# Navigating Sustainable Transitions: A Stakeholder Perspective

Engagement Insights from the Built Environment and Construction Discussion Paper



Delivered by Built Environment - Smarter Transformation on behalf of the Scottish Government



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# **Executive Summary**

This report follows the Scottish Government's publication of the Just Transition Discussion Paper for the Built Environment and Construction, henceforth referred to as 'the Paper'. Built Environment – Smarter Transformation (BE-ST) was tasked with analysing feedback on the Paper from a wide variety of stakeholders. The report was developed in conjunction with the Construction Leadership Forum's net zero working group and incorporated input from the data and digital working groups. Following the release of the Paper, stakeholder engagements were conducted in July and August 2023. A background section has been included to provide context on the concepts of just transition and the built environment and construction sector in Scotland.

# **Objective of the Report**

The primary aim of this report is to assist the Scottish Government in developing a strategy for a just transition within the built environment and construction sector. Two main objectives guide this report:

- 1. **Stakeholder Engagement:** To design and implement a stakeholder engagement programme that contributes to the formation of the Scottish Government's Just Transition Plan for the Built Environment and Construction Sector, and the forthcoming Climate Change Plan
- Feedback Analysis: To analyse the feedback obtained from the stakeholder engagements, identify key findings, and provide recommendations based on the data.

### Methodology

The methodology involved a structured stakeholder engagement process. Stakeholders, defined as organisations, bodies, or individuals, were identified based on their impact, expertise, and vulnerability related to the built environment changes. Mixed methods, including online surveys, in-person and online workshops, and one-to-one interviews, were employed to gather diverse feedback. The engagement covered various geographic regions, ensuring a wide representation. Data analysis combined both quantitative survey results and thematic qualitative insights, focusing on the Paper's main themes. Ethical considerations prioritised participant confidentiality, and direct quotes were anonymised. The report, upon publication, will be available alongside pertinent Just Transition documents.

#### **Summary of Key Findings**

The following provides a summary of primary insights derived from the analysis of stakeholder feedback and data related to the Paper. The findings outline the prevalent views and suggestions from stakeholders within the built environment and construction sector in Scotland.

#### 1. Overarching Sentiments:

- a. A notable urgency for action with a prevalent sentiment of "just do it".
- b. There was a unanimous consensus to include heat in buildings in the construction plan, with a focus on various challenges such as economics, operations, workforce education, and more.

#### 2. Consistent Messages Across All Themes:

- a. **Support:** Emphasised need for support, particularly for SMEs, both in terms of skills and finances.
- b. **Procurement:** Recognised as a vital tool to drive positive change.
- c. **Skills:** A call for industry investment to attract new entrants and upskill the current workforce.
- d. Local Approach: Highlighted benefits of locally focused efforts to invigorate local economies.
- e. **Government Leadership:** A strong urge for the government to lead the way, especially in establishing standards.
- f. **Data:** The necessity of comprehensive data collection and its utility in making informed decisions.
- 3. Theme-Specific Findings:
  - a. **Procurement:** Emphasised the transformative potential of procurement, highlighting the importance of SME support, a regional approach, and the need to shift from current bottom-line-driven practices.
  - b. **Building a Skilled Workforce:** Stressed modernising education and skill sets, improving industry reputation, enhancing inclusivity, and understanding skills in a sustainability context.
  - c. **An Innovative, Internationally Competitive Industry**: Highlighted the value of local innovation, targeted investments, international-local balance, and building on Scotland's rich heritage of innovation.
  - d. **Delivering Consistent, Sustainable Standards:** Accentuated the need for uniformity and clarity, led by government examples and a national approach, with suggestions like support for retrofitting and national databases.
  - e. **Maximising the Manufacturing Base:** Advocated for local manufacturing, support for SMEs, and the potential of a low carbon manufacturing base, emphasising skill investments for green jobs.

#### Summary of Recommendations

Based on the analysis of stakeholder feedback and key findings, the following strategic recommendations are proposed for consideration in the formulation of future policies and initiatives within the built environment and construction sector in Scotland.

#### Theme 1: Procurement as a Lever for the Transition

- Strengthen training and support for SMEs with a focus on upskilling and making the procurement process more accessible.
- Revamp procurement policies to prioritise sustainability, quality, and wider value over cost.
- Continue to foster collaboration among industry actors for shared growth and knowledge exchange.

#### Theme 2: Building a Skilled Labour Force

• Diversify educational pathways, emphasising both trades and academic routes.

- Enhance digital infrastructure and literacy, ensuring access across all communities.
- Maintain a balance in recognising traditional skills while developing training interventions aligned with modern and emerging competency demand.

# Theme 3: An Innovative, Internationally Competitive Industry

- Encourage deeper collaborations between industry and government to align ambitions with capabilities.
- Prioritise investments in regional capacities, focusing on infrastructure and innovation.
- Simplify financial access, offering support to overcome initial startup costs and global competition.

#### Theme 4: Delivering Consistent, Sustainable Standards

- Establish clear national standards for carbon accounting.
- Promote an interconnected approach, avoiding silos and considering multiple policy areas.
- Heighten transparency in the standard-setting process, ensuring broad stakeholder involvement.

# Theme 5: Maximising the Manufacturing Base in Scotland

- Address the need for a trained workforce, developing programmes that cater to modern manufacturing requirements.
- Introduce financial incentives to boost local manufacturing and ensure competitiveness.
- Provide a clear strategic direction, with transparent targets and consistent policy measures.

#### Implications

The findings and recommendations detailed in this report emphasise the need for swift and coordinated action in the built environment and construction sector in Scotland. A clear consensus among stakeholders is evident on several fronts:

- 1. **Urgency of Action:** Stakeholders unanimously feel the pressure of time and advocate for prompt implementation of suggested measures, emphasising the sentiment of "just do it".
- 2. **Central Role of SMEs:** Across various themes, the need for comprehensive support for SMEs, both in skills and finances, emerges as a paramount concern. The role of SMEs is seen as pivotal in the successful transition to sustainable practices.
- 3. **Government's Leadership:** Stakeholders look to the Scottish Government not only as a policymaker but also as a leader to guide the industry through this transition. This is particularly evident in the call for the government to set clear standards, develop a delivery route map, and provide a consistent policy environment.
- 4. **Importance of Localised Strategies:** Feedback points towards the potential benefits of locally focused initiatives that can boost regional economies while aligning with broader sustainability goals.

- 5. **Future and Traditional Skill Balance:** While there is an evident push towards modernising skills and enhancing digital literacy, there's a clear call to not sideline traditional skills, which hold significant cultural and historical value.
- 6. **Need for Comprehensive Data Collection:** Effective decision-making, as indicated by stakeholders, will be heavily reliant on comprehensive and accurate data gathered from multiple areas such as procurement, sustainability, skills. The role of data in shaping future strategies is seen as indispensable.
- 7. **Complexity of Procurement Processes:** Stakeholders identify procurement not just as a routine process but as a powerful tool that can drive industry-wide positive changes if harnessed correctly.
- 8. **Clear and Adaptive Standards:** Stakeholders emphasise the necessity for clear standards, but also the flexibility to evolve with emerging technologies and practices.

# Conclusion

The feedback detailed in this report paints a picture of an industry ready for transformative change but seeking clarity, support, and leadership. The implications of this are manifold: The Scottish Government and its partners must act promptly, provide robust frameworks, offer unwavering support, especially to SMEs, and ensure that every step taken is in alignment with the broader vision of a sustainable, inclusive, and prosperous Scotland. Participants were unanimous in their desire for a clear delivery route map detailing how the just transition will be delivered at an operational level.

While the overarching sentiment is one of urgency, it is not about hastening without foresight but accelerating with intention, strategy, and collaboration. The role of the Scottish Government emerges as paramount, seen as the torchbearer for the sector's just and sustainable transition. There is an evident anticipation that the government, while setting the direction, will also facilitate the means - whether it's by enabling SMEs, driving local strategies, or providing clear, adaptive standards.

The journey towards a more sustainable built environment and construction sector in Scotland is not one that the industry undertakes alone. It is a collaborative venture, calling upon the government, industry players, and stakeholders to come together, share expertise, pool resources, and charter a path that ensures not just a transition, but a 'just' transition that caters to economic, social, and environmental imperatives.

This report thus serves not just as a feedback mechanism but as a source of community insight designed to inspire, inform, and instigate meaningful change.

# Introduction

This report, produced by Built Environment – Smarter Transformation (BE-ST) for the Scottish Government, offers an analytical review of stakeholder feedback on the Scottish Government's Just Transition Discussion Paper for the Built Environment and Construction, hereafter referred to as 'the Paper'.

Created in collaboration with the Construction Leadership Forum's net zero working group and augmented by input from the data and digital working groups, the report is grounded in stakeholder engagements conducted in July and August 2023 following the publication of the Paper. A detailed breakdown of the engagement methodology is included, alongside findings and recommendations. For clarity, a background section is provided, offering context to those less familiar with the concepts of just transition or the built environment and construction sector in Scotland.

The main purpose of this report is to guide the Scottish Government in formulating and executing a just transition strategy for the built environment and construction sector in Scotland. In line with this, the team set out to fulfil two primary objectives:

- **Designing and implementing a stakeholder engagement programme** that aids in shaping the Scottish Government's Just Transition Plan for the Built Environment and Construction Sector and the upcoming Climate Change Plan, with draft versions expected by the end of 2023.
- **Conducting an analysis of stakeholder feedback** obtained from the aforementioned engagements, summarising key findings, and offering strategic recommendations.

The team extends its sincere appreciation to all stakeholders and contributors. Their invaluable insights, expertise, and commitment have been instrumental in shaping this report, ensuring it is reflective of the diverse perspectives within the built environment and construction communities in Scotland. Their collaborative spirit and dedication to the subject matter are acknowledged with gratitude.

# **Just Transition Background and Narrative Review**

Originating in the 1980's labour movement and subsequently embraced by labour unions and environmental activists throughout the 1990's, the concept of "just transition" articulates a vision for a shift to a low-carbon economy that champions inclusivity and equity for all. As outlined by the International Labour Organization (ILO), it underscores the harmonisation of environmental sustainability, social justice, and economic inclusiveness<sup>[i]</sup>.

The ethos of a "just transition" seamlessly dovetails with the principles of the United Nations Sustainable Development Goals (SDGs)<sup>[ii]</sup>. Central to a just transition is the commitment to an equitable and inclusive approach as we journey towards a sustainable, low-carbon future. This ethos parallels the SDGs' fundamental pledge to "leave no one behind" in the global stride towards sustainable development. Several of the 17 SDGs deeply resonate with the tenets of a just transition.

**Goal 8 (Decent Work and Economic Growth):** A just transition places a premium on ensuring that jobs in new green industries are decent and that workers in transitioning industries are provided with opportunities for retraining and reskilling.

**Goal 10 (Reduced Inequalities):** The just transition concept seeks to address the socio-economic inequalities that can arise from the shift to a green economy, ensuring that all segments of society benefit equitably from sustainable advancements.

**Goal 13 (Climate Action):** Both the SDGs and the just transition recognise the pressing need for immediate and effective climate action, with the latter focusing on ensuring this action does not disproportionately burden vulnerable communities.

**Goal 7 (Affordable and Clean Energy):** The move to sustainable energy solutions, a key component of many just transition strategies, seeks to ensure that energy is not only sustainable but also accessible and affordable for all.

**Goal 11 (Sustainable Cities and Communities):** Many aspects of a just transition, especially in sectors like construction and transportation, aim to create urban spaces that are environmentally sustainable, economically vibrant, and socially inclusive.

In sum, the principles and aspirations of a just transition are not only complementary to the United Nations SDGs but also integral to achieving them. The alignment between the two underscores the broader recognition that environmental sustainability and social equity are inextricably linked and mutually reinforcing.

International instances of just transition programmes can be seen in places such as Canada's Task Force on Just Transition for Canadian Coal Power Workers and Communities<sup>[iii]</sup>, and the European Union's Just Transition Mechanism<sup>[iv]</sup>, both aimed at supporting regions, workers, and communities that face challenges due to transitions in the energy sector. In this broader context, Scotland's endeavours to implement a just transition that aligns with global efforts to ensure a balanced and harmonious move toward sustainability.

# **Scottish Context**

In Scotland, the principles of a "just transition" are woven into the fabric of the Climate Change Act of 2019, emphasising a transformation that is equitable for every inhabitant, as the nation charts its path to reducing emissions and adapting to evolving climate patterns.

Recognising the challenges and opportunities of the impending transition, the Scottish Government has initiated a multi-pronged approach, committing to the development of Just Transition Plans relating to four key sectoral economies: built environment and construction; energy; land and agriculture; and transport.

Each Plan will serve as a roadmap for both public and private sector initiatives in the lead up to 2045, the year Scotland aims to achieve net zero emissions. Through these Plans, efforts will be directed to ensure that individuals affected by the transition to net zero derive tangible benefits by:

- Providing certainty for those involved in the transition (be they businesses, investors, consumers, or communities);
- Ensuring everyone understands the active role that they can play in the transition; and
- Identifying and mitigating economic or social injustice which may be exacerbated by climate action<sup>[v]</sup>.

The Draft Energy Strategy and Just Transition Plan<sup>[vi]</sup> was published in January 2023 and subsequently progressed through a period of open consultation. At the time of writing, the full plan is expected to be published late 2023. Meanwhile, discussion papers on the other sectors, published in June 2023, are actively shaping the government's approach in those domains, with the discussion paper for built environment and construction forming the focus of this report.

The development and delivery of Just Transition Plans is supported by an independent Just Transition Commission, formed with members appointed via ministerial approval, and drawn from a diverse range of sectoral, regional and demographic backgrounds. Commissioners are entrusted with the continuous scrutiny and advisory role on government-led transition plans, ensuring the proper application of the Just Transition Planning Framework. Having published an aspirational vision for a just transition in Scotland in the 2021 report 'A National Mission for a Fairer, Greener Scotland<sup>[vii]</sup>, they now advise on optimal monitoring and evaluation strategies and prioritise active engagement with those most affected by the transition. Their collaborative approach involves liaising with a myriad of expert sources, from the Committee on Climate Change to the Fair Work Convention, ensuring a holistic perspective. Committed to transparency, the commission annually sheds light on Scotland's progress, encapsulating achievements, and forthcoming challenges in the realm of just transition.

Whilst progress is evident across a range of measures, the Commission have emphasised the critical need to move from planning to delivery with a greater sense of urgency.

'The gap between aspiration and what is being done, as well as our existing investment model, presents a major challenge, with harmful effects on people's everyday lives in terms of fuel poverty, health, well-being and social inequity. This is despite the existence of proven technologies in this area to address the problem. We are at risk of another "lost decade" with major justice implications'<sup>[viii]</sup>.

The tension between policy aspiration and delivery is also reflected by the Climate Change Commission who called for the urgent need for a 'quantified plan' for policy alignment with the delivery of 2030 targets in the 2022 annual report on reducing emissions in Scotland<sup>[ix]</sup>. In response to the report, Scottish Government accepted or partially accepted 98 of 99 recommendations, with the only omission, relating to the deposit return scheme, being recognised as a reserved matter for UK Government<sup>[x]</sup>.

To aid delivery, the Construction Leadership Forum (CLF) in Scotland has overseen the development of the Construction Accord<sup>xi</sup>, a strategic partnership between industry, government, and public sector clients. The Accord, published in October 2022, presents a shared vision for a diversified and sustainable construction industry that aims to improve economic, workforce, and societal outcomes, while also contributing to Scotland's goals of achieving net zero carbon emissions and supporting the National Infrastructure Mission. A series of agreed outcomes which support the vision are being delivered by a Transformation Board reporting to the Minister for Small Business, Innovation, Tourism, and Trade. To deliver on those outcomes, the Transformation Board has established ten collaborative working groups focused on: Procurement, Pipeline, Quality, Fair Work, Skills, Supply Chain, Modern Methods of Construction, Digital, Data, and Net Zero.

# **Built Environment Context**

Defining Scotland's construction and built environment sector is challenging as the 'Standard Industrial Classification (SIC) codes used in Office for National Statistics' reports present a limited view of construction activity as being related only to construction of buildings, civil engineering, and specialised construction services. Using this classification, approximately 182,000 workers<sup>[xii]</sup> were employed by construction businesses in Scotland in 2022. However, when taking a broader view, in line with Scotland's Construction Leadership Forum's definition<sup>[xiii]</sup>, of those working in the 'built environment', including designers, engineers, manufacturers, asset owners, facilities and properties teams etc., this number rises to approximately 332,000 workers, or 12.5% of the national workforce.

The sector generated £21 billion in output and contributed over £11 billion in Gross Value Added (GVA) for 2021. On a broader UK scale, these figures climb to nearly £415 billion and £150 billion, respectively.

When examined under the lens of climate change and sustainability, the realities of construction and the built environment become uncomfortably clear. The sector is responsible for 30% of global energy usage and approximately 40% of worldwide CO2 emissions. In the UK, it generates half of all waste and consumes 60% of all materials.

The Scottish Government has set ambitious legal benchmarks aiming for net-zero emissions by 2045 and an intermediate target of a 75% reduction in CO2e emissions by 2030. The updated Climate Change Plan prescribes a 68% cut in emissions from Scotland's existing buildings by the end of this decade. Considering that over 80% of the buildings projected to be in use by 2045 already exist today in Scotland, proactive measures to optimise energy efficiency, particularly in heating and cooling, are paramount. Both industry consensus and statistical projections indicate that a widespread shift towards retrofitting – spanning both domestic and commercial structures – is vital to realise these goals.

The industry profile is dominated by small and micro-businesses, with over 98% comprising fewer than 50 employees across 47,000 businesses, making construction the largest industry sector in Scotland. The fragmented nature of the employer base, reflected by the presence of over 200 trade associations, professional bodies, and federations in Scotland alone, underscores the challenges of engaging with a diverse community; a task made easier by the leadership and coordination provided by the Construction Leadership Forum (CLF), Construction Scotland Industry Leadership Group (CSILG), and the Construction Industry Collective Voice (CICV).

The construction industry in Scotland places a significant emphasis on fair work characteristics, aligning with the nation's broader commitment to ensuring equitable and decent working conditions for all. This is evidenced at a policy level through the commissioning of the Fair Work Inquiry carried out by the Fair Work Commission, alongside their 2022 report 'Building Fair Work into the Construction Industry'. Industry focus on fair work issues is now being channelled through the Construction Accord, with a dedicated group seeking to promote and embed the principles of fair work throughout the industry. This focus manifests in several key areas, including ensuring that employees receive a living wage, promoting a safe and inclusive work environment, fostering workforce engagement, and supporting opportunities for training and skills development. Furthermore, the industry is moving towards more transparent contractual relationships and terms of employment. Nevertheless, while strides have been made, there are ongoing discussions and efforts to further embed these fair work principles across all levels and sectors within the industry.

The Scottish construction industry's workforce demographic presents certain challenges and opportunities in terms of equity and inclusion. Historically, site roles within the sector have been predominantly occupied by white males, many hailing from lower income backgrounds. Coupled with the current trend of an ageing workforce, this underscores the necessity for proactive efforts to diversify and rejuvenate the industry's talent pool. To genuinely reflect and deliver on the needs and expectations of a multifaceted society, it's essential that the construction workforce is representative of the broader Scottish demographic. Achieving this representation not only promotes fairness and inclusivity but is pivotal in ensuring that the industry remains dynamic, innovative, and attuned to the evolving needs of the communities it serves.

To bolster the appeal and retention of talent across the construction and built environment ecosystem, there is a recognised need for these industries to be perceived as fair and equitable workplaces. The Fair Work Construction Inquiry Report<sup>[xiv]</sup> identified concerns with well-being and working practices hindering a diversified workforce's attraction and retention. Moreover, research indicates a call for a wider understanding of skills essential for a sustainable construction future, which can potentially diversify the workforce.

In 2022, the Construction Leadership Forum introduced the National Construction Equity and Inclusion Plan (NCEIP)<sup>[xv]</sup> aligned with the Scottish Government's National Strategy for Economic Transformation, aiming for increased sector inclusivity and equality, as well as improved participation from traditionally marginalised groups.

The workforce is highly migratory with the majority concentrated in urban areas, and particularly in the central belt. A recent report by the Construction Industry Training Board found that 25% of the workforce regularly worked 50 or more hours per week (6% above UK average)<sup>[xvi]</sup>.

Whilst there are undoubted technical challenges to overcome, the social aspects of a just transition must be central to future plans. The quality of our built environment significantly influences societal inequalities, including socio-economic and health disparities. Vulnerable populations are disproportionately subjected to subpar living conditions—poor insulation, ineffective ventilation, and excessive noise- which contribute to cold, damp environments, fostering respiratory illnesses, depression, anxiety, and cardiovascular diseases. Thus, an effective built environment is vital to balance our national focus on green energy adoption and energy efficiency measures, reducing demand and associated fuel poverty.

# **Policy Context**

The National Strategy for Economic Transformation (NSET)<sup>[xvii]</sup> has set the ambition for sustainable growth within a wellbeing economy. The Just Transition Plan for Built Environment and Construction recognises the underpinning nature of the built environment as a 'priority sector', and the Innovation Strategy acknowledges the opportunities inherent within an 'Energy Transition' in which reducing energy demand through green heat technologies and improved building fabric performance are critical.

The introduction of a National Energy Agency responsible for overseeing the successful delivery of the Heat in Buildings Strategy, alongside the mandatory development of Local Heat and Energy Efficiency Strategies provide confidence that a sustained pipeline of opportunity lies ahead.

At a more operational level, revisions to building standards in which new assets will no longer be connected to the gas grid and will be constructed to Passivhaus (or equivalent) standard offer signals as to how Government intend to legislate transformation. The transformative shift in regulatory frameworks and standards present a key opportunity for Scotland to take a leading role in low carbon construction with a particular focus on developing resilient and capable supply chains delivering locally sourced solutions derived from natural and sustainable resources.

Public sector procurement, responsible for approximately 40% of construction activity investment, largely informs client demand. Guidance has been provided in the form of the Client Guide to Construction Projects and related legislation such as The Sustainable Procurement Duty, outlined in Procurement Reform (Scotland) Act 2014. In an economic climate in which capital is scarce, the opportunity to create enhanced value within existing investments is substantial. Despite noticeable regional migration within the workforce and a focus of activity in the central belt, the characteristics and extent of client demand at the regional and rural levels have defined the capacity, strategy, and constraints encountered by local businesses.

#### Workforce and Skills

The built environment sector in Scotland has substantial implications for the nation's just transition. As previously detailed, the sector provides employment for approximately 332,000 individuals, accounting for 12.5% of the total workforce. In terms of apprenticeships, it dominates modern apprenticeships, with 34% of all MAs in 2022-

23 originating from this sector. Additionally, it represented 40% of foundation apprenticeship enrolments at SCQF Levels 4/5 and 19% of graduate apprenticeship enrolments in 2021/22. More broadly, almost 19,000 learners are enrolled annually on construction and built environment related programmes in Scotland's colleges and universities through a combination of investment through the Scottish Funding Council, and international student recruitment<sup>[xviii]</sup>.

Forecasting suggests challenges ahead. The Construction Industry Training Board anticipates a need for 22,250 additional roles in Scotland by 2028 to meet the targets associated with net-zero emissions<sup>xix</sup>. Specific additional role requirements include plumbers, HVAC workers, heat pump installers, project managers, and building envelope specialists. While there is an acknowledged systemic skills gap in the industry, another issue arises from skills mismatches, emphasising the alignment of skills with timely and appropriate job placements. The influx of migrant labour from mainland Europe previously mitigated this mismatch. However, current trends, like the decline in the proportion of migrant workers as highlighted by the CITB report, suggest emerging challenges, partly due to changes in 'freedom of movement'.

Furthermore, a report from NOCN and the British Association of Construction Heads, endorsed by the UK Construction Leadership Council<sup>xx</sup>, relating to biomass, energy efficiency, offsite manufacturing, and retrofitting, not currently covered by national occupational standards, to meet net-zero requirements in the UK's built environment. The report also indicates modifications or enhancements to many existing sector occupations.

The Climate Emergency Skills Action Plan<sup>[xxi]</sup> in Scotland outlines a strategy to support the country's transition towards sustainability. It underscores the development of environmentally oriented job roles and reinforces fair work principles. Given the importance of heat decarbonisation, a specialised sub-group has been established within the plan. It is relevant to mention that this Action Plan is currently under revision, with an updated version expected by the end of 2023.

Recent publications, including the Withers<sup>[xxii]</sup> and Hayward<sup>[xxiii]</sup> reviews, and discussions concerning the 'Purpose and Principles' <sup>[xxiv]</sup> of college and university education indicate potential shifts in the Scottish skills system's design and management approach. This reform agenda presents an opportunity to improve just transition objectives with the national investment in education, training, and wider competency development.

#### Conclusion

Scotland's commitment to a "just transition" aligns with global initiatives, signifying a harmonious shift towards a low-carbon economy. Grounded in legislative measures like the Climate Change Act of 2019 and multi-sectoral strategies, Scotland is paving the way for a sustainable future. While the construction sector and broader built environment faces multifaceted challenges, such as skills gaps and changing migration patterns, the proactive policy frameworks like the National Strategy for Economic Transformation, and the upcoming publication of a Just Transition Plan for Built Environment and Construction, indicate a proactive, forward-thinking approach. As these foundations solidify, they offer an optimistic perspective: the challenges ahead can be navigated.

With the right legislative, regulatory, and partnership mechanisms in place, Scotland possesses the potential to deliver a just transition and flourish within a green economy. While a promising future is on the horizon – one where the built environment meets the needs of every resident and embodies sustainable innovation and social equity – it's imperative that Scotland acts with precision and pace if consistent and sustained progress is to be realised.

# Methodology

# Objective

As previously outlined, this study sought to elicit stakeholder viewpoints on the 'Just Transition Discussion Paper for Built Environment and Construction. In this section, we describe the methodology our delivery team employed to gain a deeper grasp of stakeholder needs, expectations, and apprehensions, and to validate and critically assess the Paper's primary themes and focal areas.

# **Identification of Stakeholders**

The engagement sought to engage stakeholders from a wide variety of backgrounds, locations, sectors and sub-sectors, and areas of interest. For the purposes of this report, stakeholders can be considered as organisations, representative bodies and/or individuals.

An initial list of key stakeholder organisations was developed by the delivery team with the intention to forward invitations to participate. Three criteria for selecting stakeholders were developed:



Whilst not all stakeholders invited to participate were able, no stakeholders declined outright the opportunity to participate, and all were keen to remain engaged with the

process. Three stakeholders who expressed a desire to contribute were unable to due to the availability of either the delivery team and/or the participant(s).

### **Design Methodology**

The study adopted a mixed methods approach to gathering feedback on stakeholder perspectives.

Following an initial review of the paper and associated literature, a programme of engagement was developed to ensure stakeholders could provide feedback through a variety of means. More specifically, the following engagement methods were adopted:

- Online open access survey
- In person engagement workshops
- One-to-one interviews
- Online engagement workshop
- Direct email feedback (to Scottish Government)

The online **open access survey** contained sixteen questions and was hosted on SurveyMonkey throughout July and August 2023. The questions are included in Appendix A for reference. The survey was promoted through the Built Environment – Smarter Transformation social media channels, newsletters, and through direct promotion to key stakeholders by email. A total of thirty responses were received.

The **in-person engagement workshops** were hosted in Hamilton (eighteen attendees), Dumfries (eight attendees) and Aberdeen (fourteen attendees). The delivery team were keen to ensure that feedback reflected a good geographical spread of stakeholders and that regional perspectives were adequately reflected. Participation in the workshops was promoted through the Built Environment – Smarter Transformation social media channels, newsletters, and through direct promotion to key stakeholders by email.

The workshop was hosted by the delivery team and was based on the five themes identified within the Paper:

- Procurement as a lever for the transition
- Building a skilled labour force
- An innovative, internationally competitive industry
- Delivering consistent, sustainable standards
- Maximising the manufacturing base in Scotland

Participants engaged in three thirty-minute exercises considering barriers, benefits, and unique factors relating to each of the themes. Feedback was collated using prepared A3 workshop templates and sticky notes. Each exercise enabled participants to provide feedback on the templates before an open discussion took place to elicit deeper insights relating to the feedback. Responses during the open discussion were transcribed by a member of the delivery team.

Following the planned exercises, a final thirty-minute open discussion was included to provide participants the opportunity to share additional feedback.

The workshop questions and associated templates are included in Appendix B.

The **one-to-one interviews** were designed to enable stakeholders to provide more detailed feedback on areas of personal interest during a thirty-minute interview. Participants were identified through the 'key stakeholder identification' process detailed above. Additionally, every survey respondent and workshop attendee was invited to participate in the interviews. A total of eighteen interviews were held. The interview discussion guide is contained within Appendix C.

The **online engagement workshop** (5 attendees) was hosted as a means of ensuring those who could not attend an in-person workshop had the opportunity to participate. The online workshop was not openly promoted until one week before delivery to encourage higher participation at the in-person workshops. The online workshop followed the same delivery model as the in-person workshops, albeit stakeholder feedback was captured using Menti; an online engagement and collaboration tool.

Whilst the provision of a **direct email feedback option** was included in all correspondence with stakeholders, the email address is managed by Scottish Government's Climate Change Engagement Team and was not accessible by the delivery team. We are therefore unable to include any potential responses in this report.

# Analysis of Data

The engagement programme's design facilitated both quantitative (from the survey) and qualitative (from other methods) analyses. The quantitative results are displayed as raw data, complemented by visual representations, throughout this report.

For the qualitative data, the delivery team conducted a thematic analysis aligned with the five central themes outlined in the Paper. To glean deeper insights, feedback was categorised based on geographical location and the method of engagement, such as workshops or interviews. This structured approach, pre-approved by the project sponsors, is detailed in the 'Key Findings' section.

Where conflicting or contradictory data emerged, they have been presented neutrally. To offer clarity, these points are accompanied by a contextual narrative, ensuring readers have additional insight into differing perspectives experienced by the delivery team.

# **Ethical Considerations**

All participants willingly provided feedback to the engagement programme with the assurance of confidentiality. No incentives were offered for their participation. Direct quotes included in this report have been carefully curated to ensure they cannot be traced back to specific individuals or organisations.

#### **Feedback Mechanisms**

Stakeholders participating in workshop events and one-to-one interviews regularly requested access to the findings of this report. The Scottish Government will ensure that, upon publication, the report is accessible alongside other relevant Just Transition papers .

#### **Lessons Learned**

The engagement programme was conducted during the summer holiday season, presenting certain logistical challenges in reaching our intended participants. Future engagement initiatives should account for potential scheduling conflicts, extending their timelines to foster broader participation.

While initial one-to-one interviews were scheduled for thirty minutes, it soon became apparent that a longer duration was needed for participants to articulate their feedback thoroughly. As a result, interviews were adjusted to last an hour. Given the technical nuances of the topic, it is advised that subsequent programmes allocate sufficient time for in-depth discussions with experts and keen stakeholders.

Given the topic's significance and intricacy, multiple concurrent engagement initiatives emerged, each engaging a specific audience segment. Closer collaboration among these parallel initiatives in the future might yield a more holistic and inclusive capture of stakeholder insights.

# **Key Findings**



#### **Overarching themes and insights**

For the overarching themes and insights we have reported feedback on both the proposed outcomes and the themes. Some high-level points emerged from the engagement piece out with these areas which are:

- A strong desire for action "just do it" was a typical comment from participants.
- Clear consensus that heat in buildings needs to be included in the built environment and construction plan.

#### **Proposed Outcomes**

Participants of the online survey were given the opportunity to comment on the proposed outcomes. Feedback on whether the proposed outcomes were relevant was strongly supportive, with a 90%+ agreement rate. Participants identified jobs, skills and economic opportunities as being the most important set of outcomes.



While there was general agreement and support for the proposed outcomes the following issues were raised around implementation:



# Themes in relation to the outcomes

Feedback on how the themes relate to the outcomes shows that building a skilled labour force was seen as the most important theme for three of the outcomes. For environment, biodiversity and adaptation however, delivering consistent sustainable standards was seen as having the highest relevance.



Participants were also given the opportunity to provide comments. While there are not enough comments made to identify any clear trends the ones that were received focused on the importance of procurement and skills in achieving a just transition.

#### **Proposed Themes**

For each theme we have taken the feedback from the workshops, interviews and online surveys to identify:

- 1. Areas where there was a consistent message and feedback
- 2. Specific suggestions and identification of challenges. These have been grouped against 5 macro headings Policy and Regulation, Procurement, Economic Factors, Culture, Skills and Theme Specific Points.

#### Consistent messages across all themes:

Across all five themes some consistent messages emerged for areas that are vital to ensure success. These were:



Linkages were seen between the themes. In particular, the impact that theme 1 (procurement) and theme 2 (skills) could have across all the themes was recognised.

### Theme 1: Procurement as a lever for the transition

#### Consistent messages/feedback

- The importance of procurement as a positive influence on sustainability.
- The requirement for support for SMEs.
- The opportunities a regionally focused approach can bring.
- The need to move away from current procurement practices that encourage a race to the bottom mentality.
- The influence of culture in helping move procurement processes.
- The role of good policy and regulation in leading and influencing best practice.
- The potential barriers caused by economic factors.

#### **Opportunities and challenges:**

| Area                  | Opportunities   | Challenges (where identified)   |
|-----------------------|---|---|
| Policy and regulation | <ul> <li>Clear, supportive policies and<br/>frameworks that are in tune with<br/>sustainable needs - for example,<br/>promote retrofit over demolition<br/>through regulation and incentives.</li> <li>Level the playing field - equitable<br/>access to information for all. For<br/>example, publish transparent pipelines.</li> <li>Focus on longer term benefits rather<br/>than quick wins.</li> </ul>   | <ul> <li>Current frameworks and<br/>rules are not geared<br/>towards a just transition or<br/>net zero.</li> <li>Perceived disconnect<br/>between policy and<br/>practice.</li> <li>Lack of data and skills to<br/>make informed decisions<br/>on the most appropriate<br/>procurement options</li> </ul>   |
| Procurement           | <ul> <li>Establish an independent regulatory<br/>body to oversee procurement.</li> <li>Utilise new tools such as AI to help<br/>make procurement fairer by eliminating<br/>bias and allowing more complex<br/>analysis to be undertaken.</li> <li>Prioritise sustainable, local options in<br/>procurement over the cheapest<br/>alternatives. This could also be an<br/>opportunity for community wealth<br/>building.</li> <li>Make sustainability and net zero goals<br/>integral to procurement processes.</li> <li>Explore potential of consortium bidding<br/>and risk sharing.</li> <li>Procurement has potential to be a<br/>quick change maker, promoting<br/>innovation and stimulating clusters of<br/>activity.</li> <li>Promote transparency in spending and<br/>reasoning behind procurement<br/>choices.</li> <li>Promote value over cost.</li> <li>Integrate the supply chain rather than<br/>procuring individual packages.</li> </ul> | <ul> <li>Current practices have a race-to-the-bottom mentality, cost-driven approach.</li> <li>Frameworks durations are too long and lock organisations out of opportunities.</li> <li>Decisions made at design stage which can be long before a contractor is appointed.</li> <li>Need to unlock barriers to allow local supply chains to take advantage of opportunities.</li> <li>Sourcing locally can be more expensive.</li> <li>Current expectations in terms of requirements and paperwork are too onerous to allow SMEs to engage with public procurement.</li> </ul> |
| Economic<br>factors   | <ul> <li>Examine new models such as carbon<br/>import taxes.</li> </ul>   | <ul> <li>Currently a significant<br/>obstacle to adopting more<br/>sustainable practices due<br/>to actual/perceived higher<br/>cost.</li> </ul>  |

|                       |  | <ul> <li>Challenges of obtaining or<br/>matching materials like<br/>stone or slate and<br/>associated costs for<br/>historic buildings.</li> <li>Focus on cost over quality.</li> <li>Current expectation on<br/>SMEs to upfront finance<br/>projects and then claim<br/>costs back.</li> </ul> |
|-----------------------|--|---|
| Culture               | <ul> <li>Need to align skills, training, and policy mandates to encourage cultural change.</li> <li>Encourage early engagement across the supply chain.</li> </ul>   | <ul> <li>Current culture views<br/>sustainability as an<br/>optional add-on.</li> <li>Adversarial approach of<br/>sector.</li> <li>Resistance to change</li> </ul>  |
| Skills                | <ul> <li>Provide support and upskilling for SMEs to help them understand how to take advantage of procurement opportunities.</li> <li>Educate SMEs in emerging sustainability standards to help them meet sector goals.</li> <li>Monitoring SME engagement can help drive change.</li> </ul> |   |
| Theme specific points | Covered in other sections  | Covered in other sections   |

# Theme 2: Building a Skilled Labour Force

#### Consistent messages/feedback

- The need to modernise and have an adaptable approach to skill sets and education.
- The importance of geographic inclusion to increase accessibility.
- Intersectoral collaboration and transference to promote best practice from other sectors/countries.
- Addressing industry reputation and stability to increase attractiveness.
- Requirement to improve diversity and inclusivity.
- Streamlining administrative processes to make it easier for firms to upskill workers.
- Macro-level changes and policy influence to drive improvements.
- Requirement to look at skills in the context of sustainability.
- The need to recognise the importance of traditional skills and the existing workforce.

#### **Opportunities and challenges:**

| Area                  | Opportunities   | Challenges (where identified)   |
|-----------------------|---|---|
| Policy and regulation | <ul> <li>The importance of policies and incentives, such as including skill targets in procurement and supporting industry training at the delivery point.</li> <li>Information sharing is vital and needs to be coordinated from government and beyond.</li> <li>Allocate more funds to colleges and reconsider the current expensive funding model for skills training.</li> </ul>    | <ul> <li>Brexit has had a negative impact on the workforce.</li> <li>A coherent strategy from the government is missing, leading to a lack of visibility and direction.</li> </ul>  |
| Procurement           | <ul> <li>Incorporate training requirements into<br/>procurement processes and offer clear<br/>legislative guidance.</li> </ul>  |   |
| Economic<br>Factors   | <ul> <li>Long terms incentives and supports are necessary to ensure employers engage.</li> <li>Provide financial support and ensure a continuous stream of work to encourage SMEs to invest in training.</li> <li>Offer tax breaks and other benefits to companies emphasising skills development.</li> <li>Offer competitive salaries to tempt entrants from other sectors.</li> </ul> | <ul> <li>The industry has a reputation for boom-bust cycles, making it less attractive to new entrants.</li> <li>Margins are low, making skills development a lower priority.</li> <li>Upskilling is challenging, particularly given the costs associated.</li> <li>Funding is a significant concern, both for training and increased salary expectations.</li> </ul> |
| Culture               | <ul> <li>Promoting intersectoral learning,<br/>whether it's transferring skills from oil<br/>industries or learning from countries<br/>like Denmark.</li> <li>Encouragement of a multi-disciplined<br/>approach would be beneficial for<br/>retrofit and other sectors.</li> </ul>  | <ul> <li>Current perception of the industry being unsafe and inefficient is a barrier for attracting new entrants.</li> <li>The construction industry is often not seen as a professional career choice, affecting its attractiveness.</li> </ul>   |

|                          | <ul> <li>Address the lack of diversity in the industry and provide intersectional leadership.</li> <li>Address accessibility, for example cater to neurodiverse individuals and ensure education pathways and opportunities are accessible to all.</li> <li>A clear career path is essential to attract and retain talent.</li> </ul>  |  |
|--------------------------|--|--|
| Skills                   | <ul> <li>Focus on future requirements, such as preparing for 2030, rather than on past or current needs.</li> <li>Recognise the significance of integrating digital technologies, with mentions of AR/VR, digitisation, and addressing digital poverty.</li> <li>Traditional skills are still important and should not be forgotten.</li> <li>Need to develop existing workforce as well as attracting new entrants.</li> <li>Update the apprenticeship model and embrace transferable skills frameworks.</li> <li>Expand educational paths: traditional education routes aren't the only paths; diversify approaches to learning.</li> <li>The industry needs a skills stock check to identify areas of need.</li> <li>Establish regional skills hubs.</li> </ul>   | <ul> <li>An imbalance between<br/>practical and theoretical<br/>learning - fears there is too<br/>much emphasis on<br/>academic learning.</li> <li>Most training opportunities<br/>available in central belt,<br/>leaving remote and island<br/>communities underserved.</li> <li>Paperwork demands (I.e.,<br/>for apprentices) are too<br/>onerous.</li> <li>Skills gap - the current<br/>workforce lacks<br/>understanding of newer<br/>concepts like the circular<br/>economy.</li> </ul> |
| Theme specific<br>points | <ul> <li>Sustainability &amp; retrofitting - skills has<br/>an essential role in delivering<br/>sustainability, particularly in the<br/>context of retrofitting and the climate<br/>emergency. Prioritise green skills and<br/>jobs and create pathways like "Retrofit<br/>Apprenticeships".</li> <li>Special skills emphasis - areas like<br/>traditional craft skills are crucial,<br/>especially with a focus on<br/>environmental performance,<br/>retrofitting, and using natural<br/>materials.</li> <li>Potential to support rural development<br/>through job creation and improved<br/>skills infrastructure.</li> <li>Prioritise the collection of high-quality<br/>data such as skills needs, regional<br/>requirements, different jobs required,<br/>pipeline Define a clear vision of the<br/>stakeholder ecosystem and refine<br/>measurement metrics to go beyond<br/>just volume.</li> </ul> | <ul> <li>Rural communities face<br/>unique challenges which<br/>can be overlooked l.e.,<br/>workforce availability, lack<br/>of training, and<br/>contributing factors such<br/>as housing shortages.</li> </ul>   |

# Theme 3: An Innovative, Internationally Competitive Industry

#### Consistent messages/feedback

- The importance of local innovation and self-sufficiency.
- Key role of fostering skills and talent.
- The need for focused purposeful investment and finance.
- The role of policy, strategy, and governance.
- How to find the balance between internationalisation and local needs.
- Benefits of promoting success and lessons learned.
- Support issues around certification and patenting.
- Build upon Scotland's cultural heritage of successful innovation.

#### **Opportunities and Challenges:**

| Area                  | Opportunities  | Challenges (where identified)  |
|-----------------------|--|--|
| Policy and regulation | <ul> <li>A clear government ambition backed by<br/>industry consensus. This needs to<br/>create a level playing field through<br/>policy and legislation, particularly<br/>concerning sustainable solutions and<br/>the circular economy.</li> <li>Government support for facilities,<br/>infrastructure, and labour.</li> <li>Prioritise environmental costs in the<br/>economic model, introducing penalties<br/>and incentives to drive industry change.</li> </ul> | <ul> <li>Current gaps in both<br/>regional and national<br/>policies.</li> <li>Innovation<br/>hub/collaborative activity<br/>needs expanded.</li> <li>Lack of demand for<br/>innovation doesn't<br/>encourage it to be<br/>developed.</li> <li>Barriers caused by Brexit.</li> <li>Piecemeal development<br/>of standards – wider<br/>implications need to be<br/>considered.</li> </ul> |
| Procurement           | <ul> <li>Incorporate low-carbon practices into<br/>procurement policies and ensure<br/>thorough product testing, emphasising<br/>collaboration.</li> <li>Explicitly mandate for innovation<br/>through procurement.</li> </ul>   |  |
| Economic<br>Factors   | <ul> <li>Use locally available innovation,<br/>resources, and knowledge to benefit<br/>regional economies.</li> <li>Invest in applicable innovation, both<br/>from local and international sources.</li> <li>Significant investments and<br/>enforcement at government level.</li> </ul>   | <ul> <li>Current noticeable gap in<br/>funding, especially in the<br/>transition from concept<br/>to scalability.</li> <li>Scotland's investment<br/>landscape could be more<br/>mature, and there's a<br/>need for better support,<br/>especially for SMEs and<br/>micro-organisations.</li> <li>Excessive start-up costs<br/>for new businesses.</li> </ul>                            |
| Culture               | <ul> <li>Focus on structures lasting over 50 years to ensure carbon investments have long-term benefits.</li> <li>Design for an entire product lifecycle, from creation to disassembly, emphasising modularity and circularity.</li> </ul>   |  |
| Skills                | <ul> <li>Need for closer links between industry<br/>and academia.</li> </ul>   |  |

|                           | <ul> <li>Need to fully utilise and retain trained<br/>individuals.</li> <li>The potential for incubator<br/>opportunities and international<br/>knowledge exchange is vital for<br/>progress.</li> </ul>   |  |
|---------------------------|--|--|
| Theme specific<br>support | <ul> <li>Certify new products and use first<br/>adopters to showcase innovations.<br/>Government incentives can drive<br/>adoption.</li> <li>Creation of regional specialisation and<br/>R&amp;D hubs.</li> <li>Develop a model which encourages<br/>international market access and<br/>competitiveness, whilst valuing the<br/>importance of local needs and<br/>challenges.</li> <li>Need to highlight success stories and<br/>achievements.</li> <li>Develop pilot projects which measure<br/>their effectiveness and ensure<br/>scalability.</li> </ul> | <ul> <li>Difficult to obtain<br/>certification for new<br/>materials/ systems -<br/>requirement for more<br/>flexible patenting routes<br/>and faster certification<br/>processes.</li> <li>Concerns about abilities<br/>to compete with<br/>established international<br/>companies.</li> <li>Questions arise about<br/>Scotland's current<br/>international strategies<br/>and the balance between<br/>focusing on local vs.<br/>international markets.</li> </ul> |

## Theme 4: Delivering Consistent, Sustainable Standards

#### Consistent messages/feedback

- The importance of consistency and clarity.
- The government must lead by example.
- Call for a national standards approach which avoids silos.
- Avoid lack of clarity caused by multiple conflicting standards.
- Establish support for retrofit over new build.
- Establishing national databases for materials and building types would be valuable.

#### **Opportunities and Challenges:**

| Area                  | Opportunities   | Challenges (where identified)  |
|-----------------------|---|--|
| Policy and regulation | <ul> <li>A national standard approach for<br/>carbon accounting, circular economy,<br/>with clear standards and enforcement<br/>for all involved.</li> <li>Net zero public sector building<br/>standards to be made mandatory.</li> <li>Standardise projects in planning and<br/>execution to ensure fair practices and<br/>efficient processes.</li> <li>Connect building regulations with<br/>actual performance.</li> <li>Shift resources from oil and gas to net<br/>zero.</li> <li>Reform EPCs in favour of a more<br/>precise system.</li> <li>Promote retrofit over new build –<br/>demolition levy, change of planning<br/>regulations, economic benefits.</li> <li>Ensure commercial interests don't<br/>overshadow environmental needs.</li> <li>Incorporate mandatory carbon<br/>accounting into building regulations<br/>and design methodologies.</li> </ul> | EPCs and SAP calculations<br>do not include holistic<br>factors.   |
| Procurement           | <ul> <li>Procurement to drive adoption of MMC<br/>and implementation of digital twins.</li> <li>Incorporating carbon accounting in<br/>procurement could drive its adoption<br/>across the industry.</li> </ul>   | <ul> <li>Fear of perceived higher<br/>costs.</li> </ul>  |
| Economic<br>Factors   | <ul> <li>Sources of funding to be scrutinised –<br/>ensure that those setting the<br/>standards aren't benefitting from them.</li> <li>Ensure that embodied carbon<br/>accounting does not disadvantage<br/>smaller businesses. This can be<br/>achieved through funding and support<br/>mechanisms.</li> <li>Help clients optimise existing funding<br/>schemes for retrofits. Ensure schemes<br/>are comprehensive, not just short-term<br/>solutions that will need revisions.</li> </ul>  | <ul> <li>SMEs face financial<br/>challenges when it comes<br/>to the implementation of<br/>new standards.</li> </ul>                         |
| Culture               | <ul> <li>Architects should be required to<br/>account for embodied carbon.</li> <li>Emphasise harmonisation of standards<br/>as a foundational step and underscore<br/>the need for immediate action.</li> </ul>  | <ul> <li>Silo mentality and<br/>resistance to change.</li> <li>Lobbying for status quo.</li> <li>Lack of incentive to<br/>change.</li> </ul> |

|                           | <ul> <li>Advocate for a "good enough"<br/>approach, prioritising action over<br/>perfection.</li> </ul>   |   |
|---------------------------|---|---|
| Skills                    | <ul> <li>Upskill the workforce to employ Design<br/>for Manufacture and Assembly (DfMA)<br/>and Building Information Modelling<br/>(BIM).</li> <li>Training should focus on both the<br/>technology and the specific building<br/>environment, supporting local firms<br/>who have a better understanding of<br/>regional building archetypes.</li> <li>Introduce carbon accounting topics in<br/>educational institutions.</li> </ul>  |   |
| Theme specific<br>support | <ul> <li>Address the confusion of multiple<br/>standards with a well-organised library.</li> <li>Utilise AI to harmonise and understand<br/>which standard applies to a given<br/>context.</li> <li>Improve reporting on lessons learned<br/>from retrofit projects. Ensure there's<br/>enough evidence to make informed<br/>decisions.</li> <li>Implement regular audits for buildings<br/>and introduce digital solutions for<br/>tracking a building's life cycle.</li> <li>Develop a national register of materials<br/>to help manage resources and<br/>encourage the repurposing of<br/>materials.</li> <li>Ensure every construction activity,<br/>whether it's new construction,<br/>adaptation, retrofit, or refurbishment, is<br/>logged. Having precise and<br/>comprehensive data aids in making<br/>informed, evidence-based decisions.</li> </ul> | <ul> <li>Unknown/unintended<br/>consequences of new<br/>standards.</li> </ul> |

# Theme 5: Maximising the Manufacturing Base in Scotland

#### Consistent messages/feedback

- Emphasis on local manufacturing and resources, with support provided for local supply chains.
- Support is required for SMEs to help break into the market.
- The potential of establishing a low carbon manufacturing base with expertise in low carbon materials such as timber or insulation.
- The importance of investing in the skills base to create higher value green jobs.
- The role of policy, procurement, and regulation in helping to boost demand for Scottish manufacturing.

#### **Opportunities and Challenges:**

| Area        | Opportunities   | Challenges (where identified)  |
|-------------|---|--|
| Policy      | <ul> <li>Recognise and expand upon<br/>successful projects and initiatives<br/>that are already in place, such as the<br/>work around heat decarbonisation.</li> <li>Adopt models like the Hub model<br/>with the Scottish Futures Trust to<br/>create supportive structures for<br/>SMEs, providing shared resources,<br/>information, and materials.</li> <li>Adopting a single standard for<br/>manufacturing and production would<br/>offer clarity to manufacturers about<br/>where and how to invest.</li> <li>The government can act as a<br/>significant demand creator. By<br/>setting standards, regulations, or<br/>even procurement policies that<br/>favour specific materials or<br/>technologies. Once businesses see a<br/>clear demand trajectory, they are<br/>more likely to invest. Begin with<br/>large-scale public sector projects to<br/>create demand.</li> <li>Legislation can help streamline the<br/>use of local resources and promote<br/>sustainable practices.</li> <li>Strengthening SMEs to make them<br/>more resilient will aid in shortening<br/>supply chains.</li> <li>Manufacturers need a consistent<br/>pipeline of demand to make local<br/>investments viable.</li> </ul> | <ul> <li>Uncertainty around policy<br/>changes affecting future<br/>demand and barriers to<br/>international trade.</li> <li>Recognise the challenge<br/>of cheaper imports, such<br/>as products from China.<br/>To encourage local<br/>sourcing and reduce<br/>embodied carbon, clients<br/>might need to be open to<br/>bearing a slightly higher<br/>cost for locally produced<br/>or sustainable products.</li> <li>Scotland needs to be<br/>more competitive and<br/>create local demand first<br/>before it can cater to<br/>external markets.</li> </ul> |
| Procurement | <ul> <li>Policy and procurement can act as<br/>levers to encourage the use of local<br/>products.</li> <li>Encourage support for the use of<br/>natural Scottish materials such as<br/>slate and timber.</li> <li>Procurement should prioritise a<br/>product's environmental impact,<br/>possibly even more than its cost<br/>(carbon over cost).</li> </ul>   |  |

|                                   | <ul> <li>Understand what is locally available<br/>and integrate it into procurement<br/>processes.</li> <li>Emphasis on procurement to ensure<br/>SMEs can compete effectively.</li> </ul>   |   |
|-----------------------------------|--|---|
| Economic Factors                  | <ul> <li>The need for financial investments, particularly for SMEs and startups.</li> <li>Potential benefits of cost savings from domestic manufacturing as opposed to importing.</li> <li>The potential to match supply with regional needs, aiming for a local economic multiplier effect.</li> <li>Need for carbon impact tax and proper incentives without negatively affecting local suppliers.</li> <li>Investment in infrastructure can aid the supply chain's efficiency. This could be in the form of logistics hubs, transportation networks, or manufacturing facilities.</li> </ul>  | <ul> <li>Lack of funding.</li> <li>Currently, it's cheaper to procure overseas, so there needs to be a tangible incentive for businesses to procure locally.</li> </ul>   |
| Culture                           | <ul> <li>Reframing manufacturing to serve<br/>the needs of existing buildings in<br/>addition to new constructions.</li> <li>Exploring natural alternatives like<br/>wool for insulation.</li> <li>Encourage landowners to cultivate or<br/>produce different products that align<br/>with net zero goals.</li> </ul>  | <ul> <li>Too many pilot projects<br/>without full<br/>implementation.</li> <li>Issues of trust,<br/>confidence, and reliability<br/>in the sector.</li> </ul>   |
| Skills                            | <ul> <li>A need to foster local job creation<br/>and attract talent, even from beyond<br/>the UK.</li> <li>Envision a more skilled workforce<br/>engaged in higher-value green jobs.</li> </ul>  | <ul> <li>Lack of trained workforce.</li> <li>Manufacturing skills lost<br/>during Brexit.</li> </ul>  |
| Theme specific<br>recommendations | <ul> <li>Emphasis on better data acquisition<br/>for understanding Scotland's<br/>manufacturing landscape.<br/>Accumulating data and insights<br/>about industry needs and trends can<br/>lead to more accurate forecasting.<br/>By laying out clear forecasts - such<br/>as the amount of a particular<br/>material required or the type of skills<br/>in demand - it creates an<br/>environment where businesses can<br/>spot opportunities.</li> <li>Transform Scotland into a hub for<br/>distributed manufacturing,<br/>leveraging modern technologies<br/>such as AI, and focusing on circular<br/>design to reshape the supply chain.<br/>Additionally, moving construction to<br/>a factory setting can revolutionise<br/>the industry.</li> <li>Emphasis on innovation and<br/>supporting startups with funding and<br/>access to the market.</li> <li>Potential for a construction<br/>accelerator programme in Scotland.</li> </ul> | <ul> <li>Barriers to introducing<br/>new products, pointing to<br/>a need for a link between<br/>procurement,<br/>manufacturing, and<br/>standards.</li> <li>The need for transition is<br/>immediate. Emphasising<br/>that the 'right time' has<br/>either already passed or is<br/>now.</li> <li>Huge problem of staffing<br/>in manufacturing, can't<br/>get people trained or<br/>willing to work for the<br/>wages.</li> <li>The issue of land<br/>ownership in Scotland is a<br/>barrier, with few<br/>landowners controlling<br/>vast lands, making it hard<br/>to produce materials<br/>locally.</li> </ul> |

# Key Recommendations for Just Transition Plan

# Theme 1 – Procurement as a lever for the transition

### Enhance training and support for SMEs:

Feedback was consistent on the importance of supporting SMEs, both in terms of preparing them for new standards and reducing barriers to entry in the procurement process. The need for training, upskilling, and early-stage interventions was also recognised.

**Recommended interventions:** 

- Implement a targeted upskilling and training initiative for SMEs, with a focus on understanding and adapting to new standards and sustainable practices. This would involve practical workshops, online resources, and mentorship opportunities.
- Consider simplifying or revising the pre-qualification processes to make them more accessible to smaller businesses.

#### Revise and update procurement policies and priorities:

Participants consistently commented on issues with the current procurement system, such as prioritising cost over quality or sustainability. The need for a shift to a new system which prioritises local and sustainable options was identified.

**Recommended interventions:** 

• Undertake a comprehensive review of existing procurement standards, rules, and guidelines, focusing on aligning them with net zero and sustainability goals. This would involve incorporating clear metrics for sustainability, provisions for local sourcing, and a balance between cost, quality, and environmental impact.

#### Promote stakeholder engagement and collaboration:

The benefits in fostering greater collaboration between various industry players was identified. Whether it's tier 1 companies mentoring SMEs, cross-sector collaborations, or regional solutions, the emphasis is on the shared value created when diverse stakeholders align.

**Recommended interventions:** 

- Create platforms or initiatives that promote collaboration between industry stakeholders. This could include consortiums, roundtable discussions, or networking events.
- Encourage established firms to partner with local SMEs, and foster environments where knowledge, best practices, and innovative solutions are shared. Addressing gaps in understanding and providing opportunities for shared growth will be instrumental in driving sustainable practices.

# Theme 2 - Building a Skilled Labour Force

#### Broaden the scope of educational pathways:

The current education system was highlighted as being old fashioned, with an overwhelming emphasis on university pathways over trades. There's a clear need to diversify learning structures.

**Recommended interventions:** 

• Introduce and heavily promote diversified learning pathways that value trades, crafts, and practical skills equally with academic routes. This might involve creating more opportunities for apprenticeships, hands-on learning, and real-world industry exposure.

#### Enhance digital literacy and address digital poverty:

The importance of adaptability and modern learning structures is recognised. However, in a traditional industry where some areas have issues with digital connectivity this can be a challenge.

**Recommended interventions:** 

• While pushing for modern learning methods, it's crucial to first ensure that all communities have access to basic digital infrastructure and literacy programmes. This could involve government-backed initiatives to provide digital access points in rural areas and digital literacy programs aimed at all age groups.

# Continue to recognise the importance of traditional skills whilst looking to the future:

Feedback suggests that there's a perceived decline or devaluation of traditional skills, such as maintenance of historic buildings. For a just transition to be successful we need to work towards competency profiles which support the industry's transformation but still recognise the importance of traditional skills.

**Recommended interventions:** 

• Design an educational framework that balances modern, solution-based approaches with the preservation and validation of traditional skills. Recognise and promote the importance of foundational trades and crafts in parallel with introducing innovative educational methodologies.

# Theme 3: An Innovative, Internationally Competitive Industry

#### Enhanced collaboration between industry and government:

Concerns were raised that while the industry is ready to embrace the just transition there needs to be a proper support system and policy framework to avoid any reluctance in taking the first steps.

**Recommended interventions:** 

• Establish more robust public-private partnership models to foster collaboration. This would help in bridging the gap between government ambitions and industry capabilities. Regular engagement with all stakeholders can help align objectives and share responsibilities more effectively.

#### Invest in regional capacities and infrastructure:

Feedback pointed out regional challenges but also the opportunities. To embrace the focus on "all of Scotland's places" consideration needs to be given to the entire country.

Recommended interventions:

• Launch a comprehensive infrastructural and capacity-building programme targeted at identified weak regions. This could include regional R&D hubs, specialised training programmes, and financial incentives to foster local innovation. Collaborate with local institutions, communities, and businesses to ensure strategies are tailored to specific regional needs and strengths.

#### Addressing Financial Barriers and Simplifying Access:

Concerns were highlighted about excessive start-up costs, a lack of financial incentive/funding and the challenges posed by international competition.

Recommended interventions:

 Develop a comprehensive financial support system, encompassing grants, subsidies, and low-interest loans specifically for sustainable and innovative ventures. This could also involve simplifying the process for accessing funds, offering financial literacy training, and working closely with banks and financial institutions to develop targeted loan products for local businesses and innovators.

# Theme 4: Delivering Consistent, Sustainable Standards

#### Establish clear national standards for carbon accounting:

The importance of establishing a clear national standard was repeatedly mentioned. Having one standard would help bring consistency across the country and would avoid any confusion caused by commercial interests.

**Recommended interventions:** 

• In terms of implementation, establish a national standard/methodology for carbon accounting and circular economy. The standard should be designed in conjunction with industry and consideration needs to be given to the bigger picture to ensure smaller firms are not disadvantaged.

#### Strengthen interconnectedness and break down silos:

Feedback highlighted the interconnectedness of the issue and the potential pitfalls of a siloed approach.

**Recommended interventions:** 

• Emphasise a systems approach, considering the interplay between building standards, national planning, regional needs, and other policy areas. This could include creating interdisciplinary teams to oversee the development and implementation of standards or setting up cross-sector collaboration forums.

#### Enhance transparency and stakeholder engagement:

Scepticism about the feasibility of standards, concerns about industry influence, and the desire for more inclusive conversations point to a need for greater transparency in the standard-setting process and more extensive stakeholder engagement.

**Recommended interventions:** 

 Outline a clear process for how standards are developed, reviewed, and updated. Ensure that a wide range of stakeholders – from industry representatives to NGOs, regional authorities, and the general public – are involved in consultations. This will not only lend more credibility to the standards but also ensure they are grounded in the realities of different sectors and regions.

# Theme 5: Maximising the Manufacturing Base in Scotland

#### Address workforce training and skill development:

The lack of a trained workforce and concerns about the limited skill set was highlighted. Maximising the manufacturing base will be difficult without addressing these fundamental challenges.

**Recommended interventions:** 

 Develop a comprehensive workforce training and skill development programme that's aligned with the current and anticipated needs of the manufacturing sector. Collaborate with educational institutions, industry experts, and job training programmes to ensure that the workforce is equipped with the required skills to meet the manufacturing demands.

#### **Provide Clear Financial Incentives and Support:**

Concerns were raised about costs (raw material, electricity) and the financial implications of choosing local over cheapest options. Also, the need for financial investment for SMEs and startups was highlighted.

**Recommended interventions:** 

 Implement a structured financial support system, which could include tax incentives, grants, or subsidies, especially for local manufacturers and startups. This would encourage local manufacturing, reduce costs, and potentially make local products more competitive, addressing both the desire to support local industry and the concerns about cost-effectiveness.

#### Enhance Clarity on Targets and Strategy Execution:

Feedback indicated a desire for clearer targets and concerns were raised about policy changes impacting future demand. These feedback points suggest a need for more concrete direction and reassurance.

**Recommended interventions:** 

• Establish clear, measurable targets for the manufacturing sector, and provide a transparent roadmap detailing how the proposed initiatives will be rolled out. This should include information on how policy consistency will be maintained to give manufacturers the confidence to invest and scale up. Incorporating feedback mechanisms and regular consultations with stakeholders can also ensure adaptability and alignment with ground realities.

# Conclusions

The feedback detailed in this report paints a picture of an industry ready for transformative change but seeking clarity, support, and leadership. The implications of this are manifold: The Scottish Government and its partners must act promptly, provide robust frameworks, offer unwavering support, especially to SMEs, and ensure that every step taken is aligned with the broader vision of a sustainable, inclusive, and prosperous Scotland.

The feedback collated in this report offers a resonant voice from the built environment and construction sector in Scotland. It reflects the industry's readiness and eagerness for change but also its earnest call for clear direction and support. The stakeholder inputs provided not just a pulse of the industry but a roadmap, replete with the challenges to anticipate and the strategies to deploy. At a more operational level, participants were unanimous in their desire for a clear delivery route map detailing how the just transition will be delivered.

While the overarching sentiment is one of urgency, it is not about hastening without foresight but accelerating with intention, strategy, and collaboration. The role of the Scottish Government emerges as paramount, seen as the torchbearer for the sector's just and sustainable transition. There is an evident anticipation that the government, while setting the direction, will also facilitate the means - whether it's by enabling SMEs, driving local strategies, or providing clear, adaptive standards.

Furthermore, the industry's stance on balancing modern approaches with traditional skills underscores its commitment to holistic development, ensuring that in the quest for innovation, the value of heritage and traditional skills is not eclipsed.

The journey towards a more sustainable built environment and construction sector in Scotland is not one that the industry undertakes alone. It is a collaborative venture, calling upon the government, industry players, and stakeholders to come together, share expertise, pool resources, and charter a path that ensures not just a transition, but a 'just' transition that caters to economic, social, and environmental imperatives.

This report thus serves not just as a feedback mechanism but as a source of community insight designed to inspire, inform, and instigate meaningful change.
# **Appendix A: Open Access Survey Questions**

This survey is part of a range of opportunities to provide feedback on the Just Transition for the Built Environment Discussion Paper.

# **Question 1**

If you would like to participate in a 1:1 interview or workshop to feedback in more detail, please leave your details below:

First and surname Email address Organisation name

### **Question 2**

Please indicate the region in which you or your organisation mainly operates:

| South of Scotland                         |
|---|
| Central Scotland                          |
| North East (e.g. Aberdeen, Dundee, Perth) |
| Highlands and Islands                     |
| Pan-Scotland                              |
| Rest of UK                                |
| Other (please specify)                    |

# **Question 3**

Organisation size:

| Less than 10 employees  |
|-------------------------|
| 10 – 49 employees       |
| 50 – 249 employees      |
| More than 250 employees |
| Not applicable          |

# **Question 4**

Which best describes your organisation or profession?

| Large/tier 1 construction company                  |
|--|
| Medium/tier 2 construction company                 |
| Small/micro construction-related trade or business |
| Professional services                              |
| Supplier   |
| Technology & data                                  |
| Learner/apprentice                                 |
| Educator   |
| Homeowner  |
| Community group                                    |

| Infrastructure or utility |
|---------------------------|
| Public sector landlord    |
| Commercial landlord       |
| Policy                    |
| Finance/investor          |
| Other (please specify)    |

# **Question 5**

Rank these outcomes by level of priority:

| Jobs, skills, and economic opportunities |
|--|
| Communities and places                   |
| People and equity                        |
| Environment, biodiversity, and adaption  |

# **Question 6**

In your view are these outcomes relevant?

| Yes   |
|---|
| No  |
| Don't know                                    |
| Please provide further comment on your answer |

## Question 7

Are there any considerations of a Just Transition not addressed in the identified outcomes?

### **Question 8**

Rank the following priority areas in terms of their relevance to the outcome of jobs, skills and economic opportunities:

| Public procurement as a lever for the transition    |
|---|
| Building a skilled labour force                     |
| An innovative, internationally competitive industry |
| Delivering consistent, sustainable standards        |
| Maximising the manufacturing base in Scotland       |

# **Question 9**

Please provide any further comments on Question 8 (optional).

### **Question 10**

Rank the following priority areas in terms of their relevance to the outcome of communities and places:

Public procurement as a lever for the transition Building a skilled labour force

Building a skilled labour force

An innovative, internationally competitive industry

Delivering consistent, sustainable standards Maximising the manufacturing base in Scotland

## **Question 11**

Please provide any further comments on Question 10 (optional).

### **Question 12**

Rank the following priority areas in terms of their relevance to the outcome of people and equity:

| Public procurement as a lever for the transition    |
|---|
| Building a skilled labour force                     |
| An innovative, internationally competitive industry |
| Delivering consistent, sustainable standards        |
| Maximising the manufacturing base in Scotland       |

### **Question 13**

Please provide any further comments on Question 12 (optional).

### **Question 14**

Rank the following priority areas in terms of their relevance to the outcome of environment, biodiversity and adaptation.

| Public procurement as a lever for the transition    |
|---|
| Building a skilled labour force                     |
| An innovative, internationally competitive industry |
| Delivering consistent, sustainable standards        |
| Maximising the manufacturing base in Scotland       |

# **Question 15**

Please provide any further comments on Question 14 (optional).

### **Question 16**

Are there any considerations of a Just Transition not addressed in the identified priorities?

# **Appendix B: Workshop Questions and Templates**



"For the Scottish Government a just transition is both the outcome – a fairer, greener future for all – and the processes that must be undertaken in partnership with those impacted by the transition to net zero".



"For the Scottish Government a just transition is both the outcome – a fairer, greener future for all – and the processes that must be undertaken in partnership with those impacted by the transition to net zero".





What are we focusing on today?

BE-ST

- Not how to achieve net zero
- Focusing on how the transition to net zero can be just
- Think bigger picture what will this look like in 2030?



### Advant ages

Imagine it is 2030 - what do the advantages of these themes look like?

- What is/ could be attractive or appealing?
- ▶ What is the potential?
- We're looking for pure enthusiasm here no negativity allowed!
- ▶ Brainstorming 20 minutes
- ▶ Selection of priorities 5 minutes
- Feedback 10 minutes

#### BE-ST



### Limits

Imagine it is 2030 - what could the limits of these themes be?

- What are the weaknesses?
- Are there any flaw sor trouble spots?
- What could the repercussions be?
- ▶ Brainstorming 20 minutes
- ► Selection of priorities 5 minutes
- Feedback 10 minutes

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# Unique qualities

- What is new, unusual or unique about these themes?
- Is there anything special?
- Are there any connections?
- ▶ Brainstorming 20 minutes
- ▶ Selection of priorities 5 minutes
- Feedback 10 minutes

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# Appendix C: 1:1 Interview Discussion Guide

Thanks for taking part.

This interview is part of an engagement programme we're undertaking on behalf of Scottish Government's Just Transition Team and is being coordinated through the Construction Leadership Forum's net zero working group. The insights gathered from this research will help to inform the draft plans that are due to be published at the end of 2023/early 2024.

We will be discussing questions posed in the recently published <u>Just Transition</u> <u>Discussion Paper for the Built Environment and Construction.</u>

I'm hoping you have had the opportunity to review the discussion paper in advance of this discussion.

The interview will take around 20-30 mins max. Are you happy for it to be recorded?

| Name                                |
|-------------------------------------|
| Location                            |
| Organisation                        |
| Organisation type                   |
| Role/profession                     |
| Size of organisation (no employees) |

Five priority areas have been identified in the Discussion Paper for making transformational progress in the sector. There are specific questions in the discussion paper relating to these areas that we would like to gain your views on.

# Theme 1: Procurement as a lever for the transition

Public sector procurement plays a substantial role in the construction industry in Scotland. In 2021/22 spending in the sector as a whole was circa £7 billion. This underlines the significant influence procurement has on the development of our infrastructure and its capacity to transform the way we design and deliver our buildings.

- 1. How can we ensure that procurement practices are greener and place circular considerations at front and centre?
- 2. How can we ensure procurement practices are fair, transparent, and promote equitable access to all businesses?
- 3. With regard to procurement: What should we stop doing? What should we start doing? What should we continue doing?

# Theme 2: Building a skilled labour force

For a just transition to net zero, it will be vital for the sector to maintain a strong, skilled workforce with sufficient capacity and capability available to deliver anticipated increased demand. Against a backdrop of an existing skills and labour market shortages, the Construction Industry Training Board (CITB) has estimated that an additional 26,250 jobs will be needed in the construction sector by 2025. Recruitment is expected to be one of the sector's greatest challenges over the next five years and the challenge is likely to continue beyond that timeframe. Meeting this scale of change will require a multi-faceted approach aimed at both attracting new, diverse talent into the sector and upskilling and reskilling the existing workforce. We also need to ensure there is adequate access to a skilled workforce for consumers throughout Scotland, including remote rural areas and islands.

- 1. How do we develop accessible, affordable and attractive skills pathways for the existing workforce (at all levels, management and business planning as well as technical/site based) that recognises the often short-term, project-based and temporary nature of their working lives?
- 2. How can Scottish Government best use the levers available to it either through policy development, regulation or influence in order to ensure that sufficient training opportunities are available across the workforce to support upskilling and reskilling?
- 3. What barriers exist, if any, to industry and education/skills providers working together to develop new, targeted skills offerings?
- 4. What are the particular challenges faced by remote rural areas and island communities in relation to the workforce that will need to be addressed?
- 5. With regard to building a skilled workforce:
  - What should we stop doing? What should we start doing? What should we continue doing?

# Theme 3: An Innovative, internationally competitive, industry

The Construction Accord highlights the need for action on Modern Methods of Construction and increased take up of digital technology in the sector. This requires joining up industries and institutions across Scotland to create the necessary conditions for an innovative sector to flourish, as well as optimising opportunities for export internationally. The scale of what is required presents opportunity. Nearly all of our built environment will require some form of retrofit activity.

- 1. How do we ensure innovative technologies and construction methods developed in Scotland are able to scale up and get to market?
- 2. How do we de-risk the use of innovative products, and change existing supply chains in favour of low carbon alternatives, recognising that products in the construction industry are typically expected to last for over fifty years?
- 3. Given the scale of retrofit activity required, how can we ensure this activity focuses on more resource efficient construction?
- 4. With regard to ensuring an innovative, internationally competitive, industry: What should we stop doing?

What should we start doing? What should we continue doing?

# Theme 4: Delivering consistent, sustainable standards

The Construction Accord already provides an outline of what is needed in the sector and the Construction Leadership Forum network has been established to work with industry stakeholders to drive transformational change across the sector. We need to deliver this in a way that enhances standards across the board and results in buildings that are both energy efficient and equipped to deal with a changing climate. The public sector stands to play a major part not only in decarbonising the built environment but in leading the way in enhancing standards for others to follow.

- 1. How do we ensure the implementation of better design processes and principles?
- 2. What other levers can Scottish Government use to encourage retrofit and refurbishment over demolition and rebuild?
- 3. What are the key enablers to drive adoption of embodied carbon accounting more widely in the industry, and where can government most effectively play a role in supporting the uptake of carbon accounting?
- 4. With regard to delivering consistent sustainable standards: What should we stop doing? What should we start doing? What should we continue doing?

# Theme 5: Maximising the manufacturing base in Scotland

The scale of what is required presents huge opportunities for the industrial base in Scotland. Identifying the correct interventions and getting the sequencing of these right to establish markets and drive demand will be key. This will also be about anticipating future demand and ensuring there is an adequate industrial base domestically to meet this.

- 1. What mechanisms could be used to stimulate additional investment in supply chains?
- 2. How do we make sure the correct products and services come to market at right time and to correct scale to create a pipeline of demand for the transition e.g., insulation material to meet anticipated demand?
- 3. What opportunities are there to shorten supply chains and enhance resilience with a focus on using locally sourced, natural and sustainable materials?
- 4. With regard to maximising the manufacturing base in Scotland: What should we stop doing? What should we start doing? What should we continue doing?

# General:

- 1. What are the key things you need to see from the transition?
- 2. Are there any issues within the discussion paper not addressed?

# Authors:

# **Douglas Morrison**

Douglas Morrison serves as the Deputy Chief Executive Officer at Built Environment – Smarter Transformation (BE-ST), Scotland's national innovation centre for the built environment. His career has predominantly been in the tertiary education sector, where he has specialised in areas including digital learning, innovation, environmental issues, and equity and inclusion.

His professional affiliations include Membership in the Young Academy for Scotland and Fellowship of the Institute for Innovation and Knowledge Exchange. He is also a member of the Royal Society of Edinburgh's Education Committee.

In addition to his role with BE-ST, Douglas remains involved in the education sector as the Vice Chair of the Board at South Lanarkshire College and as an Assessor with His Majesty's Inspectorate of Education. He is also associated with environmental initiatives, serving as the Co-Chair of the Decarbonisation of Heat Group at Skills Development Scotland and as a member of Scotland's Climate Emergency Skills Action Plan Implementation Group. Further, he is Co-Chair of the Scottish Construction Leadership Forum's Data Group.

Douglas has a background in technology-enhanced learning and has received a Masters degree in this field from the University of Strathclyde. He has also completed Executive programmes at the University of Oxford, the London School of Economics and Political Science, and HEC Paris.

# Lynsey Brydson

Lynsey is Head of Digital Programmes at Built Environment – Smarter Transformation. Lynsey has worked in the built environment sector for over a decade and is a passionate advocate for positive change within the sector. She is an innovation expert who has successfully delivered projects in the fields of sustainability, healthy ageing, digitisation, equity and inclusion and retrofit.

She is a member of the Board at Loreburn Housing Association and Co-Chair of the Scottish Construction Leadership Forum's Digital Working Group. She is a past Chair of the Central Scotland branch of Women in Property.

Lynsey holds an MBA and has delivered projects on behalf of the Scottish Government, Transport Scotland, the Construction Leadership Forum and multiple private sector organisations.

# Endnotes

<sup>1</sup> Guidelines for a just transition towards environmentally sustainable economies and societies for all - International Labour Organization <sup>II</sup> Sustainable Development Goals - United Nations Final Report by the Task Force on Just Transition for Canadian Coal Power Workers and Communities - Government of Canada <sup>iv</sup> The Just Transition Mechanism: Making sure no one is left behind - European Commission <sup>v</sup> Just Transition - A Fairer, Greener Scotland - Scottish Government <sup>vi</sup> Draft Energy Strategy and Just Transition Plan - Scottish Government vii <u>A national mission for a fairer, greener Scotland</u> - Just Transition Commission viii Scotland's just transition to net zero carbon emissions must bring good, well-paid jobs - Just Transition Commission <sup>ix</sup> Progress in reducing emissions in Scotland: 2022 Report to parliament - Climate **Change Committee** \* Scotland's response to the Climate Change Committee's (CCC) Annual Progress Report 2022 Recommendations - Scottish Government <sup>xi</sup> Employment & Earnings Dashboard - Scottish Construction Data Dashboard <sup>xii</sup> Data Summary - Scottish Construction Data Dashboard \*<sup>iii</sup> Workforce Mobility and Skills in the UK Construction Sector 2022 - CITB xiv Fair Work Construction Inquiry Report - Fair Work Convention \*\* National Construction Equity and Inclusion Plan - Construction Leadership Forum xvi Delivering Economic Prosperity - Scottish Government xvii Scotland's National Strategy for Economic Transformation - Scottish Government xviii Scottish Construction Industry Data Dashboard - Scottish Construction Data Dashboard xix Building Skills for Net Zero in Scotland - CITB \*\* <u>NOCN Greening UK Skills Report</u> – National Open College Network xxi <u>Climate Emergency Skills Action Plan</u> – Skills Development Scotland xxii Fit for the Future: developing a post-school learning system to fuel economic transformation - Scottish Government xxiii It's Our Future: Report of the Independent Review of Qualifications and Assessment -Scottish Government

<sup>xxiv</sup> <u>Purpose and Principles for Post-School Education, Research and Skills</u> – Scottish Government