ANALYSIS OF RESPONSES TO CONSULTATION ON THE DRAFT INFRASTRUCTURE INVESTMENT PLAN 2021-22 TO 2025-26

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Report prepared by: EKOS Ltd

The opinions expressed in this report are those provided by consultation respondents

Contents

Executive Summary

1. This Executive Summary presents an overview of the main themes arising from the consultation responses to the Scottish Government Draft Infrastructure Investment Plan (IIP) for Scotland 2021-22 to 2025-26.

2. In 2018, the First Minister announced a National Infrastructure Mission to increase Scotland's annual infrastructure investment so that it reaches internationally competitive levels by the end of the next Parliament. To support delivery of the National Infrastructure Mission, Scottish Ministers established an independent Infrastructure Commission for Scotland.

3. The Infrastructure Commission for Scotland has since published two reports: A "Blueprint for Scotland" (January 2020) and Phase 2 Delivery Findings Report (July 2020)[1]. The Scottish Government is currently considering the findings of the Phase 2 report and will publish a formal response in due course.

4. Scottish Ministers agree with the recommendations within the Phase 1 report[2], and the Draft IIP shows how they will be implemented in Scotland. In doing so, the Draft IIP seeks to set out a clear vision for our future infrastructure - to support and enable an inclusive net zero emissions economy. The Draft IIP sets out the Scottish Government's long-term vision for Scottish infrastructure, shows how it will choose the right future investments, and sets out a five-year programme of further improvements.

5. The consultation on the Draft IIP did not seek to repeat the earlier engagement process progressed by the Infrastructure Commission for Scotland. Rather, it sought wide-ranging views and feedback on specific areas with regards to the ways the Scottish Government plans to implement the Commission's recommendations, to ensure the right final approach.

6. A total of 147 consultation responses were received, including considerable Campaign Responses linked to the A96 Action Group (around one-third of all responses). This limitation aside, the consultation attracted responses from across a wide range of infrastructure thematic areas, including: Construction and Built Environment, Natural Environment and Climate Change, Travel and Transport, Local Government, Energy, Telecoms, Water and Waste, Business and Enterprise, and Health, Education and Public Services.

7. The findings of the consultation will be used by the Scottish Government to finalise the IIP in early 2021, and it will be published thereafter.

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[1] The Scottish Government is currently considering the findings of the Phase 2 report, and will publish a formal response in due course.

[2] The final recommendation, number 23, relating to statutory long-term independent advice is currently being considered more fully alongside the Phase 2 report findings. The concept was explored and developed more fully in the Phase 2 report.

Table 1: Summary Analysis Feedback

Consultation Question	Main Feedback
1a) Do you support the inclusion of natural infrastructure in our definition of infrastructure?	• A vast majority agreed (95%). • There is broad agreement that the proposed definition reinforces the important role and contribution that natural infrastructure plays in society. The proposed change to the definition is welcomed. • Natural infrastructure is an integral part of the social, economic and environmental fabric of society, and plays an invaluable role. Broadening the definition could help address the issue of natural infrastructure often being under-valued in terms of its contribution towards inclusive economic growth. • There is a request for: a clearer definition of natural infrastructure and a detailed explanation of the intended benefits/consequences of widening the definition. A suggestion is that additional examples and illustrations of natural infrastructure investment and the benefits, impacts and the value it helps to deliver would be helpful.
1b) Do you agree with the wording proposed for the revised definition?	• A majority agreed (62%). • Our analysis confirms that there is universal agreement with the definition in broad terms. However, consultation respondents reported that the definition could be further clarified, improved and/or strengthened, and/or provided suggested wording or phrasing changes. • Much of the commentary seeks clarification on the proposed definition, and more specifically on terminology. A common theme is that the Draft IIP could define more clearly what is meant by the various terms used in its proposed definition of infrastructure (e.g. "natural assets", "networks").

Consultation Question	Main Feedback
	• Common feedback is that natural infrastructure could be better described, illustrated and understood (in the proposed definition of infrastructure as well as in the Draft IIP more generally), including the multiple benefits that arise from natural infrastructure. • There is also some feedback that the definition could be enhanced by adopting a definition that is consistent with that applied elsewhere in order to better understand the potential opportunities around nature-based solutions. • Reference is made to, for example, adopting the International Institute for Sustainable Development (IISD) definition of national infrastructure in full, and reviewing the work of the Scottish Forum on Natural Capital on the well-being economy monitor.
2a) Do you agree that the steps proposed in the Common Investment Hierarchy are the right ones?	• A majority agreed (64%). • The Common Investment Hierarchy is broadly welcomed and considered a sensible approach in principle. • There is also general agreement and recognition of the merits and benefits of maintaining, enhancing or repurposing existing assets – but that the Common Investment Hierarchy represents a significant shift in practice.
2b) If you think any adjustments are needed to the proposed investment hierarchy, please provide suggested changes (and evidence, where appropriate) to support your answers.	• Much of the wider commentary relates to the graphical depiction and visualisation of the Common Investment Hierarchy as presented in the Draft IIP, and the perceived rigid or simplistic message it conveys. • There is a perceived lack in emphasis or explicit reference across each step of the hierarchy to consideration of natural infrastructure and assets, and a route map to achieving net zero emissions by 2045. These could be more strongly reflected and integrated across the hierarchy and Draft IIP.

Consultation Question	Main Feedback
	• The main feedback is that in its current form the hierarchy:
	o Does not take cognisance of regional differences in the provision and quality of existing infrastructure.
	o Could strike a better balance to ensure that future need and opportunities are addressed.
	o Could be stronger in terms of ensuring that infrastructure investment decisions deliver "system-wide" benefits.
	• A key theme that emerged from consultation responses is a request for further/additional guidance and greater clarity within the Draft IIP on, for example:
	o The detail of the Common Investment Hierarchy.
	o The parameters that would be expected to be applied to each stage.
	o How the move between each of the four steps is justified.
	o How the hierarchy is expected to be applied and implemented in practice.
	o How the hierarchy is to be applied to natural capital infrastructure.
	o The processes involved to ensure that clear and transparent decisions are made at each stage of the process.
	o The level at which the hierarchy will be applied.

Consultation Question	Main Feedback

3a) Do you agree that a dashboard of indicators is the best approach to enable informed decisions to be taken about the long-term trade-offs and choices in our infrastructure investments?	• There is wide-ranging support for a dashboard of indicators to be adopted. A majority of consultation respondents support the proposed approach (circa 70%). Among other things, this is considered vital to ensure a clear, transparent, and consistent approach or set of parameters against which to inform (balanced) decision making.
	
	• There is equally strong support for developing a robust framework to ensure a holistic assessment of infrastructure investment, and for assessing impact and contribution towards outcomes.
	
	• There is recognition that the dashboard should provide sufficient flexibility in terms of application across a wide range of infrastructure types. It should also be agile, responsive and adaptive to changes in the external environment e.g. the global coronavirus (COVID-19).
	
	• There is also support for the dashboard to be underpinned by the National Performance Framework, Scottish Centre for Regional Inclusive Growth Dashboard, and the United Nation (UN) Sustainable Development Goals (SDG). The general view is that these frameworks are sufficiently broad, and a sensible starting point.
	
	• There is, however, wider acknowledgment that:
	
	    o More development work is required to finalise the Common Investment Hierarchy before outcomes/indicators can then be finalised (e.g. a co-design approach is recommended).
	
	    o Further guidance is needed on how the dashboard will be applied in practice and how the indicators will be used to appraise different types of infrastructure projects.
	
	    o Clear appraisal methodology would need to be developed in order for infrastructure investment to be considered holistically.

Consultation Question	Main Feedback
	o That weighting of indicators could be considered.

3b) What outcomes (and/or indicators) do you think should be included in developing a common assessment framework for prioritising infrastructure investment?	• There is broad support for the three proposed themes of the common assessment framework. The themes are considered appropriate as overarching areas of focus for the framework, and for outcomes and indicators to be selected that reflect these.
	
	• There is wide acknowledgement of the inherent challenges that are likely to be encountered in the design of such a framework given difficulties in comparing different types of infrastructure projects.
	
	• There is recognition that metrics to assess the infrastructure impact on the delivery of net zero and inclusive economic growth outcomes is under-developed.
	
	• The final measures of success would need to go beyond traditional economic measures and include a broad mix of quantitative and qualitative indicators.
	
	• Data quality, relevance and availability is considered critical to support a consistent approach to comparing investment propositions and to inform decision-making.
	
	• Related points are around the importance of:
	
	   o Ensuring indicators are robust, SMART (i.e. specific, measurable, attainable, relevant and time-bound), manageable and meaningful.
	
	   o Establishing a clear baseline position to enable progress to be tracked.
	
	   o Reflecting a spatial dimension within the framework.
	
	   o Data should be capable of being monitored at a local/regional as well as at a national level.

Consultation Question	Main Feedback
3c) Are there existing tools or methodologies you are aware of which you think the Scottish Government could draw on or adopt in developing its framework?	• A majority of consultation respondents made specific reference to existing tools or methodologies that the Scottish Government could draw on or adopt in developing its framework. • A wide variety of suggestions are put forward, including a mix of third party as well as consultation respondents' own tools, datasets, or methodologies. • In excess of 50 tools or methodologies were specified. • The feedback points to several existing outcome frameworks, including those at a Scotland level and those that are infrastructure specific. Albeit there is recognition that this is perhaps less well developed in Scotland for natural infrastructure. • There is clear support for building on existing approaches in Scotland as well as best practice from elsewhere (e.g. UK, international). • Further, there is a clear and strong willingness and openness among consultation respondents to share thinking, information and approaches, and for a collaborative approach to be undertaken between the Scottish Government and key stakeholders to further develop the framework.

Consultation Question	Main Feedback
4a) Do you support the planned approach to developing a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets?	• A majority agreed (72%). • Many respondents acknowledge the limitations of the current taxonomy approach. There is common feedback that the approach is too simplistic and/or that it is out-dated and fails to gather sufficient quantitative data. • The general view is that the current taxonomy approach does not capture and assess the full impact of emissions made by infrastructure investment. • In the context of ambitious national emissions targets to be met by 2030 and 2045, the general consensus among respondents is that the current approach is not fit for purpose, and that developing a new approach is therefore crucial and urgent.
4b) Please explain and support your response with evidence	• The new approach should include consideration and assessment of the emissions throughout the whole lifecycle of infrastructure investment. • Any new approach should consider both embodied emissions and whole life emissions. This would allow more informed decisions on infrastructure investment, and a more accurate reflection of their contribution to national emissions targets. • There is broad consensus that the most appropriate approach would comprise a combination of the different options. There is broad support to explore further the use of Baseline and Intervention and Gap Analysis approaches to provide a more useful and meaningful assessment than the current taxonomy approach. • Benefits of this approach include an ability to: set targets; quantify and assess trends and changes to a greater degree of accuracy; and undertake comparative analysis between different types/scale of infrastructure projects.

Consultation Question	Main Feedback
5a) What are your views on the accuracy and scope of the environmental baseline set out in the Environmental Report?	• A large proportion of respondents did not answer Question 5a. • Where comments are provided, there are many that provide positive feedback. This includes a variety of comments which state that respondents are generally content with the accuracy and scope of the environmental baseline/report. • Others commented that it appears to be a fair, comprehensive, robust or relevant assessment. Several consultation responses welcomed the document's acknowledgement of the importance and significance of the climate emergency. • Feedback regarding the accuracy and scope of the environmental baseline set out in the Environmental Report is often caveated with wider points of note/concern or suggestions for improvement (e.g. too high level, too generic, lacks detail, a little cursory). • There are various comments that note aspects that could be given greater prominence or be better reflected in the environmental baseline set out in the Environmental Report to ensure close alignment with the Common Investment Hierarchy. • Challenges in making an informed judgement on the environmental baseline's accuracy are highlighted due to limited or a lack of quantification or degree of subjectivity. • Indeed, there are various comments that identify a requirement for further development work on the environmental baseline, more details and/or additional national and/or project specific outcome measurements. Some responses provided suggested/additional measures.

Consultation Question	Main Feedback
5b) What are your views on the predicted environmental effects of the IIP as set out in the Environmental Report?	• A large proportion of respondents did not answer Question 5b. • Where comments are provided, there are a high proportion that provide some positive feedback on the predicted environmental effects of the Draft IIP as set out in the Environmental Report (e.g. fair assessment, predicted environmental effects as stated in the report are accurate and "reasonably considered"). • Similar to Question 5a such comments are often caveated (and match points raised by other respondents who provided feedback). • A key theme, including from two statutory consultees (Historic Environment Scotland and NatureScot), is that looking at the component parts of the Common Investment Hierarchy in isolation has the potential to under value the wider cumulative environmental effects/consequences of the hierarchy. • Linked to this, are wider comments across consultation responses that emphasis competing objectives across the three themes in the Common Investment Hierarchy. • There is unanimous support expressed for the Draft IIP vision that places inclusive net zero carbon economy at the core. • However, there are various comments that note that this position appears to be at odds to the number of perceived high carbon infrastructure projects in the Draft IIP. There is feedback that the predicted environmental effects of the Draft IIP as set out in the Environmental Report are "inaccurate" or "lack credibility" as a result. There is feedback that the Draft IIP is at odds with Scottish Government policy, and it is suggested that there should be a greater focus/detail on the transition to Net Zero.

Consultation Question	Main Feedback
5c) What are your views on the proposals for mitigating, enhancing and monitoring the environmental effects set out in the Environmental Report?	• A large proportion of respondents did not answer Question 5c. • There are a mix of comments that provide positive feedback on the proposals and/or request greater clarity or detail (e.g. proposals are welcomed, it is covered satisfactorily at a high level). • Wide support is expressed for enhanced monitoring arrangements (i.e. on the environmental side to measure contribution towards net zero carbon). • There is also strong support among consultation respondents for arrangements to align with, and build on, existing national monitoring and reporting requirements (e.g. National Performance Framework, Scotland's climate change adaptation programme). There is strong support for not "reinventing the wheel". • In the main, the proposals are considered to: be a sensible approach; represent a more efficient and effective use of resources; help ensure consistency in reporting practices; and fit well with a joined-up and "systems-wide" approach to place-based infrastructure planning. • Data availability is noted as crucial. As are aspects such as having an established/ agreed/consistent set out outcome indicators, and a clear environmental baseline to monitor improvements against. • A few consultation respondents note that the proposals for mitigating, enhancing and monitoring the environmental effects set out in the Environmental Report are either "disappointing", "inadequate" or "do not go far enough".

1. Introduction

Introduction

1.1 This report presents the independent analysis of consultation responses to the Scottish Government [Draft Infrastructure Investment Plan](#) (IIP) for Scotland 2021-22 to 2025-26. The [consultation](#) ran from 24th September 2020 to 19th November 2020.

Background

1.2 In 2018, the First Minister announced a National Infrastructure Mission to increase Scotland's annual infrastructure investment so that it reaches internationally competitive levels by the end of the next Parliament.

1.3 To support delivery of the National Infrastructure Mission, Scottish Ministers established an independent Infrastructure Commission for Scotland. The Commission started work in 2019 and has reported its findings in two reports.

1.4 Phase 1 engaged widely across Scotland and attracted almost 150 submissions to a Call for Evidence from organisations, specialists and experts from across all infrastructure sectors, and feedback from over 1,000 members of the public. It also took evidence from similar organisations across the UK and internationally. Taken together, this evidence-base informed the Phase 1 report which provided recommendations on the vision, ambition and strategic priorities for infrastructure. A "[Blueprint for Scotland](#)" was published in January 2020.

1.5 The [Phase 2 Delivery Findings Report](#) involved providing further advice on the delivery of infrastructure, and was published in July 2020. The Scottish Government is currently considering the findings of the Phase 2 report and will publish a formal response in due course.

1.6 Scottish Ministers agreed with the recommendations within the Phase 1 report[3], and the Draft IIP shows how they will be implemented in Scotland. In doing so, the Draft IIP seeks to set out a clear vision for our future infrastructure - to support and enable an inclusive net zero emissions economy.

1.7 The Draft IIP sets out the Scottish Government's long-term vision for Scottish infrastructure, shows how it will choose the right future investments, and sets out a five-year programme of further improvements.

1.8 The consultation on the Draft IIP did not seek to repeat the earlier engagement process (see **Section 1.4**). Rather, it sought wide-ranging views and feedback on specific areas around the ways the Scottish Government plans to implement the Commission's recommendations, to ensure the right final approach.

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[3] The final recommendation, number 23, relating to statutory long-term independent advice is currently being considered by the Scottish Government more fully alongside the Phase 2 report findings. The concept was explored and developed more fully in the Phase 2 report.

1.9   More specifically, the consultation sought views on the way the Scottish Government plans to implement the Commission's recommendations in the following areas:

- The inclusion of natural infrastructure.
- How we prioritise - the Common Investment Hierarchy approach.
- How we best assess the impact of proposed infrastructure.
- How we best assess the carbon impact of future Plans.

1.10   The findings of the consultation will be used by the Scottish Government to finalise the IIP in early 2021, and it will be published thereafter.

Report Structure

1.11   **Section 2** provides details on the consultation methodology and responses.

1.12   **Section 3** to **Section 7** provide the analysis of responses to the consultation questions.

1.13   **Section 8** captures wider points raised through the consultation that did not relate directly to any of the consultation questions.

1.14   **Annex A** provides a list of organisations that submitted a consultation response by thematic sector and type. **Annex B** provides a summary of the Campaign Responses received. **Annex C** lists the existing tools or methodologies identified by consultation respondents which they think the Scottish Government could draw on or adopt in developing its framework (Question 3c of the consultation).

2. Consultation Methodology

Introduction

2.1 The Scottish Government promoted the consultation on the Draft IIP on the Consultation Hub on its website. The online consultation ran from 24th September 2020 to 19th November 2020.

2.2 A majority of consultation responses were submitted via the Scottish Government's online portal - Citizen Space (61%)[4]. A relatively large proportion of responses were submitted to the Scottish Government directly, for example, via email (39%). Where this was the case, the Infrastructure and Investment Division logged each response and added these directly to Citizen Space.

2.3 All responses received were checked and moderated by the Scottish Government prior to providing EKOS Ltd access to the responses on Citizen Space. During this process it was identified that the consultation had attracted a significant Campaign Response. This has been confirmed by EKOS. More information is provided at **Section 2.5**.

2.4 EKOS exported consultation responses from Citizen Space into Microsoft Excel for data cleaning, review and analysis.

Campaign Responses

2.5 A total of **147 responses** were received, including **48 Campaign Responses** from individuals involved in the A96 Action Group. This represents around one-third of all responses. The Campaign Responses were checked to identify whether they should be classed as:

- **Standard responses**: in which the respondent has simply added their name to the standard text provided by a campaign organiser without making any changes to it. Scottish Government guidance is that these responses should be counted for each separate campaign and a full synopsis should be provided in the report.

- **Non-standard responses**: in which the respondent has edited the standard text provided by a campaign organiser or added their own comments to it before submitting it (usually via the campaign organiser's website). Scottish Government guidance is that the additional/edited elements of these responses should be included in the analysis database and validated as with any other response.

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[4] This relates to the 101 responses which have formed the basis of our main analysis (see Section 2.10). The Campaign Responses are considered separately.

2.6 The 48 Campaign Responses are clusters of two sets of identical responses:

- Standard Campaign Response 1 – 40 responses.
- Standard Campaign Response 2 – eight responses.

2.7 As noted above, Campaign Responses represent one-third of all responses. However, not all will be published individually by the Scottish Government (e.g. where the response was submitted via email, or if an individual has selected "do not publish" response).

2.8 **Table 2** provides an overview of how Campaign Response respondents answered the closed consultation questions. **Annex B** provides an overview of the main issues raised through their qualitative responses.

Table 2: Campaign Responses Closed Responses

Consultation Question	Campaign Response 1			Campaign Response 2		
	Yes	No	Unsure	Yes	No	Unsure
1a) Do you support the inclusion of natural infrastructure in our definition of infrastructure?	100%	-	-	100%	-	-
1b) Do you agree with the wording proposed for the revised definition?	-	100%	-	-	100%	-
2a) Do you agree that the steps proposed in the Common Investment Hierarchy are the right ones?	100%	-	-	100%	-	-
4a) Do you support the planned approach to developing a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets?	-	100%	-	-	100%	-

Campaign Response 1 (N=40), Campaign Response 2 (N=8)

Consultation Responses

2.9   One consultation response from each of Campaign 1 and Campaign 2 have been included in the overall analysis of consultation responses within the main body of the report (i.e. one consolidated response from each Campaign). This helps to ensure balanced consideration of consultation responses.

2.10 Therefore, a total of **101 consultation responses**[5] were included in the main analysis. The vast majority were submitted by organisations (86%), **Table 3**. The consultation attracted responses from a cross-section of infrastructure sectors. The top three sectors of Construction and Built Environment, Natural Environment and Climate Change, and Travel and Transport represent over half of all organisation responses (47, 54%).

Table 3: Profile of Consultation Respondents

	Number	%
Individual	**14**	**14%**
Organisation	**87**	**86%**
Construction and Built Environment	19	22%
Natural Environment and Climate Change	14	16%
Travel and Transport	14	16%
Local Government	13	15%
Energy, Telecoms, Water and Waste	8	9%
Business and Enterprise	7	8%
Health, Education and Public Services	6	7%
Other	6	7%

N=101. 'Other' includes National Museums Scotland, National Trust for Scotland, Scottish Futures Trust, Scottish Land and Estates, The National Lottery Heritage Fund, The Law Society of Scotland.
EKOS coding of organisations in discussion with the Infrastructure and Investment Division.

2.11 Public sector bodies are well represented in the organisation responses, followed by representative bodies. Taken together, public sector and representative or membership bodies comprise over two-thirds of all organisation responses (60, 69%), **Table 4**.

2.12 **Annex A** provides a list of organisations that responded to the consultation by thematic sector and type.

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[5] This relates to: 147 responses received - 48 campaign responses + one consolidated response from each of Campaign Response 1 and Campaign Response 2 = 101 responses.

Table 4: Types of Organisation

	Number	%
Public Sector	34	39%
Representative Body	26	30%
Third Sector	17	20%
Private Sector	10	12%

N=87. Percentages do not total 100% due to rounding.
EKOS coding of organisations in discussion with the Infrastructure and Investment Division.

Consultation Analysis

2.13 The analysis seeks to identify the most common themes and issues. It does not report on every single point raised in the consultation responses.

2.14 Equal weighting has been given to responses. This includes the views of, on the one hand, large organisations with a national remit or membership, and, on the other, smaller organisations with a more local or narrow thematic focus (or an individual's view).

2.15 The analysis identifies key themes by respondent group where appropriate. The qualitative feedback was, however, largely uniform – albeit framed in different ways depending on infrastructure area of interest.

2.16 When the feedback is examined by organisation sub-group there are a couple of clear differences of opinion:

- There are some organisations that think the Draft IIP does not go far enough in prioritising natural infrastructure as an approach to addressing the overarching objective of the Draft IIP that future infrastructure should enable and support an inclusive net zero emissions economy and address the climate emergency. This is more likely to include some organisations within the Natural Environment and Climate Change, and Travel and Transport sub-groups. Plus the Campaign Responses.

- On the other hand, there are organisations (across all organisation sub-groups) that hold the view that there is a need to ensure that an appropriate balance is struck to make sure that there are no unintended consequences of the proposed revised approach. There is recognition that investment in all types of infrastructure is required to achieve the priority of inclusive growth.

Consultation Observations

2.17 Respondents to any consultation are self-selecting.

2.18 The consultation attracted significant interest from across a wide range of public, private and third sector organisations with a direct role and/or interest in infrastructure across its many different forms. Although not included in the scope of the consultation exercise, many respondents offered strong views on some of the proposed infrastructure investment projects that will be delivered over the next five years as outlined within the Draft IIP.

2.19 While there was broad support for the overarching strategic changes proposed in the Draft IIP, some consultees reflected more on the implementation and operational challenges of delivering the new Plan. For example, how the proposed change in approach to the prioritisation of infrastructure investment (e.g. through the Common Investment Hierarchy) could impact on their specific area of interest.

2.20 As noted above, a relatively large proportion of consultation respondents did not submit their response directly via Citizen Space (i.e. email/letter responses) which means that these responses did not always follow the consultation structure.

2.21 By this we mean, some but not all of these consultation responses:

- Answered the four closed Consultation Questions (i.e. those that required a "Yes", "No" or "Unsure" response). Blank responses have been categorised as not answered. Base numbers under each table are therefore not always 101.

- Structured the content and layout of their response under each question heading. Where the suggested structure was not followed, the Scottish Government adopted a "best fit approach" – responses were reviewed and text allocated to the consultation question considered most relevant.

3. The Inclusion of Natural Infrastructure

Context

3.1   The Scottish Government proposes to revise its infrastructure definition to include references to natural infrastructure to reflect the role it plays in: a) the infrastructure system and the benefit it generates to the economy and society; and b) tackling climate change and other challenges e.g. biodiversity loss. This would help ensure investment in natural infrastructure can be considered and prioritised equally and on a consistent basis, alongside other areas. The Scottish Government proposes the following changes (highlighted as **bold**):

> "The physical and technical facilities, **natural** and other fundamental systems necessary for the economy to function and to enable, sustain or enhance societal living conditions. These include the networks, connections and storage relating to the enabling infrastructure of transport, energy, water, telecoms, digital and internet, to permit the ready movement of people, goods and services. They include the built environment of housing; public infrastructure such as education, health, justice and cultural facilities; safety enhancement such as waste management or flood prevention; **natural assets and networks**; and public services such as emergency services and resilience."

Question 1a

3.2   There is almost unanimous support for the inclusion of natural infrastructure in the proposed definition of infrastructure. The vast majority of consultation respondents, both individuals and organisations, expressed support (76, 95%), **Table 5**.

Table 5: Do you support the inclusion of natural infrastructure in our definition of infrastructure?

	Yes		No		Unsure	
	Number	%	Number	%	Number	%
Individual	**12**	**15%**	**0**	**0%**	**2**	**3%**
Organisation	**64**	**80%**	**0**	**0%**	**2**	**3%**
Construction and Built Environment	12	92%	0	0%	1	8%
Natural Environment and Climate Change	12	100%	0	0%	0	0%
Travel and Transport	10	100%	0	0%	0	0%
Local Government	12	92%	0	0%	1	8%
Energy, Telecoms, Water and Waste	5	100%	0	0%	0	0%
Business and Enterprise	5	100%	0	0%	0	0%
Health, Education and Public Services	3	100%	0	0%	0	0%
Other	5	100%	0	0%	0	0%
TOTAL	**76**	**95%**	**0**	**0%**	**4**	**5%**

N=80. Percentages do not add up to 100 due to rounding.

3.3 **Question 1c** of the Consultation Document asked the question:

"**If you do not agree (with Question 1a and/or Question 1b) please provide your suggested changes and additional material to support your answers**".

3.4 While a majority of consultation respondents expressed agreement with the closed questions, many went onto provide qualitative feedback. Where this is the case, for ease of reporting, we have categorised and reported responses in terms of whether they specifically relate to:

- Question 1a (support for inclusion of natural infrastructure in the definition of infrastructure); and/or

- Question 1b (wording proposed for revised definition), see **Section 3.12**.

3.5 As noted at **Table 5**, the vast majority of respondents are supportive of the proposed inclusion of natural infrastructure in the definition of infrastructure for the Draft IIP.

3.6 A common theme from the qualitative feedback relating to Question 1a is acknowledgement that the proposed change to the definition is "welcomed" or "helpful". Related points are that it "aligns" to the consultation response submitted to the initial Call for Evidence to inform the Infrastructure Commission for Scotland's work, or that the shift in the definition towards an "integrated" or "holistic approach" to consideration of natural and economic infrastructure investment could help unlock and "maximise benefits" and impacts.

3.7 There is broad agreement that the proposed definition helps to reinforce the important role and contribution that natural infrastructure plays. Common points raised are reflected below:

- There is a firm belief that natural infrastructure is an "integral part" of the social, economic and environmental fabric of society, and that it touches on all aspects of our day-to-day lives (e.g. feelings of health and well-being, societal living conditions, transportation and accessibility, climate change, air quality).

- Natural infrastructure is considered to play an "invaluable role" in society e.g. enabling healthy ecosystem services which support resilience (flood management schemes) and deliver goods (food and timber).

- There are also considered to be "important synergies" which natural infrastructure can help to realise alongside other infrastructure sectors (e.g. active travel).

- There is further recognition of the important role that the natural environment and investment in nature-based solutions can play in supporting community and economic resilience and recovery as we come out the other side of the current pandemic - "green recovery post COVID-19" – as well as its important contribution to tackling the challenges of climate change and biodiversity loss.

- There is some feedback that the change in definition could help to encourage, support and embed changes in "behaviour and attitudes" that the Scottish Government seeks to bring about through ensuring investment in natural infrastructure is considered and prioritised equally and on a consistent basis, alongside other areas.

3.8 Another common theme is that the proposal to revise the infrastructure definition to include references to natural infrastructure gives natural infrastructure the recognition it deserves "as an asset class in its own right". Here, it is noted that its inclusion within a revised infrastructure definition could help: address the issue of natural infrastructure often being "under-valued" in terms of its contribution towards inclusive economic growth and generating economic value (and the wider value and impact it brings); and "level the playing field in terms of access to investment for nature based solutions". It is further noted that in doing so, this could "make greater use of natural assets, reduce the need for more physical built environment, and help support the enhanced management of the natural environment".

3.9 A small proportion of consultation respondents are "unsure" regarding the proposal to include natural infrastructure in the definition of infrastructure (four, 5%), **Table 5**. This includes two individual respondents and two organisations (Construction and Built Environment and Local Government). There is limited qualitative feedback, except for a request that the Draft IIP includes a clearer definition of natural infrastructure and additional examples (i.e. what does it include, what does it not include).

3.10 A few consultation respondents who noted agreement with the proposal to revise the definition of infrastructure, go on to specify aspects which they feel could be clarified, improved and/or strengthened, as noted below:

- The Draft IIP could benefit from including a more detailed explanation of the intended benefits or consequences of widening the definition to include natural infrastructure.

- The Draft IIP could include additional examples and illustrations of natural infrastructure investment (e.g. examples of natural assets or networks), and the benefits and impacts it helps to derive). This relates to the point outlined above regarding a request for additional guidance to be provided on what is in and out of scope.

- The Draft IIP could be more explicit in terms of recognising the wider role, value and impact of investment in natural infrastructure. Specific points mentioned include: health and well-being, blue and green infrastructure, cultural value, the historic environment.

- While the holistic definition and approach is welcomed, a point raised is that it would be important not to "dilute the investment required for such a wide range of services and networks" and that it "does not detract from the overall impact and impetus to support an "infrastructure first" approach". Aligned to this, is acknowledgement of the inherent challenges of "balancing competing demands" when making decisions on infrastructure investment, and that decisions should not reduce the quality of natural assets.

- A further point is that careful consideration would be required if natural infrastructure is to be included in the "definition of 'infrastructure' used in a wider context" to ensure that unintended consequences are not created, including the potential for overlaps between funding sources.

- There is recognition that there is currently no comparative methods for measuring the economic or financial benefit or impact of natural infrastructure projects, and that there would be inherent challenges in comparing like-for-like when there are no standardised metrics and methods. This point is reflected in the respondent quote below.

> "We recognise there is direct and indirect value attributable to services performed by 'natural infrastructure' in terms of environmental processes that cannot be performed by 'man-made' hard infrastructure. We welcome this inclusion albeit we would suggest that for public understanding the Scottish Government should develop advice and a framework for quantitative comparison that shows how environmental services can be monetised. This will help overcome a certain sigma that presumes only hard infrastructure is dependable in the long term".

> The Wheatley Group

Question 1b

3.11 A majority of consultation respondents agree with the wording proposed for the revised definition of infrastructure within the Draft IIP (48, 62%), **Table 6**. Organisations are slightly more likely to answer "Yes" than individuals (56% and 46% respectively), albeit this varies at an organisation sub-group level. A relatively large proportion of consultation respondents either did not agree with the proposed wording or are unsure (29, 38%).

Table 6: Do you agree with the wording proposed for the revised definition?

	Yes		No		Unsure	
	Number	%	Number	%	Number	%
Individual	**6**	**8%**	**3**	**4%**	**4**	**5%**
Organisation	**42**	**55%**	**13**	**17%**	**9**	**12%**
Construction and Built Environment	7	54%	3	23%	3	23%
Natural Environment and Climate Change	8	73%	3	27%	0	0%
Travel and Transport	6	60%	3	30%	1	10%
Local Government	10	77%	1	8%	2	15%
Energy, Telecoms, Water and Waste	3	60%	1	20%	1	20%
Business and Enterprise	3	60%	0	0%	2	40%
Health, Education and Public Services	1	50%	1	50%	0	0%
Other	4	80%	1	20%	0	0%
TOTAL	**48**	**62%**	**16**	**21%**	**13**	**17%**

N=77. Percentages do not add up to 100 due to rounding.

3.12 While responses to Question 1b are mixed (albeit a majority agree), it generated a largely consistent set of qualitative responses, regardless of how the consultation respondent answered the closed question.

3.13 Our analysis confirms that there is universal agreement with the definition in broad terms. However, consultation respondents in the main either provide suggestions for:

1. How the definition could be further clarified, improved or strengthened.
2. Wording or phrasing changes (to varying degrees of change).

3.14 The consultation analysis report has concentrated on identifying common themes relating to Point 1 above. The Infrastructure and Investment Division will review all of the suggested definition wording and phrasing changes separately as it looks to refine, revise and finalise the IIP.

3.15 There are many comments that seek additional guidance and greater clarification (or less ambiguity) around the proposed definition, and more specifically on terminology.

3.16 A common theme across the consultation responses is that the Draft IIP could define more clearly what is meant by the various terms used in its proposed definition of infrastructure. This includes terms such as "natural", "natural assets", "networks", "cultural facilities", "resilience", as well as setting out more clearly what is in and out of scope. A wider suggestion is that the provision of "sub-definitions for all of the infrastructure components" could be helpful for the reader.

3.17 Common feedback is that natural infrastructure could be better described, illustrated and understood (in the proposed definition of infrastructure as well as in the Draft IIP more generally), including the multiple benefits that arise from natural infrastructure and assets. For example, there is most reference to including more on green and blue infrastructure and natural assets, as well as to ecosystem services and health and wellbeing/human wellbeing benefits.

3.18 Among respondents who do not agree with the definition (or who are unsure), there is some acknowledgement and support for the "broad", "wide-ranging" or "comprehensive" definition of infrastructure presented in the Draft IIP. There is also feedback that it supports and is "consistent with the intentions of the next National Planning Framework (NPF4)". There are a handful of comments that raise points of note and/or concern with the proposed definition. These can be summarised as follows:

- The Royal Town Planning Institute (RTPI) Scotland notes that the definition goes beyond most of the "normal" definitions of infrastructure which tend to be dominated by physical infrastructure provision (e.g. water, drainage and utility services). It notes that housing is not traditionally seen as "infrastructure" although a key component of social and local community infrastructure. Concern is raised that "housing may dictate investment strategies and investment plans to the detriment of other conventional infrastructure types", and asks for this issue to be addressed within the Draft IIP.

- South of Scotland Enterprise note that it is important that the definition within the Draft IIP is consistent with that used elsewhere to better understand "potential opportunities around nature-based solutions". Specific reference is made to the work of the [Scottish Forum on Natural Capital](#) and work to develop the well-being economy monitor. It notes that a consistent definition would be valuable to better understand the potential opportunities around nature-based solutions.

- NatureScot proposed wording changes (additions) to better illustrate natural assets alongside traditional infrastructure.

  "These include the networks connections and storage relating to the enabling infrastructure of transport, energy, water, habitats, telecoms, digital and internet, to permit the ready movement of people, goods and services….They include the built environment of housing; public infrastructure such as education, health justice and cultural facilities; natural assets and networks that supply ecosystem services; safety enhancement such as waste management or flood prevention; and public services such as emergency and resilience".

- Campaign Response 1 and 2 raise similar points. Firstly, that aspects of the [International Institute for Sustainable Development](#) (IISD) definition of national infrastructure have been omitted within the Draft IIP proposed definition, and suggest it be adopted in full. There is specific reference within Campaign Response 1 for the definition to include "and then intentionally managed to provide multiple benefits for the environment and human wellbeing". Both suggest (albeit in slightly different terms) that the Scottish Government should "adopt a stronger position in protecting the natural infrastructure and a commitment that infrastructure projects are assessed on the basis of do not harm to the environment, sense of place or human wellbeing". Campaign 1 notes that there is not a "sufficiently ecosystem services-based approach" and that natural capital and ecosystem services approaches are well-recognised models for sound, informed and proportionate decision making and important for sustainable development" – and should be "fully adopted by Scottish Government as the basis for the new common approach".

4. Prioritisation – A Common Investment Hierarchy

Context

4.1 The Scottish Government has accepted the Commission's suggestion to develop an "investment hierarchy" which prioritises maintaining and enhancing existing assets over new build.

4.2 The proposed new common hierarchy will aid planning and decision-making and drive future investment choices. In practice, this means that the following steps would need to be considered, in turn, before deciding the right investment plans:

> 1. Determine future need.
> 2. Maximise use of existing assets.
> 3. Repurpose and co-locate.
> 4. Replace or new build.

4.3 In future, this will mean that a higher proportion of investment and resource is likely to be directed towards the initial steps in the hierarchy than in previous years.

Question 2a

Table 7: Do you agree that the steps proposed in the common investment hierarchy are the right ones?

	Yes		No		Unsure	
	Number	**%**	**Number**	**%**	**Number**	**%**
Individual	**7**	**9%**	**2**	**3%**	**4**	**5%**
Organisation	**42**	**55%**	**12**	**16%**	**9**	**12%**
Construction and Built Environment	11	79%	3	21%	0	0%
Natural Environment and Climate Change	7	78%	2	22%	0	0%
Travel and Transport	7	58%	2	17%	3	25%
Local Government	7	54%	3	23%	3	23%
Energy, Telecoms, Water and Waste	3	75%	0	0%	1	25%
Business and Enterprise	3	60%	1	20%	1	20%
Health, Education and Public Services	1	100%	0	0%	0	0%
Other	3	60%	1	20%	1	20%
TOTAL	**49**	**64%**	**14**	**18%**	**13**	**17%**

N=76

4.4 A majority of consultation respondents agree that the steps proposed in the Common Investment Hierarchy are the right ones (49, 64%). Relatively equal proportions of individuals and organisations agree, albeit as with the previous question level of agreement varies by organisation sub-group.

4.5 Almost one-fifth of consultation respondents disagree with the proposal (14, 18%), and a similar proportion are unsure.

Question 2b

If you think any adjustments are needed to the proposed investment hierarchy, please provide suggested changes (and evidence, where appropriate) to support your answers.

4.6 In the main, the Common Investment Hierarchy is "broadly welcomed" and considered to be a "sensible approach in principle" across all consultation respondents regardless of how Question 2a is answered (i.e. Yes, No, Unsure, Not Answered). The high-level steps set out within the hierarchy are generally considered "broadly appropriate".

4.7 Firstly, there is general agreement and recognition within many responses of the "merits" and "benefits" of maintaining, enhancing or repurposing existing assets (e.g. to promote a circular economy approach).

4.8 It is further acknowledged that the Common Investment Hierarchy represents a "significant shift in practice", and that there would need to be a commitment given by the Scottish Government to continued, appropriate and long-term investment in the maintenance of existing physical and natural infrastructure assets to ensure they are "robust, resilient, and fit-for purpose" (e.g. to prevent deterioration, to address net zero resilience).

4.9 The importance of retrofit and adaptation is also mentioned as being equally important in terms of building in "climate-readiness" to Scotland's existing infrastructure assets (e.g. embedding nature-based solutions and increased sustainability, making assets more accessible, inclusive, greater alignment to place-making objectives). The role of planning is also emphasised as crucial to ensure Scotland makes the most out of its existing infrastructure assets, including "resilience to the effects of climate change".

4.10 Further, while not mentioned to a large extent, wider comments in support of the Common Investment Hierarchy highlight other sectors/areas where such an approach or framework to inform decision-making is considered to have worked well (e.g. heritage, waste management).

4.11 Secondly, much of the wider commentary relates to the graphical depiction and visualisation of the Common Investment Hierarchy as presented in the Draft IIP. The general consensus is that it the depiction is too "rigid", "strict", or conveys an overly "simplistic" message, or perhaps does not "convey the level of nuance that must inform the decision making process". Plus there are a variety of comments around language, terminology and wording.

4.12 There is feedback from representatives across many organisation sub-groups (but most common from Local Government, Construction and Built Environment, Natural Environment and Climate Change, and Travel and Transport) that the Common Investment Hierarchy could be strengthened by:

- Acknowledging regional differences in the provision and quality of existing infrastructure across Scotland's urban, rural, remote and island communities ("different starting points", "to avoid any unintended consequences and inadvertently disadvantaging rural areas"). Further, giving consideration of regional place-based priorities and challenges.
- Could strike a better balance to ensure that future need as well as "unlocking future opportunities" are both addressed.
- Ensuring that it is adaptable and recognises the "immediate need" due to the coronavirus pandemic (COVID-19) and the economic impact that Scotland is facing.
- Ensuring that infrastructure investment decisions deliver "system-wide benefits" (i.e. project proposals should not be considered in isolation, strategic view of investment priorities, cross-sector engagement).

4.13 Aligned to this are a variety of comments around language, terminology and wording. In particular, there is a perceived lack in emphasis or a lack of explicit reference across each step of the Common Investment Hierarchy to: consideration of natural infrastructure and assets; a route map to achieving net zero emissions by 2045; circular economy approaches; engagement and co-production. These are all aspects that are felt could be more strongly reflected, embedded and integrated across the Common Investment Hierarchy. As a result, there are many suggestions for how the graphical depiction and wording could be further improved, strengthened and/or clarified to aid presentation and communication.

4.14 Another key theme that was raised across the board is a request for further/additional guidance and greater clarity within the Draft IIP on the following:

- More detail on the Common Investment Hierarchy (e.g. supporting mechanisms, metrics, consultative processes, how it would be used to leverage funding).
- The parameters that would be expected to be applied to each stage.
- How the move between each of the four steps is justified, including "gateway checks".
- How the Common Investment Hierarchy is expected to be applied and implemented in practice, and, to natural capital infrastructure.
- The processes to be involved to ensure that "investment decisions are carefully assessed" and that "clear and transparent decisions" are made at each step.
- The level at which the Common Investment Hierarchy will be applied (e.g. Scotland-wide, regional, local or major project level in assisting decision-making).

4.15 There is particularly strong feedback on the importance of the Draft IIP providing a precise definition/criteria for "future need". The main points raised are that the plan could set out more clearly how future need is to be determined, scored/ evaluated, justified and prioritised for natural infrastructure and for physical infrastructure projects.

4.16 Another key theme relates to the extent to which certain types of projects (e.g. repurpose or redevelopment) will be prioritised over new build projects. While there is broad agreement that all options should be considered as part of a detailed options appraisal process, many provided examples of where repurposing or redevelopment might not be the "best option", "right option" or the "most appropriate course of action". This is raised by all organisation sub-groups, albeit to varying degrees (with Construction and Built Environment, Local Government and Travel and Transport most common).

4.17 This point is reflective of comments that highlight the following:

- The poor quality of existing infrastructure e.g. areas that feel there has been years of under investment in infrastructure or a disproportionate focus on city-level infrastructure.

- The development of new sustainable infrastructure could provide an opportunity to adopt new construction techniques and energy efficiency methods, have the potential to generate greater economic, environment and social impact, and be more sustainable long-term.

- A concern that maintenance of existing grey assets could always take precedence over new investment in natural infrastructure.

4.18 As such, strong support is expressed for sufficient "flexibility" to be built into the Common Investment Hierarchy from the outset, and for it to be "adaptable" to accommodate a more "pragmatic" approach to ensure consideration of all potential options.

4.19 To provide a flavour of this, consultation responses referred to a wide range of points, factors and/or specific examples including the following:

- There is recognition that repurposing can be complex and uncertain to adapt to modern requirements, and that it often involves additional costs. It can mean maintaining a redundant asset and refurbishing it at a significantly higher cost than demolition and new build (e.g. once factors such as accessibility, sustainability, safety standards, core construction materials that are unsafe or hazardous, ongoing maintenance are taken into account). Or that there can be wider challenges (e.g. VAT on repair, access to appropriately skilled tradespeople).
- That repurposing can lead to higher carbon emissions on a whole life basis.
- That many local authorities will require the use of greenfield sites (new build) to deliver on new housing needs and requirements for their area.
- Old digital technology/infrastructure that is no longer fit for purpose and which has also been superseded by new technology.
- Existing road network with assets at or near end of life, safety and accident history.

- New investment in semi-natural infrastructure may be more beneficial than investing in maintenance of existing grey infrastructure (e.g. in a high-risk flood area the maintenance and upgrading of an existing combined sewer overflow system could be prioritised over building new permeable pavements and installing ponds to absorb storm water).

4.20 Indeed, there are various comments that go onto raise the question of "whole life costs" which links to points that highlight the importance of being able to demonstrate "value for money in the longer-term" and to "ensure functionality and longevity" (i.e. as reflected above, reuse and redevelopment of existing assets may be more expensive over the longer-term than new build projects). The main point raised is that the methodology should be based on whole life cycle carbon and guard against carbon leakage – "Investments should be based on lifecycle outputs rather than inputs to support the country's net zero ambitions". There is a request for greater clarity and additional guidance within the Draft IIP on how this issue is to be considered and assessed within the Common Investment Hierarchy.

4.21 The quotes below are reflective of the points raised above.

> "In particular, we would seek assurances that the hierarchy will not unduly disadvantage necessary infrastructure developments in rural and remote parts of Scotland where new build can be the only or optimal solution".
>
> Highlands and Islands Enterprise

> "…we need to consider 'spend to save' requirements so that we are not holding on to a redundant asset and refurbishing at a significantly higher cost to avoid new build… Reusing our existing assets is important, but it is only one of a number of factors which would be part of an option appraisal for meeting a particular need or addressing a problem. These would include whole life costs and all the sustainability, economic and social factors… It may discourage thinking out of the box. For example, if we have some hard flood defences, it may not be the best solution to continue adding to these as flood risk increases, when there may be a nature based solution upstream, involving new and greener infrastructure, delivering other multiple benefits".
>
> Falkirk Council

> "The hierarchy needs amending in order to accommodate the delivery of natural infrastructure and the inherent differences in approach that should be taken in determining investment needs for natural compared to built infrastructure…. in practice, the determination of future need to which they are applied must have at its core the need to meet greenhouse gas emissions targets. A plan to do this will require the replacement of existing high-carbon-use infrastructure with low, zero or negative carbon...Natural infrastructure is so fundamental to addressing the twin crises of climate change and biodiversity loss that sufficient weight, or arguably even priority, should be applied to such projects over traditional 'grey' infrastructure to accelerate the delivery of much needed nature-based solutions".
>
> Scottish Environment LINK Planning and Economics Group members

5. Assessing Impact of Proposed Infrastructure

Context

5.1 The Independent Commission recommended a new assessment framework is developed, in advance of the next IIP, to inform decisions about future infrastructure investment so that it best achieves desired outcomes.

5.2 There are inherent challenges in comparing the potential benefits of different types of infrastructure. It is not easy to compare investment in a school, hospital, or new digital public service, for example, because they may all deliver positive outcomes but not necessarily using comparable evidence or over the same timeframe.

5.3 In looking to develop a new approach, the Scottish Government has proposed that this is likely to take the form of a suite or dashboard of indicators to allow for a range of factors to be taken into account in any assessment, balancing potential trade-offs. This approach would be consistent with the National Performance Framework.

Question 3a

Do you agree that a dashboard of indicators is the best approach to enable informed decisions to be taken about the long-term trade-offs and choices in our infrastructure investments? Please provide the reasons for your response.

5.4 Question 3a was framed in the Consultation Document as an open question.

5.5 Where possible, we have clustered feedback to Question 3a to identify, at a high level, the extent of support (or otherwise) for the Scottish Government proposal to use a dashboard of indicators to enable informed decisions to be taken about the long-term trade-offs and choices in infrastructure investments. There is an element of repetition of points raised at Questions 3a, 3b and 3c. We have sought to reflect/combine key themes at the most appropriate question.

5.6 There is wide-ranging support for a dashboard of indicators approach to be adopted to enable informed decisions to be taken about the long-term trade-offs and choices in infrastructure investments. A majority of consultation respondents support the proposed approach (circa 70%). In the main, it is considered to be a "sensible", "pragmatic" and "sound" approach to take. Dashboards are also considered to be "a well-established practice in many industrial sectors and have proved useful for data visualisation".

5.7   Support for the adoption of a dashboard of indicators is further reflected in the variety of comments made that highlight the following themes:

- A robust framework that reflects a range of factors would ensure a holistic assessment of infrastructure investment, impact and contribution towards outcomes. A dashboard of indicators would ensure "clear alignment" with Government policies and priorities (e.g. addressing inequalities).

- It would be essential to have a "clear", "transparent", and "consistent" approach or set of parameters against which to inform decision making. It is further noted that decisions taken/reached should be guided by the available evidence base, that the process enables informed consideration of all of the issues (e.g. trade-offs and choices to be made), and that the appraisal and decision-making process is open to audit and scrutiny.

- A formalised assessment tool to underpin and help inform balanced decisions to be made is considered key, especially when it comes to considering the trade-offs that will require to be made between natural infrastructure and built environment projects which lead to a wide and diverse range of physical, economic and social impacts.

- The dashboard of indicators should provide sufficient flexibility both in terms of application across a wide range of infrastructure types, and being agile, responsive and adaptive to changes in the external environment over the delivery period for the Draft IIP (e.g. revisit and refocus objectives, respond to opportunities, identify gaps, tackle immediate and impending difficulties). Responding to COVID-19 was commonly mentioned in this context.

- That such an approach could facilitate greater consideration of synergies with other infrastructure projects and could be a useful method of communicating the various complex interactions associated with infrastructure investment.

5.8   Further, very strong support across all respondent groups is expressed for the proposal that the Impact Assessment and Prioritisation – Indicative Dashboard is underpinned by the Scottish Government National Performance Framework, Scotland's Centre for Regional Inclusive Growth Dashboard, and the United Nation (UN) Sustainable Development Goals (SDG). An "outcomes-focussed", "common-thread", and joined-up approach is therefore welcomed.

5.9   Alignment with existing frameworks is generally considered to be a "sensible" starting point and approach to measuring "the multifaceted impacts of infrastructure investment across Scotland". Taken together, these frameworks are sufficiently broad, and could encourage closer alignment across different policy areas.

5.10 There are, however, a variety of comments that ask for more detail or greater clarity, and/or provide suggestions for how a dashboard approach could be improved. These are considered in turn below.

5.11 First, there is acknowledgement of the relatively early stage of the process, and that more development work would be required to finalise (and for more detail to be provided on) the Common Investment Hierarchy in the first instance before outcomes and suite of indicators could be finalised. It is suggested that there is a requirement for further research to develop the appraisal framework and decision-making process, dashboard metrics and measures. In this regard, form is considered to follow function. Aligned to this is a request for additional guidance on how the dashboard of indicators would be applied in practice and how the indicators would be used to appraise infrastructure projects of different types.

5.12 The importance of having a clear appraisal methodology is noted as crucial to ensure: a shared understanding of how it would "inform decisions where projects have different impacts on different parts of the dashboard and how will it inform the trade-offs in infrastructure investment decisions"; and that infrastructure investment is considered "holistically". Related points include support for:

- The "weighting" of the indicators. The most posed question is whether all evaluation criteria would have equal value under all circumstances and the issue of regional differences. It is recognised that relative and appropriate weighting would be important to: assess trade-offs; reflect regional differences; and recognise differing levels of inequality/need, etc.

- There is recognition that a key challenge will be creating a robust appraisal process and scoring system that allows different kinds of infrastructure projects (and the benefits they create) to be compared, and which does not skew investment towards urban areas (i.e. delivers an equitable share of infrastructure investment for rural Scotland to maintain its natural assets and deliver inclusive economic growth). A point raised is that there has been under investment in infrastructure in remote areas and those areas outwith the commercial hubs, and that the new approach should not exacerbate this.

- Continued collaboration between the Scottish Government and key infrastructure sector bodies to agree the Key Performance Indicators (KPIs) and metrics (e.g. a "modelling sub-group is suggested" to "bring together a range of thinking…and ensure that the resulting model is challenging but usable and measurable by all parties to deliver the common goals of the plan". A co-design approach is considered crucial to share learning, insights, experience.

5.13 Second, there are comments that note key points for consideration and/or provide suggestions on how the proposed dashboard could be further developed. The most common themes identified are as follows:

- That the dashboard must sufficiently reflect and align with the Draft IIP vision (i.e. to support and enable an inclusive net zero emissions economy), Common Investment Hierarchy and strategic priorities, and should not be seen as a "box-ticking" exercise (i.e. must be embedded across all decision-making processes). It is suggested that the dashboard would need to sit alongside an appraisal methodology that identifies how the assessment of infrastructure projects is calculated and weighted against the indicators.

- Aligned to this are points around the importance of the framework meeting the Infrastructure Commission for Scotland's recommendation for "outcome-led, cross-infrastructure prioritisation". This would help ensure infrastructure initiatives are assessed and considered in an integrated and joined-up way. Support is expressed for a whole systems approach to the planning and delivery of infrastructure (i.e. considering infrastructure as a system rather than siloed sectors).

- That the dashboard would also need to ensure alignment with wider key policies to fully reflect the need to deliver an inclusive net zero carbon economy, and as noted above, to consider infrastructure and the use of it as a holistic system. The following strategies, plans and reviews are all mentioned - NPF4, Wellbeing Economy Framework, National Transport Strategy, Strategic Transport Projects Review 2, Climate Change Plan, Cleaner Air for Scotland 2 Strategy (currently in draft format), National Walking Strategy, Regional Spatial Strategies, Inward Investment Plan, Infrastructure Capital Plan, Green Recovery Plans).

- That a logic model or theory of change approach to ensuring a clear link between inputs, activities, outputs, outcomes and impacts could be a useful way to capture short, medium and long-term outcomes and impacts, and to make the dashboard more user-friendly.

- There is strong support for the dashboard: to use quantitative and qualitative measures and metrics (e.g. a diverse suite of metrics over and above "traditional" economic growth metrics such as Gross Domestic Product (GDP) to measure environmental sustainability, wellbeing, social justice, reduced inequality); to be flexible to adapt/evolve over time (e.g. as the relevance or robustness of data sources is explored); and to be capable of accommodating and making use of the range of information that may be available (e.g. locally-available information that can be used to identify opportunities for investment in natural infrastructure).

- Accessibility is important - in terms of how the dashboard would be shared and communicated with the general public, and to aid understanding of the how infrastructure investment benefits individuals and communities (e.g. a "traffic light system" is suggested).

- That it would be helpful if the Final IIP could include some worked up examples and case studies.

5.14 Thirdly, there are a few comments that make more specific points about the dashboard, including perceived gaps in indicators and/or a request for additional indicators in the Draft IIP diagram. The comments related to, for example: connectivity, education, creating inclusive accessible places, reducing inequalities,

5.15 A handful of consultation respondents (e.g. Local Government, Natural Environment and Climate Change) make explicit reference in their response that "no" they do not agree with the proposal to use a dashboard of indicators to enable informed decisions to be taken about the long-term trade-offs and choices in infrastructure investments.

5.16 The points raised are typically similar to those outlined above, with the most common points that:

- It is unclear whether the dashboard in its current form takes cognisence of regional variations in impact and importance of infrastructure (i.e. placed-based approaches).

- There is the potential for overlap across indicators, and it is not clear how these will be measured.

- It will be important that the process does not place less value or importance on natural infrastructure projects due to issues in measuring the impacts of such projects in more traditional economic terms.

- A concern raised is that a dashboard of indicators could allow projects to "score well" that satisfy some, but not all the indicators. Here, a suggestion is that a better approach may be to specify essential criteria (i.e. the achievement of net-zero, addressing the biodiversity crisis) and desirable criteria, and this could be reflected in the framework to inform decision-making.

Question 3b

What outcomes (and/or indicators) do you think should be included in developing a common assessment framework for prioritising infrastructure investment? In your response you may wish to consider how any of the suggested factors might:

- **Link to the three themes of the Infrastructure Investment Plan (enabling net zero emissions and environmental sustainability; driving inclusive economic growth; and building resilient and sustainable places).**
- **Help address inequality, including for protected characteristic groups, and socioeconomic disadvantage.**

5.17 Question 3b was framed in the Consultation Document as an open question. Where possible, we have clustered feedback to Question 3b to identify common themes or points. In addition to points raised regarding support for, and the benefits of, an outcomes-focussed approach and framework to be adopted (and alignment to the UN SDGs and National Performance Framework), the main themes identified through consultation responses are as follows.

5.18 There is broad support for the three proposed themes of the common assessment framework (i.e. environmental sustainability, sustainable places and inclusive growth). These are considered appropriate as overarching areas of focus for the framework, and for outcomes and indicators to be selected that reflect these themes.

5.19 There is wide acknowledgement of the inherent challenges that are likely to be encountered in the design of such a framework given difficulties in comparing different types of infrastructure projects. More specifically, there is broad reference to the assessment of natural infrastructure projects.

5.20 It is noted that these types of projects often present challenges in measurement in economic terms/value or quantified in monetary terms (e.g. social and environmental benefits such as wellbeing and community cohesion), or projects that will deliver economic benefits further down the line (i.e. not a quick economic return). For balanced decisions to be made, it is considered important that the multiple benefits of natural infrastructure proposals are understood and made more explicit within the framework.

5.21 It is further acknowledged that measures of success for an "inclusive net zero carbon economy" from infrastructure investment would need to be established, and for the new evidence base to go beyond traditional economic measures.

5.22 Here, it is noted that "a series of metrics or measures that can be used to assess the infrastructure impact on the delivery of net zero and inclusive economic growth outcomes is still in its relative infancy", and that collective understanding in this area is "under-developed" and has not yet "matured".

5.23 This relates to wider points regarding the importance placed by consultation respondents on the need for the indicator framework to include a broad mix of indicators that can be measured in a quantitative or in a qualitative sense.

> "The proposed fifteen topics seem to cover the whole range of factors that need to be considered. Some can be quantified, including greenhouse gas emissions and renewable energy production associated with a project, while others, such as flood risk management, are difficult to quantify due to chance events. Difficulty of quantification is, however, certainly not a reason to exclude such indicators. A qualitative description at least should ensure that the factor is considered".
>
> Chartered Institute of Ecology and Environmental Management

5.24 There is also broad acknowledgement that "data quality, relevance and availability is critical" in terms of supporting a consistent approach to comparing investment propositions and to inform decision-making. This is considered key to the success and reliability of this approach. Related points are around the importance of:

- Ensuring indicators are robust, SMART (i.e. specific, measurable, attainable, relevant and time-bound), manageable and meaningful.

- Establishing a clear baseline position to enable progress to be routinely and regularly updated and tracked.

- Outcomes/indicators included in the common assessment framework should reflect a spatial dimension (and the importance of the Place Principle being applied across all infrastructure investment).

- Capturing and monitoring data at a local/regional as well as at a national level (i.e. the level at which data is available, extent of disaggregation).

5.25 There are a wider set of comments which highlight that any framework for prioritising infrastructure investment would need to take cognisance of the following issues, factors or considerations:

- Any prioritisation framework should not exacerbate existing regional inequalities in terms of infrastructure investment decisions (and be capable of addressing the different types of challenges that are experienced in urban and rural Scotland).

- Various suggestions are made on additional investment assessment criteria that could be considered. This includes criteria such as: cost (e.g. to help assess the balance of expenditure on projects); whole life costs; cost/benefit analysis; evidence of need and deliverability; safety and risk of delivery.

- Equality and environmental impact assessments.

- Community wealth building and the wellbeing economy.

- An indication of what constitutes a "critical fail" (i.e. scoring of proposed investments against these indicators should include a "critical fail" scoring, which, if met, would preclude investments that would have negative impacts in terms of greenhouse gas emissions).

5.26 Finally, while the outcomes and indicators included in the dashboard are in the main welcomed and considered to be comprehensive, many consultation responses provide quite detailed and specific suggestions for indicators that could link to one or more of the three themes of the Draft IIP and/or could be used to measure the extent to which infrastructure investment decisions. These are wide-ranging. The Scottish Government will review all of the suggestions separately as it finalises its approach to prioritising investment in infrastructure.

Question 3c

Are there existing tools or methodologies you are aware of which you think the Scottish Government could draw on or adopt in developing its framework? You may wish to draw on examples from other countries in your response.

5.27 A majority of consultation respondents make specific reference to existing tools or methodologies that the Scottish Government could draw on or adopt in developing its framework. A wide variety of suggestions are put forward, including a mix of third party as well as consultation respondents' own organisational tools, datasets, or methodologies. These are considered in turn below.

5.28 Firstly, there is no universal or unanimous view provided on this, rather consultation respondents provide a long list of different existing tools or methodologies that may be of use to the Scottish Government (50+).

5.29 A large proportion appear to have a particular focus on natural infrastructure and assets (circa half). This reflects an earlier point that natural infrastructure could be better described, illustrated and understood within the Draft IIP, including the multiple benefits that it can generate.

5.30 **Annex C** provides further detail. Most respondents provide accompanying website links for the Scottish Government to find out more information and/or to access specific documents and resources.

5.31 Third party suggestions regarding existing tools or methodologies are grouped under headings of international, UK Scotland and regional. Each sub-group has been ordered in line with frequency of response (note: many, however, are individual reference points).

5.32 The feedback points to a number of existing outcome frameworks, including those at a Scotland level and those that are infrastructure specific that could be used and further built upon. Albeit there is recognition that the evidence base is perhaps less well developed in Scotland for natural infrastructure.

5.33 As such, there is clear support among consultation respondents for building on existing approaches in Scotland and best practice from elsewhere.

5.34 Further, there is a clear and strong willingness and openness among consultation respondents to share thinking, information and approaches, and as noted earlier, for a collaborative approach to be undertaken between the Scottish Government and key stakeholders to further develop the framework.

6. Assessing Greenhouse Gas Emissions Impact

Context

6.1   The Scottish Government has used broad categories of low, neutral and high carbon (known as a taxonomy approach) to explain the climate impact of its infrastructure investment.

6.2   When considering the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, Parliament agreed that a new methodology should be developed to improve assessment of the contribution made by infrastructure investment to Scotland's emissions targets.

6.3   This was informed by some research the Scottish Government undertook (Greenhouse gas emissions and infrastructure investment decisions), which concluded that a new approach will take time to develop. In order to inform the best way forward, the research presents four options that should be considered (and the strengths and weaknesses of each has been considered):

   1. Updated Taxonomy.
   2. Absolute Emissions.
   3. Baseline and Intervention.
   4. Gap Analysis.

6.4   The Scottish Government is minded to further explore the use of Baseline and Intervention and Gap Analysis approaches which we believe will provide a more useful and meaningful assessment than the current taxonomy approach. The development of the new approach using one of the methods (or a combination of them) is likely to be an iterative process and will require substantial work to establish the new framework and collect the necessary data.

Question 4a

Do you support the planned approach to developing a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets?

6.5   Almost three-quarters of respondents support plans to develop a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets (54, 72%), **Table 6**. Relatively equal proportions of individuals and organisations agree, albeit organisations within the Travel and Transport sub-group are more likely to have mixed views.

6.6   One-fifth of respondents are unsure about the planned approach (15, 20%), and relatively few respondents do not support the proposed approach (six, 8%).

Table 6: Do you support the planned approach to developing a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets?

	Yes		No		Unsure	
	Number	%	Number	%	Number	%
Individual	**7**	**9%**	**1**	**1%**	**4**	**5%**
Organisation	**47**	**63%**	**5**	**7%**	**11**	**15%**
Construction and Built Environment	12	80%	1	7%	2	13%
Natural Environment and Climate Change	6	67%	1	11%	2	22%
Travel and Transport	4	40%	3	30%	3	30%
Local Government	9	75%	0	0%	3	25%
Energy, Telecoms, Water and Waste	5	100%	0	0%	0	0%
Business and Enterprise	5	100%	0	0%	0	0%
Health, Education and Public Services	2	100%	0	0%	0	0%
Other	4	80%	0	0%	1	20%
TOTAL	**54**	**72%**	**6**	**8%**	**15**	**20%**

N=75. Percentages do not add up to 100 due to rounding.

Question 4b

Please explain and support your response with evidence?

6.7 In the main, the vast majority of respondents welcome action being taken by the Scottish Government to develop a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets.

6.8 Many respondents acknowledge the limitations of the current taxonomy approach. The most common feedback notes that the current approach is too "simplistic", "basic", that it is "out of date" and/or fails to gather sufficient quantitative data.

6.9 The general view provided is that the current taxonomy approach does not capture and assess the full impact of emissions made by infrastructure investment. In the context of ambitious national emissions targets to be met by 2030 (75% reduction in greenhouse gases) and 2045 (net zero), the consensus among respondents is that the current approach is not fit for purpose, and that developing a new approach is both crucial and urgent.

6.10 Regardless of how consultation respondents answered Question 4a, the main point raised is that the new approach should include consideration and assessment of the emissions throughout the whole lifecycle of infrastructure investment. This reflects similar points raised to previous consultation questions. Strong support is expressed that any new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets should consider both "embodied emissions" and "whole life emissions".

6.11 For example, a carbon lifecycle assessment would "reflect embodied carbon from demolition, materials, transport and maintenance, as well as the operational carbon associated with heat and power". Some respondents went on to highlight how the whole lifecycle approach is particularly crucial given how infrastructure is "long-lived" and "locks in emissions and resilience patterns for decades".

6.12 The main rationale proposed for assessing whole lifecycle impacts is that this would allow more informed decisions on infrastructure investment to be made, and for a more meaningful assessment and accurate reflection of their contribution to national emissions targets to be established.

6.13 Following on from this logic, some respondents also state that the approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets should be "holistic" and consider the wider "knock-on effects" of infrastructure investment, such as impact across range of sectors or impact on behavioural change and lifestyles (e.g. increased car usage). For some respondents, a whole lifecycle approach would have the benefit of avoiding "longer-term, potentially marginal, operational benefits at the expense of significant upfront carbon impacts within the most critical short-term timescales" which will be significant to avoid locking in emissions related to infrastructure investment.

6.14 In terms of explicit reference made in the consultation responses to the four options set out in the Draft IIP (Updated Taxonomy, Absolute Emissions, Baseline and Intervention, and Gap Analysis), most respondents note points that highlight and/or reinforce the strengths and weaknesses presented in Annex C of the Draft IIP.

6.15 Firstly, there is broad consensus that the most appropriate approach would comprise a combination of the different options.

6.16 There is also broad support for the proposal to explore further the use of Baseline and Intervention and Gap Analysis approaches. It is noted that this would provide a more useful and meaningful assessment than the current taxonomy approach. Specific comments about these approaches are noted below.

6.17 Benefits of the Baseline and Intervention approach noted by respondents in their consultation responses are that it can be used to:

- Quantify and assess trends and changes to a greater degree of accuracy (e.g. methodology is used within HM Treasury's Green Book and is internationally recognised as best practice).

- Set targets.

- Undertake comparative analysis between different types/scale of infrastructure projects.

- Could accommodate/utilise the proposed dashboard style reporting.

6.18 Further, respondents (across most organisation sub-groups but primarily Natural Environment and Climate Change) note that also adopting the Gap Analysis approach could be significant in helping to "identify the additional investment required to meet the emissions reductions targets" and thus anticipate investment needs.

6.19 Support for the Absolute Emissions option was expressed by relatively few respondents within the Other, Local Government, and Construction and Built Environment sub groups (with the absolute highest numbers in Other). Where comments are provided, it is considered "cumbersome" and/or "impractical". While challenges with this approach are noted, a few respondents report that, if a combination of approaches are to be adopted, then there may be merit in exploring whether some elements of Absolute Emissions can be incorporated as part of any new approach.

6.20 Even fewer respondents note explicit support for the Updated Taxonomy approach. These respondents were all single respondents from the Construction and Built Environment, Business and Enterprise, and Other organisation sub-groups. As above, the current taxonomy approach is largely viewed as not fit for purpose. However, a handful of respondents highlight benefits of the current approach - it is considered easy to understand and communicate to a non-technical audience. In addition, given the urgency of action required and potentially significant time and resources required to develop a new approach, these respondents also suggest that there may be value in using the Updated Taxonomy approach in the interim period until a new approach is developed, and to build capacity within organisations to implement any new approach.

6.21 Several respondents suggest that the development of a new approach could be standardised across different types of infrastructure investment and that there could be an aspiration for it to be "internationally recognised as best practice". These respondents are from a few organisation sub-groups including Local Government, Health, Education and Public Services, Construction and Built Environment, and Natural Environment and Climate Change (with the absolute highest number for Local Government). The main benefits of a standardised approach highlighted by respondents include:

- Comparable methodology and data and international benchmarking.
- Consistency of approach.
- Encouraging collaboration across organisations, sectors, governments, countries.
- Avoiding duplication of reporting.
- Greater shared understanding among stakeholders and users.

6.22 As noted in Annex C of the Draft IIP, some respondents reinforce how the development of a new approach would require substantial work to establish the framework and collect the necessary data. As such, the interim period is considered crucial in terms of ensuring that emissions from infrastructure are not locked in and progress is still made towards meeting emissions targets during this period, particularly the 75% reduction in greenhouse gases by 2030.

6.23 The main concern raised is that the development of a new approach might delay the shift to investment in projects that reduce carbon emissions. It is noted that such an approach does not align with, or support, the pressing need that "urgent" action is considered on all fronts to reduce carbon emissions.

6.24 It is further noted that this urgency, combined with the need to increase the pace of change to bring about the scale of change required to meet targets, could be reflected more fully throughout the Draft IIP. These points are reflected in the respondent quote below.

> "CERG appreciate the complexity of the task and the time taken to establish new frameworks and assessment tools. However, we have significant concerns that there will be no change to the assessment of climate impact of infrastructure until the development of the next IIP. The urgent nature of the climate emergency and the long-lasting impact of infrastructure decisions which could lock in high carbon travel and energy use, means that action needs to be taken now particularly if we are to hit the 2030 target of 75% reduce in GHG emissions."

> Climate Emergency Response Group

6.25 Another reason provided for not supporting the planned approach outlined in the Draft IIP to assessing the contribution made by infrastructure investment to Scotland's emissions targets is that it is not considered clear how the new approach would lead to changes in how decisions on investment infrastructure are made.

6.26 Finally, a couple of respondents raise concerns around the new approach in terms of it being overly burdensome or that it may pose additional barriers, particularly for smaller organisations with less resources and capacity to deal with new and changing requirements.

7. Strategic Environmental Assessment

Context

7.1 Strategic Environmental Assessment (SEA) is the assessment of the likely significant environmental effects that a public plan, programme or strategy will have on the environment if implemented. Where possible, it proposes how negative effects can be avoided or reduced and identifies opportunities for positive effects to be maximised. An Environmental Report has been published alongside the IIP. It should be noted that responses to questions in this section include those from the three environmental statutory consultees, namely: Historic Environment Scotland, NatureScot, and Scottish Environment Protection Agency (SEPA).

Question 5a

What are your views on the accuracy and scope of the environmental baseline set out in the Environmental Report?

7.2 Almost half of consultation respondents did not answer Question 5a, or noted that they had no comment to make on the accuracy and scope of the environmental baseline set out in the Environmental Report, or had not read the Environmental Report (circa 43%). It is primarily organisations that did not answer the question, and across all sub-groups (absolute numbers are highest for Construction and Built Environment; Energy, Telecoms, Water and Waste; Local Government; Natural Environment and Climate Change).

7.3 Where comments are provided, there are many organisations that provide some positive feedback (this includes positive responses across all organisation sub-groups, with absolute numbers in this category highest for Local Government, and Construction and Built Environment). There are a variety of comments which state that respondents are "generally content" with the accuracy and scope of the environmental baseline or "concur" with the scope of key environmental issues considered within the report. Other comments are that it appears to be a "fair", "comprehensive", "broad", "robust", "insightful" and/or "relevant" assessment.

7.4 Several consultation responses "welcomed" the document's acknowledgement of the importance and significance of the climate emergency, its "awareness of transitioning to Net Zero" and "the identification of biodiversity as a baseline asset for Scotland, including the links made to climate change adaptation". As noted earlier, the new Common Investment Hierarchy is welcomed given its stronger focus on climate change.

7.5 There is also broad recognition within some of these responses that the environmental baseline is a "high-level policy position and that there are limitations around providing a detailed assessment" at this stage. This point is reported on further below, as there is wider feedback that considers the environmental baseline to be "very generic" or that it "lacks detail", or that it "does not set out Scotland-specific indicators".

7.6 Support expressed for the accuracy and scope of the environmental baseline set out in the Environmental Report is therefore often caveated with wider points of note/concern or suggestions for improvement.

7.7 First, there are various comments that "the summary findings are a little cursory" for particular aspects of infrastructure or aspects could be given "greater prominence" in the environmental baseline set out in the Environmental Report or it could "better reflect" their importance as "major valued assets" within the document, and/or to ensure close alignment with the Common Investment Hierarchy. These suggestions often align with respondents thematic infrastructure areas of interest or expertise. For example, circular economy approach/process, climate change, natural environment (e.g. habitats/species development, biodiversity), digital and data, and transport are all flagged up to varying degrees.

7.8 In some cases, further details or suggestions are provided for how the environmental baseline set out in the Environmental Report could be further improved and developed. These are considered in turn below.

7.9 There is sign-posting to additional reference documents that may further inform the Scottish Government's thinking and development of the environmental baselines. This includes reference to, for example:

- The European Landscape Convention (ELC) – provides context for the assessment of impacts on landscapes and establishes the principles for landscape work in Scotland. It highlights that all landscapes matter, they are a shared asset, and that people and communities should be involved in decisions affecting their landscapes.

- NatureScot's Landscape Character Assessment – the dataset recognises that much of Scotland's valued landscape resource is outwith protected areas, maps and describes Scotland's diverse landscape and provides the evidence base for considering landscape change.

- Global Assessment Report on Biodiversity and Ecosystem Services from the UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) - highlights that global nature is declining at "rates unprecedented in human history" and that "transformative changes" are needed.

- Wider referenced include: the Convention on Biological Diversity's Global Biodiversity Outlook 5, Edinburgh Declaration on post-2020 global biodiversity framework, and Enabling a Natural Capital Approach (ENCA).

7.10 Campaign Response 1 and Campaign Response 2 also note that there is "not a lot of detail on how to reduce emissions and how to use our limited carbon budget to build the net zero infrastructure we need", and provide further comments on specific aspects such as transport, human health, soil, water and biodiversity. They express support for a vision and approach that integrate and support co-investment in environment and growth as guiding principles.

7.11 Second, there are various comments that highlight challenges in making an informed judgement on the environmental baseline's accuracy due to limited or a lack of quantification. It is mentioned that "more data is required on potential impacts to assess priorities" or that "assessing the accuracy is hampered by the number of variables and their subjectivity". Further feedback notes the challenges are high-level, limited baseline data may present in terms of supporting a robust or accurate assessment of trends, progress and impacts.

7.12 Indeed, there are various comments that identify a requirement for further development work on the environmental baseline, more detail and/or additional national and/or project specific outcome measurements. Some go onto provide suggested/additional measures. The comments often refer back to the suggestions for indicators, tools or methodologies identified at Questions 3a and 3b. Enabling a Natural Capital Approach (ENCA) would be an example of this.

7.13 There are a few specific points on the appropriateness of certain datasets within the baseline (e.g. SIMD) and provision of suggested alternatives to ensure a more "nuanced and rounded understanding of issues and opportunities in rural and remote locations" e.g. Towards Inclusive Growth (TwIG) project that HIE is working on alongside researchers from the James Hutton Institute and Biomathematics and Statistics Scotland (BioSS). Further suggestions are provided to fill real and/or perceived gaps in the environmental baseline to aid consistency (e.g. consideration of indirect gases, a measure of the total consumption of electricity).

7.14 Finally, there is some specific feedback on the narrative within the Environmental Report on consideration of "reasonable alternatives", including from the three statutory consultees. While there is some acknowledgment that the narrative has been informed by the Infrastructure Commission for Scotland's findings, the main points or concerns raised can best be summarised as follows:

- The position outlined in the Environmental Report is said to limit the range of options that can be considered (e.g. scope, nature, scale) as well as limit decision-making. On the one hand, some note that "do nothing" or business as usual should be considered as a reasonable alternative. On the other, some report that a "fundamental change in focus of the draft Plan" should be considered with regards to meeting Net Zero targets specifically.

- With regards to the Draft IIP points are also raised regarding a lack of transparency and clarity on how the Scottish Government has taken on board the Common Investment Hierarchy to inform decision-making for the current round of national projects outlined in the Draft IIP, and that it is also not clear how an assessment of environmental impacts have been considered.

Question 5b

What are your views on the predicted environmental effects of the Draft IIP as set out in the Environmental Report?

7.15 A similarly large proportion of consultation respondents did not answer Question 5b, or noted they had no comment to make on the predicted environmental effects of the Draft IIP as set out in the Environmental Report (circa 45%).

7.16 Where comments are provided, there are a relatively high proportion that provide some positive feedback on the predicted environmental effects of the Draft IIP as set out in the Environmental Report. The following quotes are broadly reflective of the variety of comments made by these respondents:

- "Content that the predicted environmental effects as stated in the report are accurate and reasonably considered".

- "The environmental effects of the IIP assess and identify the key effects of the themes and opportunities including clearly highlighting the significant effects. Identifying opportunities for enhancement and mitigation for each theme assessed and assumptions/links to other SEA are also a welcome addition to the assessments".

7.17 Further, there is feedback that acknowledges or welcomes specific references made within this section of the Environmental Report, for example, to natural infrastructure, nature-based solutions, and the positive effects natural heritage can have (e.g. support for biodiversity, climate change mitigation/adaptation).

7.18 Similarly to Question 5a (and other consultation questions), many of these respondents go onto caveat positive feedback with additional points of note/concern or provide suggestions for how the predicted environmental effects of the Draft IIP as set out in the Environmental Report could be further developed or improved. All other consultation respondents who provide comment on Question 5b do likewise. This includes the three statutory consultees.

7.19 A key theme, including from two statutory consultees (Historic Environment Scotland and NatureScot), is that looking at the component parts of the Common Investment Hierarchy in isolation has the potential to under value the wider cumulative environmental effects/consequences of the hierarchy.

7.20 Linked to this, are wider comments that emphasis competing objectives across the three themes in the Common Investment Hierarchy. As an example, delivering new commercial premises to support employment creation opportunities via inward investment versus the carbon emissions associated with new build infrastructure projects. There are considered to be discrepancies between achieving and delivering against the three themes (e.g. some impacts can be contradictory rather than complementary). This aligns to wider feedback in support of adopting a "unified" or "systems-wide" approach to infrastructure strategy, planning, investment and prioritisation.

7.21 There are also a number of comments that highlight infrastructure projects of all types will have both positive and negative environmental impacts, and that these need to be considered fully. Technical assessments, such as Environmental Impact Assessment (EIA) and Habitat Regulations Appraisal (HRA) are identified as useful and can help mitigate environmental impacts. A point raised is that these assessments tend to be very "localised", and that there is a lack of clarity within the Environmental Report around how the positive or negative environmental impacts at a national level are to be understood.

7.22 Another common theme to emerge is natural infrastructure, with wide support expressed for this and nature based solutions to be to be embedded in the Draft IIP. However, feedback included that the benefits and impacts of natural infrastructure projects had not been sufficiently captured in the Draft IIP/Environmental Report, alongside a lack of clarity with regard how these benefits/impacts will be appraised and measured.

7.23 There is unanimous support expressed for the Draft IIP vision that places inclusive net zero carbon economy at the core. Indeed, a number of consultation respondents in their response to Question 5b note the urgency of the global climate emergency and the importance of increasing the pace of change on decarbonisation. However, there are various comments that note that this position appears to be at odds to the "significant commitments to investment in grey infrastructure contained in the Draft IIP" or to the many "high carbon infrastructure projects" in the Draft IIP.

7.24 There is also some feedback that the predicted environmental effects of the Draft IIP as set out in the Environmental Report are "inaccurate" or "lack credibility" as a result. Both Campaign Responses are among the consultation responses that consider the Draft IIP to be at odds with Scottish Government policy, and suggest that there should be a greater focus on the transition to Net Zero (and more detail on how this is expected to be achieved).

Question 5c

What are your views on the proposals for mitigating, enhancing and monitoring the environmental effects set out in the Environmental Report?

7.25 Almost half of consultation respondents did not answer Question 5c or said that they had no comment to make on the proposals for mitigating, enhancing and monitoring the environmental effects set out in the Environmental Report.

7.26 There are then a mix of comments that provide positive feedback on the proposals and/or request greater clarity or detail.

7.27 Similarly to previous consultation questions, there are many comments which "welcome" the proposals and recommendations for mitigating, enhancing and monitoring the environmental effects set out in the Environmental Report, or note that it is "covered satisfactorily at a high level", or that respondents "agree" or are broadly "content" with the proposals.

7.28 Wide support is expressed for enhanced monitoring arrangements (i.e. on the environmental side to measure contribution towards net zero carbon). It is considered important that the "full nature of risks and opportunities are presented to ensure the most appropriate developments that protect the environment are prioritised". This would also support the transition to Net Zero.

7.29 There is also strong support among consultation respondents for arrangements to align with, and build on, existing national monitoring and reporting requirements, where possible (e.g. National Performance Framework, Scotland's climate change adaptation programme).

7.30 In this regard, there is strong support for not reinventing the wheel. In the main, the proposals are considered to:

- Be a sensible approach.
- Represent a more efficient and effective use of resources.
- Support consistency in reporting practices at all levels.
- Fit well with a joined-up and "systems-wide" approach to place-based infrastructure planning.

7.31 Data availability is, however, noted as crucial. As are aspects such as having established/agreed/consistent outcome indicators, and a clear environmental baseline to monitor improvements against.

7.32 There are a few comments that allude to the need for "plan-specific monitoring" to determine "what the actual impacts have been".

7.33 There is a consensus that monitoring and reporting on environmental effects is an essential part of the process, and it should be built into the IIP from the outset. There are a variety of comments that note the important role monitoring and reporting of the environment effects set out in the Environmental Report will play in helping to ensure that progress and delivery (success or otherwise) is routinely measured, monitored, and tracked (and to identify any areas which require further action).

7.34 While there are a number of comments that note this section in the Environment Report is "reasonably well covered" from a transparency, scrutiny and accountability perspective on the status and delivery of projects set out in the Draft IIP, there is also a request for more detail to be provided. For example, it is mentioned that there is a need for organisations to develop a better understanding of the extent to which any increase in monitoring requirements will impact on internal capacity and resources. There is some, but limited reference to the future establishment of Scotland's new environmental body, [Environmental Standards Scotland](), with feedback that it could provide "greater guidance and input into the detail of the framework as it is developed".

7.35 Aligned to this, are a number of wider points that note the importance of:

- Streamlining reporting requirements.
- Minimising the potential for duplication of effort.
- Ensuring that monitoring is used to add value and identifying lessons learned nationally, regionally and locally (e.g. greenhouse gas emissions, biodiversity, job creation).
- Investment in SMART data systems and data capture to massively increase the accuracy and immediacy of data in this area.

7.36 Finally, the Campaign Responses are among the relatively few consultation respondents to note that the proposals for mitigating, enhancing and monitoring the environmental effects set out in the Environmental Report are either "disappointing", "inadequate" or "do not go far enough".

"The environment must be prioritised, and projects should not be commissioned where environmental damage will result. If under very limited circumstances, there is no alternative but to cause negative impact on the environment, the project must be designed to be carbon negative or at worst carbon neutral. There can be no allowances for carbon positive projects if the zero emissions targets are to be met in 15 years. Unless the project can unequivocally be seen to be carbon negative (or neutral at worst case) then it should not receive any funding".

Campaign Response 1

7.37 Statutory consultees also express disappointment with the proposals and missed opportunities, as considered below:

- Historic Environment Scotland note that the assessment presented has not picked up a number of potential positive effects for the historic environment as a result of the plan – "Given that part of this consultation is focused on how to make informed decisions on investment and how to measure outcomes it is disappointing that the outputs of the environment assessment have been limited in this area".

- SEPA highlight the importance of mitigation and enhancement proposals being embedded in the finalised plan and the need to consider strategic as well as local level mitigation. It notes disappointment that the focus of the Environmental Report is largely on mitigation delivered through "existing consenting mechanisms and where EIA at the project level prior to work being undertaken"…"Strategic level mitigation e.g. criteria for the avoidance of placing infrastructure in sensitive areas or tools to be used at optioneering stages (such as natural capital assessment) could help to ensure that environmental considerations are addressed upfront rather than at the end delivery stage when mitigation may be considerably more costly and may also have the unwanted consequence of extending project delivery times….the SEA could have been used to compare different investment criteria in terms of their ability to deliver overall enhancement through infrastructure projects. In so doing it could have been used to aid the development of a more detailed framework for consideration of future investment proposals which would support delivery of the proposed investment hierarchy. Such an approach would help to embed environmental enhancement in future decision-making and could lead to significant cumulative benefits".

8. Wider Points

Context

8.1 This final section identifies the main wider points raised in the consultation responses.

Infrastructure Projects Identified in the Draft IPP

8.2 As highlighted in **Section 1**, the consultation attracted significant interest from across a wide range of organisations with a direct role and/or interest in infrastructure across its many different forms. Across all of the consultation questions there are a range of specific comments that:

- Note disagreement with some of the major infrastructure projects and programmes that are confirmed within the Draft IIP (e.g. the balance of transport expenditure on the road building programme compared to low carbon transport/active travel/shared transport options).

- Put forward the case for investment in certain types of infrastructure projects and/or investment aimed at certain geographic areas.

- Note a lack of transparency and clarity on how the Scottish Government has taken on board the Common Investment Hierarchy to inform decision-making for the national projects outlined in the Draft IIP, and that it is also not clear how environmental impacts have been assessed.

- Request that assurance is provided by the Scottish Government that the new infrastructure assessment framework and methodology to enable system wide infrastructure investment decisions to be prioritised on the basis of their contribution to inclusive net zero carbon economy outcomes would be applied to the capital programme as a whole.

- Note that the Draft IIP (and programme of investment) is not consistent with, or fails to fulfill the recommendations of the Infrastructure Commission and/or that it will not sufficiently tackle the climate change and biodiversity crises or contribute to decarbonisation.

Impact of, and Response to, COVID-19

8.3 There is wide reference to the short to longer-term economic and social implications of COVID-19. It is acknowledged that this is a fluid and evolving situation, and that it may influence short-term actions to support resilience and recovery as well as having an eye to the medium to longer-term future. A clear message is that investment in infrastructure would be a vital part of helping the economy recover and "build back better" from the impact of COVID-19.

8.4   There are various comments that emphasis the value of local assets and public and green spaces to communities, and that connecting with nature and heritage has been vital for maintaining personal mental and physical well-being. There is wider commentary on the disruption to the way we travel (i.e. more walking and cycling) and the extent to which this can be sustained (i.e. it is noted that motorised traffic has been increasing back to pre-Covid levels as people avoid public transport).

8.5   Aligned to this are comments that recognise places with weaker social infrastructure have been less resilient to the negative changes brought about by the pandemic. Continued investment in infrastructure, such as community and cultural spaces and accessible greenspace, is considered essential in terms of building stronger social capital.

8.6   Digital infrastructure is considered important here too – key enabler for the economy to function effectively as well as supporting remote working as part of the new normal. Consultation respondents note that the digital world is continuing to change, including how people work and interact - reliance on digital infrastructure has never been greater. It is suggested that access to superfast broadband should be viewed as a basic need with equal access regardless of geography, as well as the importance of the rapid rollout and adoption of full fibre and 5G infrastructure.

Job Creation and Investment in Skills and Training

8.7   Skills and training opportunities and the creation of new jobs in urban and rural areas (including within deprived areas) are considered to be a key component of facilitating Scotland's journey to Net Zero and supporting a green recovery. There are considered to be significant opportunities to maximise local economic benefits and develop the capacity to deliver the infrastructure that is needed.

8.8   To support delivery of the Draft IIP, there is considered to be a corresponding need to invest in skills development to enable the effective maintenance, repair and/or upgrading of traditional buildings and the built environment. This is said to include upskilling and reskilling the existing workforce, and ensuring a strong pipeline of individuals with the right mix of skills to secure employment and progress in low and zero-carbon infrastructure related roles.

8.9   It is considered important to address the known skills shortages across the construction sectors, particularly in relation to traditional building techniques. For example, consultation respondents identify an on-going requirement for stonemasonry and roofing skills for historic buildings; skills shortages in traditional joinery, lime plastering, conservation architects and surveyors; appropriately identifying and installing energy efficiency methods in traditional buildings; and heritage, craft and conservation skills.

8.10 It is further noted that there could be continued commitment to ensure infrastructure projects support local economies and support the development of future skills, in particular close alignment with key skills plans from both a supply and demand perspective (e.g. Climate Emergency Skills Action Plan, Skills Investment Plan for Scotland's Historic Environment Sector).

8.11 Further, given the point noted above regarding the changing digital world, wider feedback is that people need to be supported to develop the appropriate skills (as well as connectivity and devices) required to fully participate in a digital nation. Alongside this, is an identified need to grow and train the telecoms infrastructure workforce.

Current Tax System

8.12 A wider point raised is that any plan that promotes maintenance over new build will be affected by the current tax system in Scotland which incentivises new build over the retention, reuse and adaptation of existing infrastructure.

8.13 It is noted that the 20% tax rate imposed on these works through the UK VAT system presents an imbalance in comparison to VAT liability for new build – currently applied at 5%. There is reference to continuing efforts to advocate for a review of the tax system to provide parity for the use and adaptation of existing buildings, and to help unlock the wider benefits around reuse, retrofit and adaptation (e.g. social and economic benefits and resource efficiency).

8.14 A wider suggestion is that the Scottish Government could explore the introduction of new financial incentives around maintenance and repair of existing infrastructure assets that support climate action - and the promotion of any existing incentives in this area.

Annex A - Organisation Responses by Sector and Type

Table A1: Organisations by Sector

Organisation Sub-Group	Number	Name
Construction and Built Environment	19	• Arcadis • Architecture and Design Scotland • Association for Consultancy and Engineering • BEFS (Built Environment Forum Scotland) • Build Scot • Civil Engineering Contractors Association (CECA) Scotland) • Existing Homes Alliance Scotland • Glasgow and West of Scotland Forum of Housing Associations • Historic Environment Scotland • Homes for Scotland • Institution of Civil Engineers Scotland • Joint Submission from CIH Scotland, Shelter Scotland and Scottish Federation of Housing Associations • NFRC • Ramboll • Royal Town Planning Institute (RTPI) Scotland • Scottish Federation of Housing Associations • Scottish Property Federation • The Landscape Institute • Wheatley Group
Natural Environment and Climate Change	14	• Cairngorms National Park Authority • Chartered Institute of Ecology and Environmental Management • Climate Emergency Response Group • Crown Estate Scotland • Friends of the Earth Scotland • Kaitiaki Consulting Ltd • NatureScot • Scottish Carbon Capture and Storage • Scottish Environment LINK Planning and Economics Group members • Scottish Environment Protection Agency (SEPA) • Scottish Wildlife Trust • Sustainability Allsorts • The Green Action Trust • Woodland Trust Scotland

Table A1: Organisations by Sector (cont'd)

Organisation Sub-Group	Number	Name
Travel and Transport	14	- A96 Action Group - Campaign Response 1 - CoMoUK - Cycling Scotland - Cycling UK in Scotland - HITRANS - Mobility and Access Committee for Scotland - National Union of Rail, Maritime and Transport Workers (RMT Union) - Nestrans - Northern Roads Collaboration Joint Committee - Paths for All - Scottish Association for Public Transport - South West of Scotland Transport Partnership - Spokes, the Lothian cycle campaign - Transform Scotland
Local Government	13	- Aberdeen City Council - Argyll and Bute Council - Comhairle nan Eilean Siar - East Dunbartonshire Council - Falkirk Council - Glasgow City Council - Heads of Planning Scotland - North Ayrshire Council - North Lanarkshire Council - Orkney Islands Council - Perth and Kinross Council - The Highland Council - West Lothian Council
Energy, Telecoms, Water and Waste	8	- BT Group - CityFibre Holdings Limited - CIWM Scotland Centre - Openreach - ScottishPower - SSEN Scottish and Southern Electricity Networks - The Metropolitan Glasgow Strategic Drainage Partnership - Water Industry Commission for Scotland
Business and Enterprise	7	- Glasgow Chamber of Commerce - Highlands and Islands Enterprise - SCDI Scottish Council for Development and Industry - Scottish Enterprise - South of Scotland Enterprise - Tarmac - The Scotch Whisky Association

Table A1: Organisations by Sector (cont'd)

Organisation Sub-Group	Number	Name
Health, Education and Public Services	6	• Colleges Scotland • NHS Board Chief Executives • NHS Lanarkshire • Police Scotland • Scottish Fire and Rescue Service • University of Strathclyde
Other	6	• National Museums Scotland • National Trust for Scotland • Scottish Futures Trust • Scottish Land and Estates • The Law Society of Scotland • The National Lottery Heritage Fund

Table A2: Organisations by Type

Type of Organisation	Number	Name
Public Sector	34	• Aberdeen City Council • Architecture and Design Scotland • Argyll and Bute Council • Build Scot • Cairngorms National Park Authority • Colleges Scotland • Comhairle nan Eilean Siar • Crown Estate Scotland • East Dunbartonshire Council • Falkirk Council • Glasgow City Council • Highlands and Islands Enterprise • Historic Environment Scotland • NatureScot • Nestrans • NHS Board Chief Executives • NHS Lanarkshire • North Ayrshire Council • North Lanarkshire Council • Northern Roads Collaboration Joint Committee • Orkney Islands Council • Perth and Kinross Council • Police Scotland • SCDI Scottish Council for Development and Industry • Scottish Carbon Capture and Storage • Scottish Enterprise • Scottish Environment Protection Agency (SEPA) • Scottish Fire and Rescue Service • Scottish Land and Estates • South of Scotland Enterprise • The Highland Council • University of Strathclyde • Water Industry Commission for Scotland • West Lothian Council

Table A2: Organisations by Type (cont'd)

Type of Organisation	Number	Name
Representative Body	26	• Association for Consultancy and Engineering • BEFS (Built Environment Forum Scotland) • Chartered Institute of Ecology and Environmental Management • Civil Engineering Contractors Association (CECA) Scotland) • CIWM Scotland Centre • Glasgow and West of Scotland Forum of Housing Associations • Glasgow Chamber of Commerce • Heads of Planning Scotland • HITRANS • Homes for Scotland • Institution of Civil Engineers Scotland • National Museums Scotland • National Union of Rail, Maritime and Transport Workers (RMT Union) • NFRC • Royal Town Planning Institute (RTPI) Scotland • Scottish Association for Public Transport • Scottish Environment LINK Planning and Economics Group members • Scottish Federation of Housing Associations • Scottish Futures Trust • Scottish Property Federation • South West of Scotland Transport Partnership • The Landscape Institute • The Law Society of Scotland • The Metropolitan Glasgow Strategic Drainage Partnership • The Scotch Whisky Association • Transform Scotland

Table A2: Organisations by Type (cont'd)

Type of Organisation	Number	Name
Third Sector	17	• A96 Action Group - Campaign Response 1 • Climate Emergency Response Group • CoMoUK • Cycling Scotland • Cycling UK in Scotland • Existing Homes Alliance Scotland • Friends of the Earth Scotland • Joint Submission from CIH Scotland, Shelter Scotland and Scottish Federation of Housing Associations • Mobility and Access Committee for Scotland • National Trust for Scotland • Paths for All • Scottish Wildlife Trust • Spokes, the Lothian cycle campaign • The Green Action Trust • The National Lottery Heritage Fund • Wheatley Group • Woodland Trust Scotland
Private Sector	10	• Arcadis • BT Group • CityFibre Holdings Limited • Kaitiaki Consulting Ltd • Openreach • Ramboll • ScottishPower • SSEN Scottish and Southern Electricity Networks • Sustainability Allsorts • Tarmac

Annex B - Campaign Responses

Regarding the inclusion of natural infrastructure within the proposed definition of infrastructure, Campaign Response 1 and 2 raise similar points. Firstly, that aspects of the International Institute for Sustainable Development (IISD) definition of national infrastructure have been omitted within the Draft IIP proposed definition, and suggested it be adopted in full. There is specific reference with Campaign Response 1 to the need to include "and then intentionally managed to provide multiple benefits for the environment and human wellbeing". Both suggested (albeit in slightly terms terms) that the Scottish Government should "adopt a stronger position in protecting the Natural Infrastructure and a commitment that infrastructure projects are assessed on the basis of do not harm to the environment, sense of place or human wellbeing". Campaign 1 notes that there is not a "sufficiently ecosystem services-based approach" and that natural capital and ecosystem services approaches are well-recognised models for sound, informed and proportionate decision making and important for sustainable development" – and should be "fully adopted by Scottish Government as the basis for the new common approach".

While both Campaign Responses agreed with the steps proposed in the common investment hierarchy, there were concerns that "the aspirations of this common hierarchy are only reflected in the introductory warm words of the document and are not reflected in the detail of the draft infrastructure investment plan." To this end, both Campaign Responses noted the "unacceptable" absence of "natural" in relevant sections and questioned whether the priorities of the common investment hierarchy "will be respected when the desire to meet political strategies and outcomes outweighs the process set out". This view was reinforced for the Campaign Respondents as they felt "the focus largely remains on new road building rather than rail, buses and trains" with insufficient evidence of investment in natural infrastructure, such as capture and storage strategies, low carbon heating and/or passive housing standards, which was "inconsistent" with the proposed new definition of infrastructure. For both Campaign Responses, the detail of the Draft IIP signals "business as usual…with little evidence of tipping the balance away from legacy high carbon plans" while also noting that the "the legal requirement to meet zero emissions targets is not adequately represented in the hierarchy".

Both Campaign Responses agreed that the dashboard of indicators is a "useful" and "well-established" approach. However, the proposed dashboard set out in the Draft IIP was deemed not "fit-for-purpose" as it an illustration which only "comprises categories with no objectives, no deliverables or milestones" and "does not provide any key performance indicators (KPIs)". It was noted that the dashboard of indicators must contain objectives and KPIs that are "SMART (Specific, Achievable, Measurable, Resourced, Time-bound)". Additional outcomes and indicators included:

- Implementation of a Social and Environmental Index (SEI) model for decision making which "directly considers relevant social and environmental benefits and costs". This was also supported by Campaign Response 2;

- Implementation of a Financial and Economic Index (FEI) model to "condense the minimum amount of relevant information required to appropriately represent the financial and economic effects, derived from projected infrastructure investments and assessed against Natural Capital implications". It was also stated that "the preservation and conservation of Natural Capital should be prioritised and enshrined in law…to achieve sustainable and resilient places". This was also supported by Campaign Response 2;

- An outcome that "investment decisions are proportional and put citizens and the environment first" with a related KPI to ensure that "the infrastructure budget shows a clear needs-driven expenditure, which is evidence based and the expenditure is supported by the local citizens".

- An outcome related to strengthening social capital and a related KPI to ensure "co-design with citizens in all road infrastructure projects and appropriate percentage of all other large capital projects";

- An outcome related to ensuring "opportunities for all to benefit from green economic recovery and growth" with related KPIs including "short-term objective of 100% broadband connectivity for all citizens", "100% of council and social housing have improved insulation", and "100% of council and social housing have low carbon heating installed"; and

- An outcome for "disadvantaged individuals to have improved opportunities and support" with a related KPI to ensure that the "Scottish Government gives more financial support to organisations that provide opportunities for disadvantaged individuals".

Combining the use of "other well established and more appropriate web based tools" with objectives and KPIs would "enable strong strategic decision making" and aid "better accountability and transparency".

Other tools and methodologies suggested by Campaign Response 1, most of which related to green infrastructure and natural capital, included:

- The Infrastructure Prioritization Framework published by the World Bank (also noted in Campaign Response 2)[6];
- Manual of Green Infrastructure Functionality Assessment – Decision Support Tool published as part of the ERDF-funded Interreg Central Europe Project MaGICLandscapes 'Managing Green Infrastructure in Central European Landscapes';
- Signposting to various green infrastructure resources used as part of the North West Climate Change Action Plan in England;
- GRaBS Adaptation Action Planning Toolkit published by University of Manchester;
- Principles of Natural Capital Accounting published by ONS;
- Green Infrastructure Resource Library (GIRL) produced for the Green Infrastructure Partnership; and

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[6] http://pubdocs.worldbank.org/en/844631461874662700/16-04-23-Infrastructure-Prioritization-Framework-Final-Version.pdf

- Natural Capital Committee's Green Book guidance on embedding natural capital into public policy appraisal.

Campaign Response 1 (responded no) and Campaign Response 2 (responded yes) differed on the planned approach to developing a new approach to assessing the contribution made by infrastructure investment to Scotland's emissions targets. Despite differing on the closed response, the qualitative feedback was largely similar. For example, both Campaign Response 1 and 2 highlighted the importance of conducting attributional lifecycle assessments as it would be "indefensible to undertake major infrastructure projects without a full account of the impact of the project on emissions, reduction in carbon sequestration and storage during construction and operation".

However, the feedback did not include any specific preferences or comments on the four options for the new approach. Instead, Campaign Response 1 and 2 used this space to underline the required urgency for action as "the window for making the right choices is uncomfortably narrow [as] the lifespans of most infrastructure and related physical investment means that future GHG emissions are going to be locked in by investment choices in the next decade". It was also stated that there should be a focus on investment in the "right kind of infrastructure" which is "low-emission, energy-efficient and climate-resilient" to "manage climate risks and deliver long-term sustainable growth".

In terms of the accuracy and scope of the Environmental Report, Campaign Response 1 and Campaign Response 2 stated that there is "not a lot of detail on how to reduce emissions and how to use our limited carbon budget to build the net zero infrastructure we need", and provide further comments on specific aspects such as transport, human health, soil, water and biodiversity. Overall, the feedback from the Campaign Responses was that the Environmental Report "fails to recognise the urgency of the situation and that the measures proposed will not meet the Paris Agreement Goals".

Campaign Response 1 felt that the predicted environmental effects of the Draft IIP were mostly considered within the Environmental Report and "welcomed" the recommendations. However, there was "considerable concern that at the inception of the IIP there is already an acknowledgment that negative environmental impacts may be consequential outcomes of the implementation of the plan" and notes that there is contrast between the recommendations set out in the Environmental Report and certain aspects of the Draft IIP, particularly transport e.g. support for dualling of the A9 and A96. For Campaign Response 2, the Draft IIP "lacks creditability" as a result of these contradictions.

In terms of the proposals for mitigating, enhancing and monitoring the environmental effects, Campaign Response 1 stated that "this is the most disappointing part…because approach is inadequate and there is a lack of critical appraisal, and assessment of optimal methodology and implementation approaches". Both Campaign Responses reported that there should be a consideration of avoidance as the step before mitigation which would "negate the need for any mitigation".

When avoidance cannot be achieved, Campaign Response 1 stated that:

> "If under very limited circumstances, there is no alternative but to cause negative impact on the environment, the project must be designed to be carbon negative or at worst carbon neutral. There can be no allowances for carbon positive projects if the zero emissions targets are to be met in 15 years…Unless the project can unequivocally be seen to be carbon negative (or neutral at worst case) then it should not receive any funding".

Annex C - Existing Tools or Methodologies

Question 3c

Are there existing tools or methodologies you are aware of which you think the Scottish Government could draw on or adopt in developing its framework? You may wish to draw on examples from other countries in your response.

International

- A few respondents suggested that Denmark and the Netherlands have developed a national nature network approach, improving connectivity for species and habitats, and supporting the delivery of ecosystem services. They also pointed to relevant research into approaches that capture people's sense of satisfaction with a place and wellbeing.

- Similarly, a few referred to Doughnut Economics (Kate Raworth) - a visual framework for sustainable development – shaped like a doughnut or lifebelt – combining the concepts of social and planetary boundaries. As well as the Amsterdam City Doughnut.

- A few respondents also identified approaches that have been adopted in Australia and New Zealand. For example, the following are mentioned:

  - Regional visions for infrastructure across all sectors: (e.g. NSW State Infrastructure Strategy 2018/2038 sets out the NSW Government's infrastructure vision for the state over the next 20 years, across all sectors. It is underpinned by aligned regional strategies, plans and frameworks for the individual sectors (e.g. Future Transport Strategy 2056, Greater Sydney Region Plan, Regional Development Framework).
  - Making Sydney Brilliant – A Manifesto for Sydney at 8 Million People.
  - New Zealand Infrastructure Commission – Statement of Performance Expectations (1 July 2019 to 30 June 2020).

- A couple of respondents (Campaign Responses) mentioned The World Bank - An Alternative Approach to Project Selection: The Infrastructure Prioritization Framework (April 2016).

- UN Global Marketplace Sustainable Procurement Indicators.

- Convention on Biological Diversity – Mainstreaming of Biodiversity in the Infrastructure Sector (July 2018).

- World Health Organization (WHO) - Health Economic Assessment Tool (HEAT) for Cycling and Walking.

- European Commission - Natural Capital Accounting, and Environmental Assessment.

- European Union, Interreg – Manual of Green Infrastructure Functionality Assessment: Decision Support Tool (February 2020).

- Universal Basic Infrastructure (UBI) e.g. Copenhagen, Amsterdam, Paris.

- US Department of Agriculture's 'Assessment of Ecosystem Services' tool, (i-Tree) – this offers quantitative valuation of environmental services performed (i.e. by forestry).

UK and Republic of Ireland

The first eight bullet points below are referenced within a few consultation responses (all others are individual points).

- UK Government guidance on Multi-Criteria Decision Analysis - is used to prioritise actions with impacts on a wide variety of factors, not all of which can be quantified. Further, guidance on Enabling a Natural Capital Approach (ENCA).

- Chartered Institute of Ecology and Environmental Management (and partners) briefing and good practice principles on Biodiversity Net Gain - an approach which aims to leave the natural environment in a measurably better state than beforehand.

- The Mersey Forest on behalf of Natural Economy Northwest - The economic benefits of Green Infrastructure: The public and business case for investing in Green Infrastructure and a review of the underpinning evidence (2008). As well as wider information on climate change and green infrastructure planning.

- Susdrain - CIRIA SuDS Manual C753 and the Benefits of SuDS Tool (B£ST) - the framework prioritises making best use of existing assets before building new.

- Republic of Ireland's National Spatial Plan is tied in with a capital investment programme, and its Investment Projects and Programmes accompanying their National Development Plan.

- Construction Innovation Hubs - An Introduction To The Value Toolkit (July 2020).

- Department for Environment, Food and Rural Affairs - Measuring environmental change: outcome indicator framework for the 25 Year Environment Plan (May 2019). And work to develop the Eco-metric Approach.

- HMT Green Book Methodology and approach, the principles of which underpin much of the current business case development. This is currently under review to explore how it can better evaluate the "levelling up" inclusive growth impacts of investments.

- The Five Capitals Model - provides a basis for understanding sustainability in terms of the economic concept of wealth creation or 'capital' (i.e. Natural, Human, Social, Manufactured, Financial).

- Campaign to Protect Rural England commissioned research The Impact of Road Projects in England - Transport for Quality of Life that might provide ideas for the types of metrics and their measurement (e.g. mitigation/ compensation planting and maintenance).

- Biodiversity Metric of Natural England - presents an example of a method for assessing impacts on biodiversity and calculating desired gain (final version due to be published in early 2021).

- Climate Change Committee - six key principles for a resilient recovery.

- Institution of Civil Engineers - Maximising Social Value from Infrastructure Projects.

- The Land Use Planning System.

- Centre for Economic Performance – Occasional Paper - When to release the lockdown: A wellbeing framework for analysing costs and benefits (April 2020) - this looks at a wellbeing framework for analysing costs and benefits (wellbeing years).

- Highways England - produce a "post-opening project evaluation" survey of all road schemes 1 and 5 years after completion. Recent academic research into national planning schemes in England has also used a range of post project assessments to test and evaluate pre- project benefits and predictions against actual benefits and outcomes

- The RSA – Pride in Place, The RSA Heritage Index 2020 – among other things features a placed-based case study on Dundee.

- Transport Planning Society (TPS) – State of the Nations: Transport Planning for a Sustainable Future (October 2020).

- University of Manchester - GRaBS Adaptation Action Planning Toolkit: Planning for a Changing Climate Across Europe.

- Office of National Statistics (ONS) – Principles of Natural Capital Accounting - a background paper for those wanting to understand the concepts and methodology underlying the UK Natural Capital accounts being developed by ONS and Defra (February 2017).

- Town and Country Planning Association - Green Infrastructure Resource Library.

- Natural Capital Committee (NCC) - The Green Book guidance: embedding natural capital into public policy appraisal (November 2020 Update).

Scotland

Existing Scottish Government frameworks, tools or methodologies are most commonly mentioned.

- Scottish Government sector or place specific guidance, frameworks, tools, legislation, and datasets:

  - Scottish Transport Appraisal Guidance (Scot-TAG) - transport appraisal mechanism and guidance that also includes environment, safety, integration, and accessibility and social inclusion as factors considered in the appraisal process.
  - Scottish Capital Investment Manual (SCIM) that underpins health capital planning across NHS Scotland.
  - National Performance Framework.
  - Place Standard Tool.
  - Scottish Index of Multiple Deprivation.
  - Preparing Scotland: Resilience Guidance.
  - Environmental assessment under the Environment Assessment (Scotland) Act 2005.
  - School estates: suitability reporting core facts (could be extended to cover all infrastructure).

- Scotland's Centre for Regional Inclusive Growth Inclusive Growth Outcomes Framework.

- Public Health Scotland - health and wellbeing outcomes, as well as Health Impact Assessment: a guide for local authorities (August 2006).

- Digital Scotland Superfast Broadband Review – used methodologies to better understand the relative benefits of investment across various infrastructures (e.g. digital, road, rail) to allow the best informed decisions about where and how to deploy limited budgets.

- Scottish Land Commission - work around the role of Public Interest Led Development (e.g. points towards the multiple supports required through funding, commitment and skill, as well the need for the public sector to take a 'first mover' role).

- Work being undertaken by the Scottish Futures Trust on improving current asset management practices.

- Risk based approaches are being developed as per the Well-managed Highway Infrastructure guidance and the SCOTS Roads Asset Management project that is applicable to all local authorities in Scotland.

- Infrastructure Commission for Scotland's Phase 2 Report (Appendix G) - which highlights international organisations and governments work in developing infrastructure plans, and that identifies at a high level the various appraisal and prioritisation which would be worthwhile to review.

- Draw on data and methodologies from the energy generation companies, to provide an estimate of anticipated new demand on the electricity grid as greater dependency on the network is mapped out for the IIP.

- Lankelly Chase and The Robertson Trust – Hard Edges Scotland Report June 2009).

- Adaptation Scotland - Five steps to managing your climate risks: A Guide for Public Bodies in Scotland (December 2013).

- The Energy Networks Association has recently commissioned work to develop a common Whole System Cost Benefit Assessment methodology and model to enable effective whole system decision making. It is anticipated that the model will be available for third parties (e.g. national and local government) to use.

Regional

- Edinburgh City Centre Transformation Programme uses wellbeing diagnostics to guide where outcomes could be maximized through infrastructure intervention.

- Climate Ready Clyde - Glasgow City Region's first Climate Adaptation Strategy provides information on infrastructure and economic modelling.

- HIE's Towards Inclusive Growth project aims to support decision making and measurement through understanding more clearly the relative impact an investment has on inclusive growth in different locations (e.g. weighting of measures could address the inequality that can arise from unfair comparisons of urban versus rural investments).

- Local Energy Action Plans (Scottish Local Authorities).

- Open Spaces Strategies.

- National Park Partnership Plans (and the associated Regional Spatial Strategies) could help provide appropriate spatial component.

- Island Communities Impact Assessment.

- Scottish and Southern Electricity Networks (SSEN) and Dundee City Council have agreed to partner on the Regional Energy System Optimisation Planning (RESOP) Project, to develop a tool that will support Dundee's green economic recovery and its net zero ambitions.

Further, a number of consultation respondents went on to identify their own organisation's evidence base to inform further thinking for the Scottish Government framework. This includes:

- The Scottish Enterprise Strategic Board's Analytical Unit have developed a logic model for the Skills and Enterprise agencies to unlock opportunities and address challenges through effective collaborative working.

- Woodland Trust Scotland Standard in our Space for People report has methodology which can be used to assess the provision of accessible woodlands close to where people live.

- BT's 3:1 ambition – ambition and methodology for managing material social and environmental issues (e.g. carbon reduction).

- Perth and Kinross Council Sustainability Checklist and Integrated Appraisal Toolkit.

- Historic Environment Scotland and partners – Asset Management Plan and other guidance documents. Plus wider documents linked to The Our Place In Time (OPiT) Climate Change working group. This includes a Guide to Climate Change Impacts on Scotland's Historic Environment (October 2019), and ongoing development work on a new Built Heritage Plan for Scotland (due to be published by Spring 2021) has been informed by Sustainable Investment Toolkit that aims to help prioritise and clearly communicate decision-making by demonstrating the economic, cultural, environmental and social outcomes of potential investment in built heritage. Further, the OPiT Built Heritage Group has developed a Sustainable Investment Toolkit.

- Scottish Federation of Housing Associations (SFHA) and HACT[7] have published a social value toolkit for Scotland that gives housing associations and co-operatives the practical resources they need to measure, demonstrate and increase the social value impact of their work in communities (October 2020).

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[7] HACT is the UK housing sectors ideas and innovation agency.

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Any enquiries regarding this publication should be sent to us at

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG