



Infrastructure
Commission
for Scotland 

Phase 1: Key findings report

A blueprint for Scotland

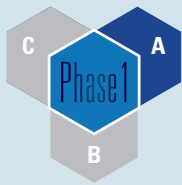
JANUARY 2020

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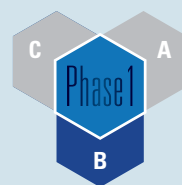


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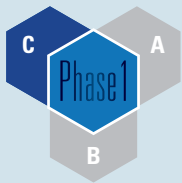
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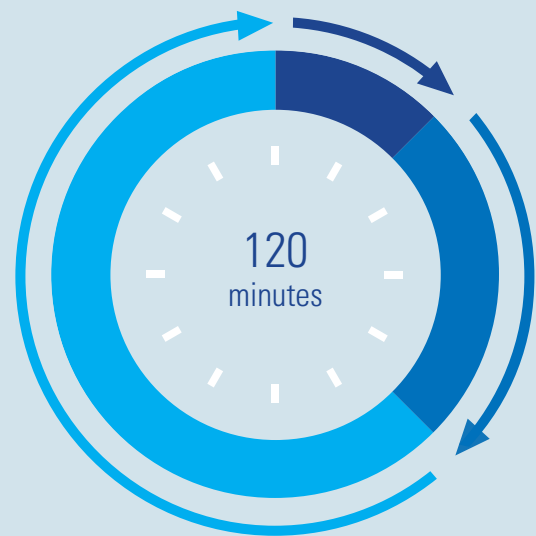
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Sequence to read the report, with time available

- Executive Summary: 15 minutes
- Part C: 30 minutes
- Parts A & B: 75 minutes



Foreword

In early 2019 the Cabinet Secretary for Transport, Infrastructure and Connectivity invited us to undertake an 18-month commission to advise on a 30-year, long term strategy and its delivery for Scotland's infrastructure.

The Scottish Government's definition of infrastructure includes both economic and social infrastructure that covers transport, energy, telecoms, water, waste, flood defences, housing, education, health, justice and culture. During the work of the Commission it has also become evident to us that Scotland's natural assets should also be incorporated in this definition of infrastructure.

The commission has engaged widely and received input from over 200 organisations and 1000 individuals across Scotland. It also took evidence from similar organisations in the remainder of the UK and internationally. This engagement and evidence gathering has been fundamental to shaping and informing our work.

During the past 12 months it has become clear that net zero carbon and inclusive economic growth are two key policy areas which have a significant bearing on infrastructure. Focussing infrastructure decisions on these areas of policy will lead to very different outcomes compared with past investment, and the nature, purpose and focus of infrastructure investment over the 30 year horizon is likely to change fundamentally as we aim for an inclusive net zero carbon economy.

Most of the evidence in relation to the impact of infrastructure is focused on traditional GVA type outcomes which are not seen as the sole measures of success and opportunities of net zero carbon or inclusive economic growth. Given the urgency of the transition, this means we will have to take some infrastructure decisions according to agreed principles for which detailed empirical evidence may not yet be available as well as take immediate steps to develop that new evidence base. This Phase 1 report therefore provides an opportunity to set out an overall 30-year infrastructure vision to support and enable an inclusive net zero carbon economy and establish some short and longer-term actions to achieve this.

Much good work is already underway in Scottish Government, Local Government and the private sector. More can be done and faster if target dates are to be met. Whilst many of the recommendations are principally aimed at Scottish Government, it is important to recognise that the success or otherwise of achieving the desired outcomes will be incumbent on all those who plan, build, invest in, own, operate, regulate and use infrastructure as well.

The Infrastructure Commission for Scotland

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Executive Summary

As we tackle the dual challenges of a climate emergency and the desire to create an inclusive growth economy, we urgently need to re-think what infrastructure we use and how we use it. This is not just a challenge for government, although political vision and determination is going to be essential. Crucially it is a call to all of us who plan, build, invest in, own, operate, regulate and, as importantly, use the infrastructure of Scotland.

Scotland has been at the forefront of infrastructure innovation since the first industrial revolution in the late 18th Century. However, we now stand on the brink of a fourth industrial revolution. Whilst the current challenges, opportunities and responsibilities may be very different, infrastructure innovation to drive and enable change remains at the centre of decision making as much now as it was then.

The Infrastructure Commission for Scotland was established in early 2019 to provide independent advice to Scottish Ministers on a 30-year vision (the “why and what”) of infrastructure for Scotland by the end of 2019, and to consider options for delivery (the “how”) by June 2020. The Commission was also asked to provide shorter term 5-year guidance to Ministers on both of these aspects. This Phase 1 Report focuses on the “why and what” of these challenges and seeks to build on the considerable infrastructure backbone that exists across Scotland as a result of billions of pounds worth of investment by both the public and private sectors.

The Commission’s remit covers a broad spectrum of infrastructure sectors including transport, energy, telecoms, water, waste, flood defences, housing, education, health, justice and culture. During the work of the Commission, it became evident that Scotland’s natural infrastructure should also be incorporated in this definition. This diversity of infrastructure sets the Commission apart from similar work undertaken in many other countries, where economic infrastructure has principally been a focus. However, given the desired combined outcomes of inclusive economic growth and net zero carbon that have framed our work, consideration of this diverse infrastructure base is both appropriate and essential. It ensures that a coherent understanding and a systems-wide approach to infrastructure investment and prioritisation can be developed. The need to assess all of this in the context of place,

and what is appropriate for a given geography, has also helped frame the work of the Commission.

We have engaged with over 1,000 members of the public in Scotland through face-to-face workshops or online surveys.

To establish an evidence-base to underpin the work of the Commission, we have engaged widely and deeply - and listened carefully. Earlier in the year we received almost 150 responses to our Initial Call for Evidence from experts and specialists across all infrastructure sectors. Respondents came from business and academia, all levels of local, regional and national government, private individuals, as well as public and private sector infrastructure operators and deliverers. This was followed by the Commission holding five regional forums across Scotland as well as nine specialist roundtables events. We have also sought the views and experience of international bodies such as the Organisation for Economic Co-operation & Development (OECD) and the World Bank, as well as infrastructure planners and practitioners from countries across the globe. As importantly, we have also engaged with over 1,000 members of the public in Scotland through either face-to-face workshops or an online survey, to understand better what they view as key infrastructure priorities for the future, as well as some of the trade-offs that may need to be considered.

Having placed an inclusive net zero carbon economy at the core of its thirty-year vision, the Commission does not underestimate the nature and scale of the challenges as well as the opportunities that this presents to Scotland. Whilst the journey to this vision has already started, the urgency and pace of change will need to increase, and the

Engagement highlights



Initial Call for Evidence

147

respondents



Regional Forums

139

individuals from
100 organisations
attended 5 regional
forums



Specialist Round Tables

93

individuals at
9 round tables



Public Engagement Research

73/1,000

73 members of the public at
4 face-to-face deliberative
workshops, 1,000 on-line user
surveys completed by Scottish
residents

scale of change required will affect almost every aspect of daily lives. It is also becoming clear that the vision of an inclusive net zero carbon economy, will sometimes require difficult choices to be made and trade-offs to be addressed. Therefore, if we are to be successful in capturing the opportunities whilst facing up to the challenges, it is not a matter of choosing change or no change; it is a matter of what, how and when future change will happen and the choices we make to get there. Informed, enhanced and inclusive engagement with users and citizens throughout that process of change will be critical to the outcomes.

These changes and choices clearly go far beyond infrastructure. However, infrastructure is and can continue to be a key enabler of and contributor to wider change. In relation to long term infrastructure investment and prioritisation, the ability to demonstrate the contribution these choices will make to achieving the desired inclusive net zero carbon economy outcomes will be essential. Building on the excellent start made through the National Performance Framework, "measures of success" for an inclusive net zero carbon economy from infrastructure investment urgently needs to be established. The work of the Commission has also highlighted the need, in both the public and private sectors, for a transition to a system-wide approach to infrastructure strategy, planning, delivery and operation across all infrastructure sectors supported by a coherent place-based approach to planning and decision making.

Our work has demonstrated that infrastructure investment can and does play a vital role in the economy, the delivery of effective public services in Scotland and the wellbeing of its citizens. However, it achieves this principally as an enabler that underpins all of our day to day lives and the world around us. The successful impact of this is a combination of when and how it is designed, how it is used, who uses it, where it is

used and when. To ensure we achieve the outcomes that are important to us as effectively and efficiently as possible, we must focus our infrastructure resources - be that financial, natural or human - on the infrastructure system that is best able to achieve and support those outcomes.

We have set out below a set of eight core areas of recommendation that we believe can help to achieve these desired outcomes. If you only have 15 minutes, the Foreword and Executive Summary provide a snapshot of the key context and the eight recommendations. If you have an extra half an hour, Part C provides an additional level of commentary on how those recommendations have been developed. Parts A and B contain a further level of detail that will require an additional hour or so of your time; Part A focused on the wider background and key drivers, whilst Part B is focused on the sectors that we have considered.

If we can all embrace and build on the recommendations set out in this report, we could go a long way towards turning an infrastructure vision for an inclusive net zero carbon economy into a reality. One that will support a sustainable, resilient and inclusive Scotland over the next 30 years.



Summary of 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:

1. All Scottish Government funded projects included in its 2020 Infrastructure Investment Plan should be prioritised against available inclusive net zero carbon economy outcomes.
2. The Scottish Government should, by 2021, develop and publish a new infrastructure assessment framework and methodology that will enable system wide infrastructure investment decisions to be prioritised on the basis of their contribution to inclusive net zero carbon economy outcomes.
3. The Scottish Government should publish by 2023 a system wide Scottish Infrastructure Needs Assessment covering all infrastructure sectors defined by Scottish Government and we recommend the inclusion of natural infrastructure. The Assessment should be refreshed and updated at least every 5 years thereafter.
4. A fully updated Infrastructure Investment Plan should be developed by the Scottish Government for publication by 2025 using the new assessment framework and methodology and informed by the Infrastructure Needs Assessment.

↓ 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. To enable this to be achieved:

5. The Scottish Government should lead the development of a place based assessment of long term housing supply and demand across Scotland by 2021, supported by the development of a coherent strategy for the labour market and business opportunities arising from an inclusive net zero carbon economy.
6. 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 Scottish Government by 2021. This should be undertaken with infrastructure providers, developers and other public bodies, to ensure the effective delivery of a Scotland wide, integrated and coherent outcome based approach to planning spatial land use; with implementation to be undertaken at the appropriate regional, local and community level.

↓ 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.

7. By the end of 2020, the Scottish Government should require all public sector infrastructure asset owners to develop asset management strategies containing a presumption in favour of enhancing, re-purposing, or maintaining existing infrastructure over developing options for new infrastructure. New infrastructure should only be considered where the relevant authority has demonstrated this is the most appropriate response.
8. To support this, the Scottish Government should now prepare guidance for relevant authorities on a whole-life approach to infrastructure maintenance and prioritisation which includes both cost and build resources. It should also include guidance on assessing the wider net zero carbon and inclusive economic growth priorities that need to be established.
9. There should also be a presumption against like-for-like replacement of existing assets and the construction of new, single organisation/purpose assets in favour of shared facilities.
10. To support the creation of a vibrant circular economy for Scotland, by 2023 the Scottish Government should establish a route map for the implementation of a viable outcome focused system of resource use, reduction, collection, treatment and repurposing.
11. Drawing upon available evidence, including the 2nd Scottish Climate Change Adaptation Programme, by 2023, the Scottish Government should develop a clear implementation plan, to address critical natural and built infrastructure climate resilience and adaptation needs.

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Recommendations
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↓ 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.

Decarbonisation

12. By the end of 2020, and to augment legislation already being considered, the Scottish Government should set out proposals to substantially accelerate the development and implementation of incentives, support mechanisms and standards for energy efficient, net zero carbon buildings across Scotland. This should include 'whole building' solutions and systematic public engagement, customised to the needs of different groups, to ensure that all property owners engage with proposed changes and are committed to upgrading their property.
13. By 2022, the Scottish Government, local authorities, regulators and industry should work together to establish the viability, incentivisation mechanisms and a route map for the transition to net zero carbon that in combination addresses heating for domestic, commercial and public buildings as well as all surface-based transportation.

Transport

14. The Scottish Government should ensure that its new National Transport Strategy and Strategic Transport Projects Review 2, which are due to be published during 2020, fully reflect the need to deliver an inclusive net zero carbon economy and consider the infrastructure and the use of it as a holistic system. This should include:
 - > Aligning strategic investment decisions to address fully the requirement for demand management, a substantial increase in the proportion of journeys made by active travel, and opportunities for shared mobility as well as a much greater role for public transport.
 - > For such roads investment that is made as part of the above, a presumption in favour of investment to future proof existing road infrastructure and to make it safer, resilient and more reliable rather than increase road capacity.
15. Investment decision making based on the above framework will require a significant change to investment guidance. Therefore, by the end of 2021, the Scottish Government and Transport Scotland should develop a new investment appraisal and decision-making process, incorporating necessary changes to the current Scottish Transport Appraisal Guidance (STAG) and Investment Decision Making Guidance.
16. To enable a managed transition to an inclusive net zero carbon economy road infrastructure, the Scottish and UK Governments should immediately commit to work together to establish a charging/payment regime alternative to the existing fuel and road taxation based structure. The Scottish Government should also consider additional options that could provide a more stable long term investment regime for the management and maintenance of road infrastructure to meet the priorities identified in 14 above.

↓ 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.

- 17. Building on the findings of the recent UK National Infrastructure Commission review of Energy and Telecoms regulation, the Scottish and UK Governments should immediately commit to work together to develop by 2021, an appropriately devolved regulatory and pricing framework that enables energy and telecoms infrastructure investment to be planned and delivered to meet the future needs of Scotland.
- 18. Building on the existing plans, and the commission's recommendation to incorporate natural infrastructure, the Scottish Government should by 2021 consider options for longer term implementation and regulatory coherence across water provision and flood management and resilience.

↓ 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.

- 19. In conjunction with the regulatory reforms highlighted in 17, the Scottish Government should provide the leadership required to ensure the delivery of a full fibre network for Scotland by 2027 to enable the transition to 5G across the whole of Scotland.
- 20. To ensure Scotland's place in the world and increase its international presence and connectivity resilience, the Scottish Government should prioritise support for an indigenous data centre market and investment in direct international fibre optic cables.
- 21. From 2020, the Scottish Government should consider the future data requirements and data potential for all new publicly funded infrastructure as well as the potential for the use of digital services associated with the assets.

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Recommendations
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↓ 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:

22. By 2022, the capacity and capability requirements for an informed approach to public engagement and participation needs to be clearly established and implemented by the Scottish Government, to ensure that short and long term outcome trade offs are effectively debated, understood and taken into consideration.

↓ 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.

23. By 2021, a body should be given the responsibility by the Scottish Government to provide independent, long term, evidence-based advice to Scottish Ministers on investment decisions for the social, economic and natural infrastructure needs and priorities required to deliver an inclusive net zero carbon economy.

Next steps

The Commission is 12 months into an 18-month programme of work and the recommendations set out in this report represent the findings of the first phase that has been focused on the “why and what” for infrastructure. As a result, a number of areas have yet to be considered by the Commission and will form the basis of the next phase of activity. The Phase 2 report will be aimed principally at the more downstream aspects of the work to date including the practical implications in relation to the “how” of infrastructure. This includes consideration of a Scottish National Infrastructure Company, as set out in our remit. The Commission will continue to engage widely for this phase of work as we move towards the conclusion of our work during 2020.