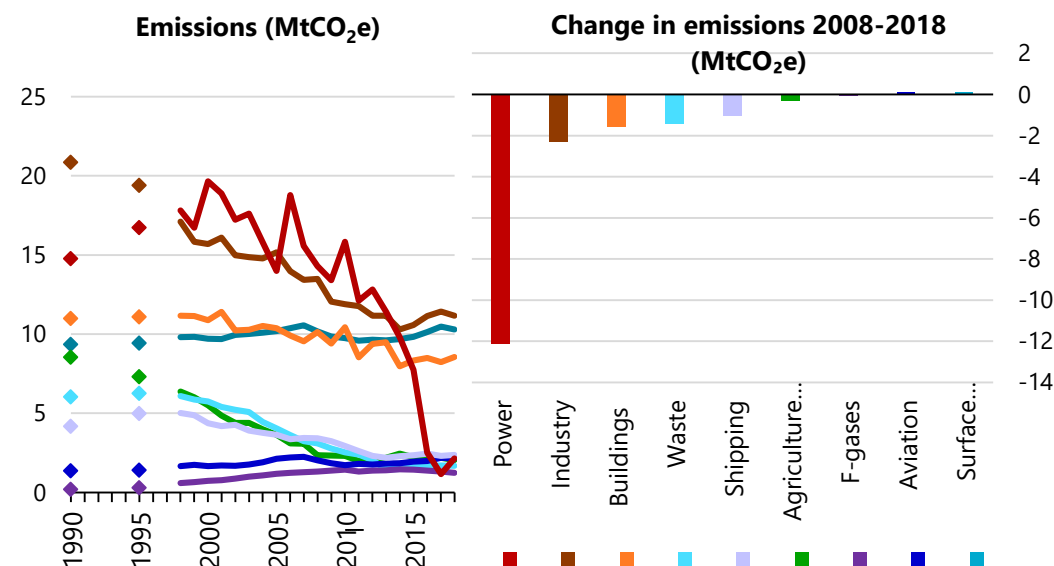
What do we know & how do we improve our evidence-base?

/// We Have a Framework



Infrastructure & Decarbonisation

- CCC: Infrastructure for decarbonisation
- Transport emissions & heat (energy consumption)
- Sector emission mix changing
- Investment hierarchy – embodied carbon

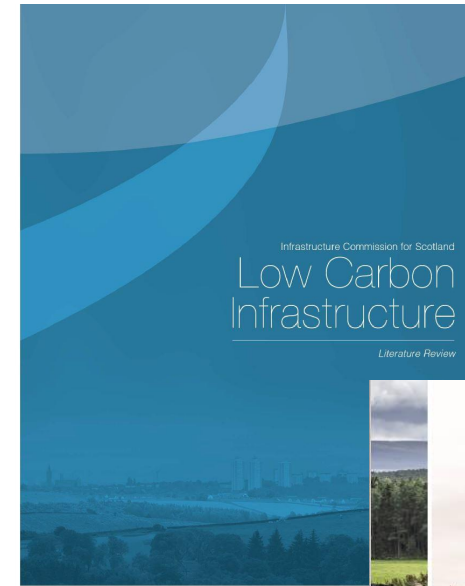




But do we know enough....?

A Whole System Approach

- Broader role of infrastructure
- Infrastructure interaction & trade-offs
- Stakeholders views and appetite for trade-offs
- Measuring impact & forward planning (scenario modelling?)



Nathan Goode
January 2020



Reducing emissions in Scotland
Progress Report to Parliament

Committee on Climate Change
October 2020

And So....?

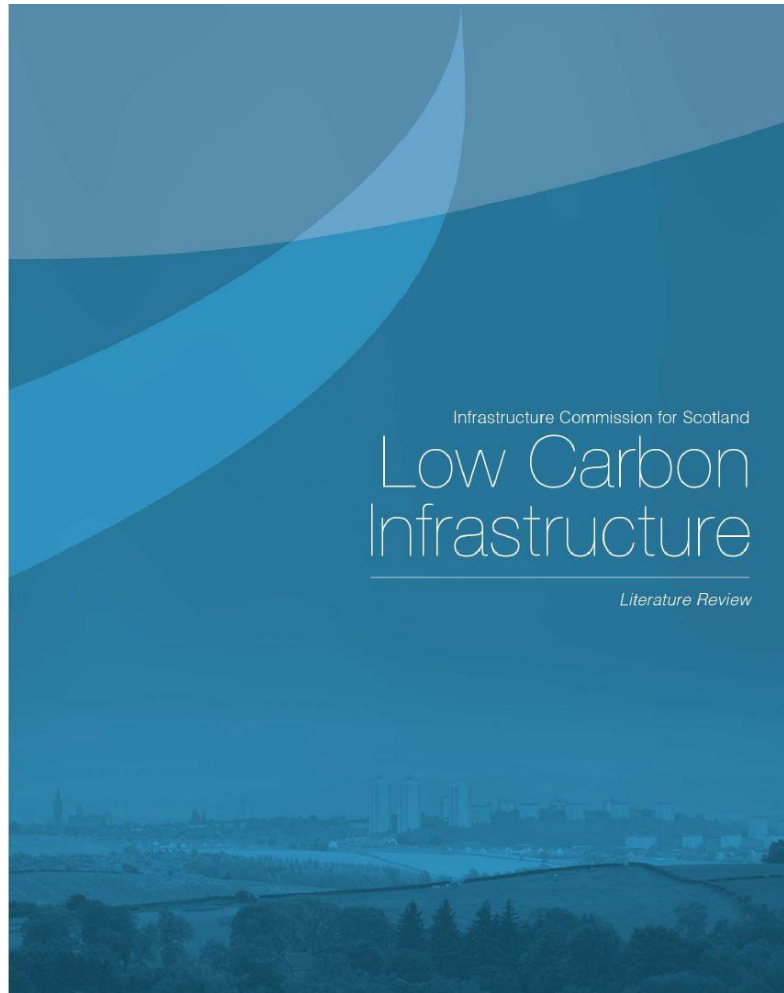
How do you ensure you have the evidence you need?

1. We have some data, but it's not so simple
2. How do we evaluate impact & feed it into future decisions?
3. What pathway do you need to create now with imperfect data?
4. Who do you need to be talking to?





PiP: Working with Climate Change in Mind

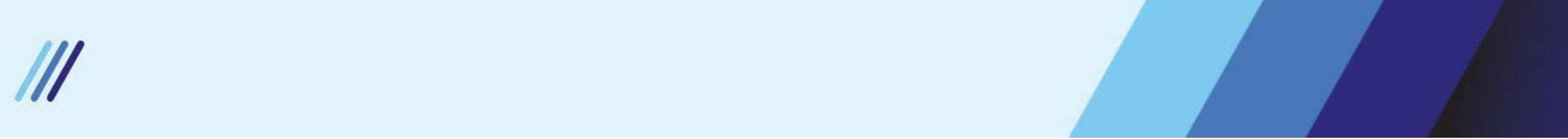


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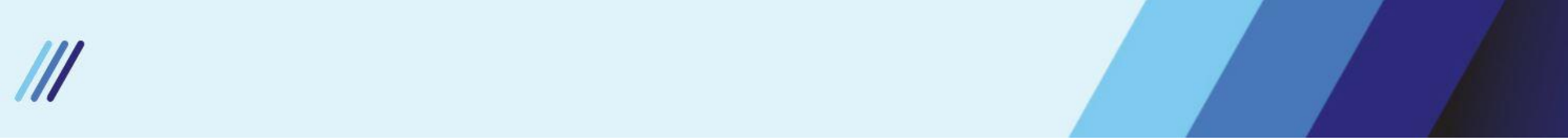
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Additional Slides



1. 20 minute neighbourhoods
2. New Investment Hierarchy for public estate - IIP
3. Climate Change Plan Review – strong focus on behaviours
4. Planning Act Implementation
5. NPF4
6. Heat and Transport big hitters
7. Regional economies

Phase 1 recommendations



↓01

Leadership

To provide leadership and demonstrate intent, the Scottish Government should prioritise all new infrastructure investment decisions based on their contribution to the delivery of an inclusive net zero carbon economy:

↓02

Place

To achieve an inclusive net zero carbon economy, the Scottish Government should put "place" at the heart of coherent, infrastructure prioritisation and planning.

↓03

Making the most of existing assets

Most of the underlying infrastructure that will be used in 30-years' time already exists today. It is therefore essential that these assets are most effectively and efficiently utilised, maintained and enhanced to net zero carbon readiness.

↓04

Heat and Transport

Key priorities for Scotland in reaching net zero carbon over the next 30-years will be accelerating the decarbonisation of heat and transport.

↓05

Regulation

To incentivise investment at the necessary pace and scale to meet future infrastructure requirements for Scotland, regulation will be a critical component to the delivery of a 30-year inclusive net zero carbon economy vision.

↓06

Digital & Technology

Ensure every citizen, organisation and business in Scotland has the ability to access digital public services, to undertake trade and commerce and to participate in future global economic markets regardless of geographic location.

↓07

The role of the public

Much greater participation of the public needs to be incorporated as an integral part of infrastructure investment decision-making:

↓08

Independent long-term advice

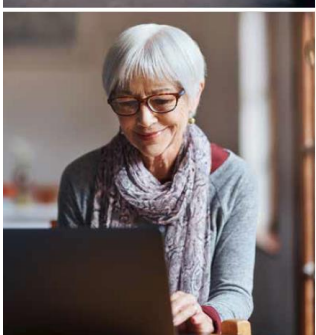
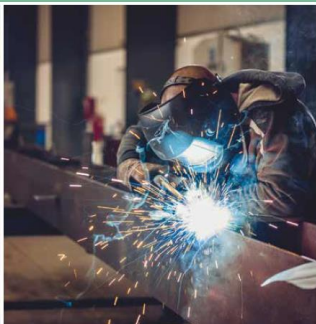
To enable government, regulators and industry to make the transition to a long-term, coherent, systems wide approach to place-based infrastructure strategy and planning.

Phase 1 IIP response



A NATIONAL MISSION WITH LOCAL IMPACT

Draft Infrastructure Investment Plan for Scotland 2021-22 to 2025-26



PRINCIPLE	DETAILED RECOMMENDATIONS	ACCEPT	SCOTTISH GOVERNMENT RESPONSE
Leadership 	<ol style="list-style-type: none"> The 2020 Infrastructure Investment Plan should be prioritised against available inclusive net zero carbon economy outcomes. Scottish Government should, by 2021, develop a new Infrastructure assessment framework Scottish Government should publish, by 2023, a system-wide Infrastructure Needs Assessment A fully updated Infrastructure Investment Plan should be developed for publication by 2025, using the new Needs Assessment and framework. 		<p>This draft Infrastructure Investment Plan 2021-22 to 2025-26 prioritises the pipeline of investments against three themes, including enabling net zero emissions and environmental sustainability, and driving inclusive economic growth.</p> <p>It sets out a 5 year programme of improvements to infrastructure planning, ready to support future Infrastructure Investment Plans. This includes the development of a new infrastructure assessment framework and a system-wide Infrastructure Needs Assessment.</p>
Place 	<ol style="list-style-type: none"> There should be Place-based assessment of long term Scottish housing supply and demand by 2021, supported by a coherent strategy for the labour market and business opportunities from an inclusive net-zero economy. To support the Implementation of National Planning Framework 4 and the new system of development plans, a co-ordinated and appropriately resourced Infrastructure First approach to the planning system should be introduced by the SG by 2021 		<p>This draft Plan puts 'Place' at its heart through its third theme focused on building resilient and sustainable places.</p> <p>As part of planning reform we will set out interim housing land required (for consultation and scrutiny) in the draft National Planning Framework, due in 2021, and will frame this within a new spatial strategy that aligns with our investment programme and principles. We will build on this to further adapt our Housing Planning Delivery Framework, to enhance our placed based assessments of long term housing need and demand across Scotland through local housing strategies by 2022.</p>
Making the most of existing assets 	<ol style="list-style-type: none"> By the end of 2020, all public sector infrastructure asset owners should develop asset management strategies Scottish Government should issue guidance on a whole-life approach to infrastructure maintenance and prioritisation, which includes both cost and build resources. There should be a presumption against like-for-like replacement of assets and construction of new, single purpose ones in favour of shared facilities. By 2023, Scottish Government should establish a route map to implement an outcome-focused system of resource use, reduction, collection, treatment & repurposing. By 2023, Scottish Government should develop a clear Implementation plan to address critical natural and built infrastructure climate resilience and adaptation. 		<p>We will develop a programme of work with Scottish Futures Trust to prepare guidance for public organisations when developing asset management strategies, considering whole-life approach including cost and build resources alongside the new investment hierarchy, as well as wider net zero and inclusive growth priorities.</p> <p>Scottish Government is developing a route map to reduce waste and meet our waste targets and recycling targets for 2025.</p> <p>Scottish Government policies set out in Climate Ready Scotland: Second Scottish Climate Change Adaptation Programme⁷ will be embedded across Government. Independent, expert advice from the Adaptation Committee of the Committee on Climate Change will stimulate further progress.</p>
Heat & Transport 	<ol style="list-style-type: none"> By end 2020, accelerate development and Implementation of Incentives, support mechanisms and standards for energy efficient, net zero buildings. By 2022, Scottish Government, local authorities, regulators and industry should establish a route map for decarbonising heat in domestic, commercial and public buildings, as well as surface-based transportation. The National Transport Strategy and Strategic Transport Projects Review 2 should fully reflect the need to deliver an inclusive net zero carbon economy. By the end of 2021, develop a new Transport investment appraisal and decision-making process, with necessary changes to current guidance. Scottish and UK Governments should commit to work together to establish a charging and payment alternative to the existing fuel and road tax-based regime, to give a more stable, long-term regime for road management and maintenance. 		<p>This draft Plan sets out programmes and projects to accelerate decarbonisation of heat and transport.</p> <p>The Climate Change Plan⁸ shows how Scotland will drive down emissions to 2032. It will be updated later this year to incorporate green recovery proposals.</p> <p>We have committed to £16 billion investment in heat and energy efficiency in our homes and buildings. We are rolling out a Net Zero Carbon Public Sector Buildings Standard, ensuring new public buildings are net zero ready. Future actions will be set out, by the end of 2020, in the Heat Policy Statement and Energy Efficient Scotland Route Map. We will also deliver a Hydrogen Policy Statement and Hydrogen Action Plan as a companion to the Climate Change Plan Update.</p> <p>The National Transport Strategy (NTS) fully reflects our need to deliver our ambitious net-zero targets. We will assess future transport investment decisions through the second Strategic Transport Projects Review, embedding the NTS priorities and outcomes and the Sustainable Investment Hierarchy.</p> <p>Powers relating to Vehicle Excise Duty and Fuel Duty are reserved to UK Government. The Scottish Government has written to the Secretary of State and would welcome constructive discussion with UK Government on these issues.</p>
Regulation 	<ol style="list-style-type: none"> Building on the UK National Infrastructure Commission review of Energy and Telecoms regulation, Scottish and UK Governments should work together to develop, by 2021, an appropriately devolved regulatory & pricing framework to meet future needs. Building on existing plans Scottish Government should, by 2021, consider options for delivery and regulatory coherence of water provision and flood management/resilience. 		<p>We continue to work with the UK Government and regulators on an underpinning framework in both Energy and Telecoms that is responsive to Scottish needs.⁹</p> <p>Work is in train to increase collaboration between water industry and flood management partners.</p>
Digital & Technology 	<ol style="list-style-type: none"> Scottish Government should provide the leadership required to ensure delivery of a full fibre network for Scotland by 2027, to enable the transition to 5G country-wide. To increase Scotland's international presence and connectivity, Scottish Government should support an indigenous data-centre market, and investment in fibre-optic cable. From 2020, Scottish Government should consider the future data requirements and data potential for new publicly-funded infrastructure, and digital services. 		<p>The Reaching 100% (R100) programme will give people in every part of Scotland access to superfast broadband by end 2021 and will provide a significant number of full fibre connections well in advance of 2027. SG continues to work with UK Government on their commitment to roll out gigabit broadband across the country by 2025.</p> <p>The Scottish Government is working with Scottish Futures Trust and partners on a strategy and action plan with the datacentre and international connectivity industry. This work will identify and map out future digital connectivity investment opportunities.</p> <p>We will continue to work to foster the adoption of open data standards, open data and platform based business models necessary to realise the future data requirements and potential for publicly funded infrastructure.</p>
The role of the public 	<ol style="list-style-type: none"> By 2022, capacity and capability requirements for an informed approach to public engagement and participation are needed, to ensure short and long term trade-offs are effectively debated, understood and taken into account. 		<p>The Scottish Government will build on learning across sectors, including Scotland's Climate Assembly, and other countries, to develop an exemplar public engagement approach.</p>
Independent long-term advice 	<ol style="list-style-type: none"> By 2021, a body should be given responsibility to provide Independent, long term, evidence-based advice to Ministers on investment decisions for our social, economic and natural infrastructure needs and priorities. 		<p>The Scottish Government is considering this recommendation in conjunction with the findings of the Commission's Phase 2 report in order to fully reflect on the statutory implications of taking this forward.</p>

Phase 2

1. Prioritising an inclusive net zero carbon economy
2. Enabling sustainable places
3. Delivering a thriving construction sector
4. Scottish National Infrastructure Company

