Just Transition Commission

Measuring and Evaluating Success in the Scottish Just Transition

THE TAVISTOCK INSTITUTE OF HUMAN RELATIONS

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Document History

Version no.	Date	Author's initials	Contents and/or changes made
1.0	30.10.2024	DD and KJ	Initial report development
2.0	31.10.2024	RC and KH	Report review
3.0	02.12.2024	DD and KJ	Report finalisation

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Suggested Citation

Drabble, D., Jenkins, K.E.H., Copeland, R., Horn, K., Cullen, J., Gieve, M., & Hanhe, A.S. (2024) "Measuring and evaluating success in the Scottish Just Transition", *Just Transition Commission.*

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Co-Chairs Introduction

The Commission's remit requires that we provide advice to government "on the most suitable approaches to monitoring and evaluation". An unusual aspect of this topic (M&E) is that whereas the majority of policy challenges come with a range of tried and tested approaches that might be evaluated in terms of their suitability for a particular jurisdiction or context, on just transition M&E there are as yet no outstanding models of good practice to work from.

We are building from the ground up. This requires a degree of experimentation and innovation to establish what works.

Harmful emissions can be measured empirically with a strong degree of accuracy and confidence. The fairness or otherwise of social and economic change is, by contrast, a highly complex and contentious object of analysis. But the climate transition is happening, and it is reshaping the lives of people and communities right across the world. There is no time to allow the perfect to be the enemy of the good. Failure to make a credible attempt at assessing the relative fairness of social and economic impacts will only encourage delays in the necessary policy actions and investments.

For the just transition, as for other complex and demanding endeavours, what gets measured gets done.

We thank the research team, particularly David Drabble and Kirsten Jenkins, for the time and care they have spent on this work.

The evidence and analysis provided here is by no means the final word on the topic. Rather it is intended to set the wheels in motion for a process that will need regular review and refinement over the next two decades, to meaningfully (if imperfectly) assess our progress in achieving a just transition for Scotland.

Professor Dave Reay
Co-Chair
Just Transition Commission

Satwat Rehman,
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Just Transition Commission

Executive summary

Aims

The aim of this project is to develop a national Theory of Change for Scotland including a shared set of activities, outcomes areas and mechanisms to achieve a Just Transition. In presenting the Just Transition Theory of Change and a proposed monitoring and evaluation framework for Scotland, the report has three overarching purposes:

1. To find **alignment** between the various published and unpublished Just Transition outcomes, plans and strategies for Scotland.
2. To develop a framework that can outline **necessary Just Transition actions** and the potential responsible partners for the Scottish Government and others.
3. To provide a convincing and research-based vision of **what might work** to realistically lead to a Just Transition in Scotland.

The Scottish Government continues to develop a raft of strategic and policy responses to climate change, built around their national adaptation plan Climate Ready Scotland 2019-2024 (and its successor in development at the moment). Regional planning for Scotland is also noteworthy, with the establishment of Just Transition Fund for Aberdeen, Aberdeenshire and Moray, and Shapovalova et al's (2023) report, "Measuring Just Transition" offering a robust framework for Aberdeen and Aberdeenshire. In the absence of other finalised plans, such as the final Energy Strategy and Just Transition plan and granular sectoral plans, the Just Transition is largely positioned within a policy framework that's generic and aspirational. This report aims to fill this gap with specific, measurable outcomes for the Scottish Just Transition and to provide a framework for upcoming national, sectoral, and regional plans and evaluations, so they can reflect national priorities and share a common vocabulary.

The framework

The main tool used to create the evaluation and monitoring framework is Theory of Change. Theory of Change is, on the one hand, a planning tool. It shows the underlying logic of a project: the steps that need to be taken to realise a desired goal or impact, and allows others to test whether the logic and outcomes will be realised. To enable this, our report introduces the Theory of Change model we have developed, which is notable for the rigorous approach taken to source outcomes of interest, cluster these, and map potential activities that are collated into mechanisms.

The outcomes developed for the framework cover the Scottish Government's four thematic Just Transition areas (jobs and skills, community, equity and environment) and reflect academic literature, national policies and plans, and priorities of the Just Transition Commission. The report presents eight outcome clusters relevant to the Just Transition in Scotland. Each cluster has a key outcome which can be used as a proxy measure for the whole cluster:

1. **Avoid entrenching old injustices or creating new ones**
   > Key outcome: Pre-existing inequalities are not reinforced or extended
2. **Address spatial injustice**
   > Key outcome: Reduced local and regional spatial inequality in Scotland
3. **Address financial injustice**
   > Key outcome: Reduced economic inequality in Scotland
4. **Empowerment to act**
   > Key outcome: Increased sense of agency
5. **A stronger democracy**
   > Key outcome: Increased trust in local institutions and decision making
6. **Increasing in community ownership and production**
   > Key outcome: Communities maximise their local production and ownership
7. **Jobs and skills for the high- to low-carbon transition**
   > Key outcome 1: Equip people with the education and training required to develop skills and gain access to fair jobs
   > Key outcome 2: Retention and creation of access to green, fair and high-value work within a more open and fair job market
8. **Transition to net zero**
   > Key outcome: Reduction of Scotland's greenhouse gas emissions and increased biodiversity

This framework of outcomes aims to support monitoring and evaluation of progress towards Just Transition outcomes. To facilitate this, we have produced an initial dashboard covering currently available data on outcomes.

The framework also covers ways in which the outcomes may be reached. Mechanisms are clusters of similar types of activity and outputs which may be produced from policies, strategies and coordination efforts and may result in high-level outcomes. We present six comprehensive mechanisms which group together the type of actions that will be required to achieve a Just Transition in Scotland. These mechanisms are:

- Embedding the Just Transition across all policy areas and levels
- Identifying and safeguarding vulnerable and affected groups
- Stakeholder participation in Just Transition decision making
- Managed and principled innovation
- Investment in the wellbeing economy and Just Transition activities
- Repurposed and redistributed knowledge, skills and jobs

Alongside each mechanism we present indicator measures to track progress at various levels, currently available data which exists to assess each indicator, and the strengths and limitations of this data.

Recommendations

We identify a number of policy recommendations; whilst these are primarily oriented towards the Scottish Government in some cases they are applicable to other stakeholders too. These are to:

1. Establish a permanent Just Transition Commission with analytical capacity to continuously monitor, evaluate and develop Just Transition thinking and action, bringing in external experts where needed.
2. Within the Commission's annual work programme, permit dedicated time and space to review the Theory of Change in light of developments and learning.
3. Develop an ongoing annual dashboard which tracks the achievement of Just Transition outcome measures across Scotland.
4. Embed the collaboratively determined Just Transition framework developed in this work within future commissioned Scottish evaluations.
5. Actively facilitate policy coherence across the full suite of Scottish policy, enabling a cross-sectoral approach that acknowledges both (1) all implicated policy strands and (2) all implicated scales, from local to national.
6. Establish clear interim Just Transition targets up to 2045, moving away from a policy framework that's generic and aspirational to one that's step-wise and implementable.
7. Coordinate policy ambition with Westminster.
8. Establish an equivalent, permanent Just Transition Commission in each devolved nation.
9. Share best practice internationally and further explore international implications and responsibilities.
10. Widely communicate the vision held for the Just Transition and the approach used.

1. Introduction

This project took place between June 2024 and November 2024 and is deliverable to the Just Transition Commission. The aim of the project was to develop a Theory of Change for Scotland. Within this, further objectives were outlined, including guidance on who will be impacted by the low-carbon transition, an overview of existing data sources that could contribute towards Just Transition monitoring and evaluation, and identifying key gaps in the data landscape which need to be addressed. This research would also support short-medium term monitoring and evaluation of progress towards Just Transition outcomes.

Since understanding the impacted groups and the available data could not be achieved without mapping the current plans across various sectors, the core requirement of the work was to develop a national Theory of Change. Rather than taking a sectoral approach, as has been common to date, the Theory of Change brought sectoral and regional plans together under a national umbrella to create a shared set of activities, outcomes areas and mechanisms for achieving a Just Transition. This task is particularly urgent to feed into the upcoming national, sectoral, and regional plans and evaluations, so they can reflect national priorities and share a common vocabulary.

Several contextual factors complicated this task. First, a number of different plans written by actors across the Scottish Government have been published, and, whilst some efforts have been made for cross-sectoral objectives such as the National Just Transition Outcomes, these outcomes have been variously interpreted in Just Transition plans. Second, there has been little effort to assign responsibility for future Just Transition actions or clarity around what actions can be taken. Finally, as Scotland is at the forefront of Just Transition work, there are few available comparator countries and, so, few evaluations of Just Transition activities internationally. This provides a degree of uncertainty on what Just Transition actions might lead to successful outcomes.

Given this context, this report has three overarching purposes:

1. To find **alignment** between the various published and unpublished Just Transition outcomes, plans and strategies for Scotland
2. To develop a framework that can outline **necessary Just Transition actions** and the responsible partners for the Scottish Government and others
3. To provide a convincing and research-based vision of **what might work** to realistically lead to a Just Transition in Scotland

Scotland is amongst the international leaders of the Just Transition movement, and so a Theory of Change may allow the Commission (and the Scottish Government) to reflect upon the goals, intentions, mechanisms, assumptions, risks, activities, regions, sectors and outcomes that are within scope, and to create a model for how these various elements could work together. The Theory of Change and evaluation framework has been formed iteratively and in response to various activities[1] undertaken by the research team:

- Outputs of the project inception meeting
- Two Theory of Change workshops with the Just Transition Commission
- A validation workshop with the Just Transition Commision and representatives from the Scottish Government and ClimateXChange
- Review and content analysis of relevant documentation
- Twelve interviews with stakeholders from recognised underrepresented groups
- Data matching

This final report presents the work undertaken to elaborate the draft Theory of Change. We begin with a contextual narrative that sets the boundary of the work before introducing the Theory of Change model and its various components, including the presenting problem, Theory of Change statement, impacts, outcomes, mechanisms, assumptions, and risks. This is followed by an overview of the potential uses of the framework before concluding with limitations and recommendations. The report is step-wise, introducing the key terms and approaches alongside the material, and is best read in its entirety.

The intended audience for the report is the Just Transition Commission, who can use it to facilitate their scrutiny of the Scottish Government. Therefore, the work includes recommendations to enable scrutiny and/or specific asks of the Scottish Government where it is clear that action is required. The work is likely also to be usable by a wider range of stakeholders (see Section 4 for detail).

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[1] See Appendix 1 for an overview of the methods used.

2. Context: Setting the scope

To date, whilst much of the work on the Just Transition in Scotland is notably thorough and considerate of wider activities, there's not always a common language in different plans. Therefore, following an overview of Just Transition aligned policy progress in Scotland to date, we start with five important pieces of context to situate this contribution and to establish the boundaries of our work: the progress of Just Transition in Scotland; consideration of vulnerability and the baseline of inequality; groups affected by the Just Transition; net zero alongside the Just Transition; and the international dimension.

3.1. The Just Transition in Scotland: progress to date

The Scottish Government continues to develop a raft of strategic and policy responses to climate change, built around their national adaptation plan Climate Ready Scotland 2019-2024 (and its successor in development at the moment). This Strategy already considers the social implications of mitigating and adapting to the climate crisis and how to support engagement from vulnerable groups, the risks faced by the overall population, and the readiness of services to meet emerging needs. Similarly, Scotland's Climate Change Plan 2018 – 2032 emphasises the importance of supporting the population throughout the necessary transformations. Outside of the climate space, other Scottish Policies align closely with justice concerns, including the Fuel Poverty Strategy (2021a), which outlines that alongside the necessity of heat decarbonisation and energy efficiency, there's an obligation to support and enable the eradication of fuel poverty to ensure a Just Transition.

Attention to justice issues in the climate and energy policy area are elaborated upon in the vision set out in Scotland's Just Transition plan that addresses the importance of collective wellbeing and sets out steps to mitigate the risk of transition deepening existing inequalities. Crucially, evaluation indicators are included in each of the strategies (and in the National Performance Framework that will run alongside each), meaning that as the strategies continue, data will be available at a national level. Scotland has also established the eight National Just Transition Outcomes (see Chapter 5), the ambitious carbon neutrality target of 2045 and the various other initiatives such as work in Aberdeenshire, and budgeted activities across transport and other carbon intensive sectors. Yet without the publication of the final Energy Strategy and Just Transition plan and more granular sectoral plans, the Just Transition is largely positioned within a policy framework that's generic and aspirational rather than embedded in an operational implementation approach.

Overall, Scotland's thinking in the Just Transition space is advanced, particularly in comparison to the other UK nations and international comparators. Yet despite Scottish leadership, ambition and action

on the Just Transition to date, challenges lie ahead. This includes setting boundaries on what is in scope, navigating tensions and trade-offs across policy areas and attaining policy coherence. The Scottish Government's (2023a) Just Transition: Land Use and Agriculture discussion paper, for instance, recognises both the importance of the farming sector and their success in the context of a Just Transition to a nature-positive, net zero Scotland, and that the land and sea will be a contested space where competing demands will have to be balanced through negotiation and compromise. The nature of partial devolution also means that not all relevant levers for a Just Transition are under the purview of Scottish policymakers including by way of an example, the regulation of energy networks which are central to the attainment of net zero goals. It is partly this complexity and uncertainty that motivates and necessitates this work.

3.2. Definitions of a Just Transition

The Just Transition can be variously defined. The International Labour Organization positions it as "Greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind" (International Labour Organisation, 2024). The Just Transition Commission has focused on a procedurally-led definition, where "the imperative of a just transition is that Governments design policies in a way that ensures the benefits of climate change action are shared widely, while the costs don't unfairly burden those least able to pay, or whose livelihoods are directly or indirectly at risk as the economy shifts and changes" (Just Transition Commission, 2021). Other definitions, although varied, often carry similar language around normative goals (using the language of "fairness", "equality", "ensuring that no-one is left behind" and "participation", for instance) - and matters of concern, including the inverse of many of these terms (e.g., inequality). There's broad agreement across definitions, then, that the Just Transition refers to what *ought* to be as opposed to what *is.* That is, that "justice and equity must form an integral part of the transition towards a low-carbon world" (Pinker, 2020, pg. 2) and through a process of transition, there's potential for a more just version than the status quo.

There is recognition, too, that what is considered "just" or a "Just Transition" may vary according to a range of factors, including (but certainly not limited to) personal preference and historical context. For this reason, where definitions aren't used (statements that say the Just Transition = X), frameworks are offered. The emphasis here is on approaches that allow conceptualisation, evaluation and decision-making on what justice means in a range of contexts, often through processes of collective deliberation. One such approach is to emphasise key "tenets" including distributional justice, justice as recognition, and procedural justice (Jenkins et al., 2016). Extended versions (or at least more broken down versions) might include restorative justice as an umbrella term for a range of practices "that involve a range of

stakeholders and go beyond reactive arrangements and adopt a forward-looking approach which is both preventive and strategic" (Hazrati and Heffron, 2021 pg. 3). Further attention is often given to ideas of compensation, reparation or restoration as recognition of previous injustices, including, for instance, the poorly managed move away from coal in the UK and the still pervasive impacts of this.

Rather than taking a definition-led approach that makes a definitive statement on what the Just Transition is/is not, in this report we recognise the general orientation of the term as both a process and an outcome where justice is central to the low-carbon transition. Moreover, we draw implicitly and explicitly on a framework based approach, where compensation and reparation are central to outcome clusters 1-3, for instance, and where distributional justice and justice as recognition are key in Mechanism 2: Identifying and safeguarding vulnerable and affected groups and Mechanism 3: Stakeholder participation in Just Transition decision making.

3.3. Vulnerability and the baseline of inequality

The Scottish Just Transition is starting from a baseline of inequality. Previous, poorly managed transitions have left long-lasting scars on Scottish communities. Rapid transitions away from steel production, ship building, and coal mine closures, for example, resulted in large-scale job losses and with no alternatives available, communities faced long-term economic decline. Even today, life expectancy in Scotland's former coal mining communities is one year lower than in other areas of Scotland and residents report poorer mental health (Fothergill et al., 2024). Other examples are clear, too: the decline in oil and gas production as part of a low-carbon transition will leave those workforces particularly vulnerable (RGU, 2024); rates of fuel poverty and extreme poverty in Scotland are highly volatile with no clear trajectory of decline (The Scottish Fuel Poverty Advisory Panel, 2024), with some individuals and households self-rationing or engaging in self-disconnection behaviours as they decide whether to "heat or eat" (Martiskainen et al., 2023); and given the uneven geographical distribution of Scotland's natural resources, some communities have faced higher burdens from the siting of renewable energy infrastructure (Energy Saving Trust, 2024).

Other vulnerabilities are less widely acknowledged but critical, and extend far beyond the energy sector. Scottish rural livelihoods are changing rapidly in the face of booming carbon credit markets and carbon offsets, leading to large-scale land purchases that are changing the nature of rural work (McMorran, 2022). For gamekeeping communities this has led, in some cases, to the clearance of workers and their families from estates, meaning not just a loss of their jobs, but of their tied housing and community identity (Scottish Gamekeepers Association, 2024) as well as the services these workers provided for the wider area, including skills in fire management and road clearance in adverse weather – aspects of climate

change adaptation. In the agricultural sector, increased costs, uncertainties over future subsidies, increasing administrative requirements (including around carbon budgeting and natural asset management), and an ageing workforce have led to increasing pressure and declining workforce satisfaction (McDonald's, 2023). Challenges in the marine sector, including for fishing communities, aren't widely discussed, with communities, and particularly women, marginalised from mainstream attention (Hržić, 2022).

This baseline of inequality reinforces the need for a "lessons learnt" approach to the Just Transition, where the process is carefully managed and mistakes from the past are avoided. It also highlights the necessity of attention to the often naturally unavoidable unequal distribution of benefits and burdens; the necessity of fair procedure and due process; and the requirement for attention to the misrecognition, non-recognition and marginalisation of vulnerable groups. Without this, there's the potential to unintentionally reinforce or extend previous injustices throughout transitions, and to create new ones (Jenkins et al., 2016). This is, in effect, the theory of no change: where business as usual and a lack of attention to justice concerns fails to correct past wrongs and creates an uneven distribution of new winners, losers and vulnerabilities.

We note the challenge of using the term "vulnerable" or "vulnerabilities", yet believe it's important to do so. Whilst all people in Scotland will be affected by cross-sectoral Just Transitions, some are likely to be *more* affected. Therefore, its intentional use signals attention to both universal aspirations to "do no harm" and the need for targeted activities to protect those most at risk. We also note the complex relationship between ideas of vulnerability and marginalisation. Whilst vulnerability can be understood as a condition that increases a person or group's risk of exposure to harm and negative outcomes, marginalisation typically refers to social and political exclusion or discrimination. This includes through limited access to legal and political structures and other social and material resources and means that whilst marginalisation *can* be a cause of vulnerability, it is also a phenomenon in its own right. Whilst we use the term "vulnerability" (or iterations thereof) throughout the report for simplicity's sake and because of the focus on specific policy measures around inequality, we acknowledge and intend attention to issues of marginalisation too.

3.4. Groups affected by the transition

The effects of a Just Transition in Scotland and associated progress towards net zero goals will be widespread and cross-sectoral, leading to a complex patchwork of affected and vulnerable groups. This distinction between "affected" and "vulnerable" is key. Whilst many Scottish individuals, communities, and groups will be affected by net zero and Just Transition processes as they integrate new technologies

or see changes to their income streams, for instance, some socio-demographic groups will be comparatively *more* affected, as noted above. They may have already been in a relatively vulnerable position that can be made more precarious, or may represent new groups that are disproportionately burdened. Here, as above, the literature refers to the potential to unintentionally reinforce or extend previous injustices throughout transitions, and to create new ones (Jenkins et al., 2016).

Just Transition scholarship and associated literature on environmental justice, climate justice, energy justice and transport justice (non-exhaustively) focuses extensively on identifying vulnerable groups. Simcock et al. (2021), in a review of evidence around those affected by energy and transport poverty, identify heightened vulnerability for: socially isolated individuals; women; ethnic minorities; people with disabilities; people with pre-existing health conditions; single person households; households with dependents; young adults; older people; individuals with lower educational attainment; and those with debt, that are unemployed or have low and precarious incomes, amongst others. Through the Scottish Just Transitions literature in particular, which takes a broader cross-sectoral lens, there's evidence of both particular vulnerable groups (e.g., oil and gas workers (Friends of the Earth Scotland, 2023)) *and* groups who are likely to be disproportionately impacted but aren't well accounted for, including gamekeepers and rural land managers (McKee et al., 2023).

There is recognition, too, that the individuals and groups vulnerable to disproportionate burdens from net zero and Just Transition processes aren't static. The UK energy price crisis left large numbers of households unable to pay their energy costs, for instance, but as energy prices dropped, so did rates of those experiencing fuel poverty. As a second example, whilst someone may face heightened vulnerability due to the closure of their place of work (e.g., the Grangemouth refinery), they will be considered less vulnerable if they find work quickly elsewhere. That is to say, there's a strong temporal dimension to vulnerability, and that affected individuals, groups and communities may dip in and out of it depending on a range of external factors.

The intersectionality literature explains, too, why vulnerabilities are both complex and often reinforcing. An individual may have a characteristic that makes them vulnerable e.g., that they have low income, but will become *more* vulnerable if other characteristics overlap e.g., that they are disabled and have a child dependent with caring responsibilities. This is further complicated by spatial dimensions. Urban inner-city areas often bring increased burdens relative to typically more affluent suburban or peri-urban areas, including higher rates of exposure to air pollutants and increased housing prices (Fairburn et al., 2005). Being in a rural context creates different vulnerabilities, often being associated with lower income and lower rates of service provision as is well documented in the Scottish context (Scottish Affairs Committee, 2024). Therefore, the same individual who's low income, disabled and has

a dependent with caring responsibilities, if living in a rural area, will be comparatively more vulnerable to net zero and Just Transition change again. Other forms of spatial differentiation may also occur, such as the uneven impacts of climate change risks. Figure 1 gives an illustration of the interaction between socio-demographic and spatial vulnerabilities which although originally related to the energy domain, is applicable to wider Just Transition contexts.

Figure 1: Conceptual representation of risk of exposure to double energy vulnerability (n.b. darker shading illustrates higher risk) (Simcock et al., 2021)
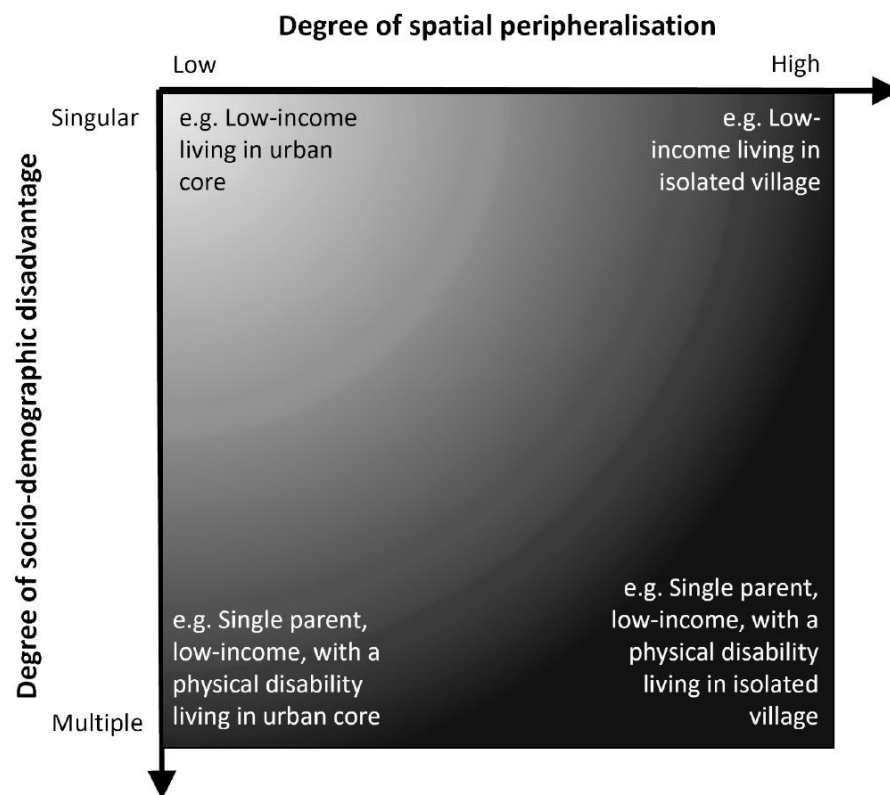
For the reasons listed above – that vulnerabilities are cross-sectoral; temporal; intersectional, spatially contingent, and accompanied by gaps in the evidence base – answering the question "who is vulnerable to a Just Transition in Scotland?" is highly complex, likely incomprehensive, and highly variable. This does not, however, belay the importance of attention to particular groups around which there's consensus of current vulnerability. This includes, as a short, non-exhaustive list:

- Former coal communities (e.g., Kaizuka, 2024)
- Workers in high-carbon sectors (e.g., Scottish Government, 2023b)
- Fishing communities (e.g., Withouck et al., 2023)

- Gamekeepers, rural land managers and/or farmers, including tenants and crofters (e.g., Just Transition Commission, 2023)
- The fuel poor or those unable to afford their energy bills (e.g., Scottish Government, 2023)
- Rural and island communities (e.g., Scottish Government, 2023b)

Several of these groups are already recognised in Scottish Government documentation and policy.

In short, there are real challenges in establishing who is vulnerable and determining a comprehensive list. There is, however, agreed evidence around groups who are *likely* to be. Or said another way, we know there are groups, but who is in those groups is context specific and they are subject to change. This makes monitoring how well the Just Transition is working challenging, and recognises that in such a complex, multi-sectoral system, that the approach needs to be sensitive to localities, sectors, groups, and variable external forces (including gas and electricity pricing determined by global markets, for instance). The complexity of emergent vulnerabilities, and in particular their temporal variability, are also arguments for why the Just Transition Commission and Scottish Government must focus on monitoring *and* evaluation and research. Otherwise, assessing progress against a narrow or pre-determined set of quantitative indicators runs the risk of missing important contextual factors. It is worth noting, too, that concern for injustice and vulnerability can also come alongside assessment of disproportionate benefits, which can be seen as undesirable if there's a preference for redistributive justice or a more egalitarian society.

3.5. Net zero and the Just Transition

There is a wide degree of variability in what are considered as viable indicators for a Just Transition, with limited consistency, as well as a lack of data to understand the impacts of a Just Transition. Whilst the Scottish Government consider outcomes around jobs, skills and education, the fair distribution of costs and benefits and business and economy impacts, other organisations, including the Stockholm Environment Institute, draw on a principled approach, including whether action for a Just Transition aligns with calls for actively promoting decarbonisation and environmental restoration (Atteridge and Strambo, 2020). Outside of Europe, Zimbabwe, for example, receives support from the UNDP to incorporate Just Transition principles into their transition plans to a green economy, and specified a number of employment indicators, GHG emissions indicators and economic indicators (UNDP, 2021). It is against this background that an important distinction is made: Whilst the language of the Just Transitions is often used alongside that of "net zero", "low-carbon" or "decarbonisation" (amongst other related terms), these are by no means synonymous or interchangeable. Terms such as "net zero" and "low-carbon" represent overarching goals for Scotland and other contexts in the wake of the climate

crisis; the Just Transitions refers, at the highest level, to ideas of justice, fairness and equality during processes of transition. Whilst not seen as desirable, one can be achieved without the other. Done correctly, both can enable each other. This is an important point of clarification for all areas of this work, including the selection of measures. It means that in line with Just Transition Commission thinking, we include emissions reductions, nature-based and biodiversity measures as part of an exploration of how these can relate to the success or failure of the Just Transition, which is positioned as fundamentally intertwined with the net zero transition.

3.6.   The international dimension

The Just Transition takes place in an international context and amidst a global system of trade and exchange, and this means that not all elements of it are within the direct control of the Scottish Government[2]. The transition in the oil and gas sector or to electric cars are prime examples. The Scottish Government has devolved powers over onshore oil and gas (both conventional and unconventional), but powers over offshore oil and gas are reserved to the UK Government and the oil and gas supply chain is highly internationalised. Therefore, aspirations for Scottish Just Transition away from fossil fuels including oil and gas are influenced by both UK powers and international contexts where targets and labour and environmental rights may vary and labour flows are highly internationalised. For electric vehicles, whilst Scotland can create the conditions for their uptake as part of aspirations for the decarbonisation of the transport sector, this may indirectly implicate other geographical contexts in increased rates of critical mineral extraction. Research highlights that for the mining of cobalt in the Democratic Republic of the Congo (mining to obtain a component of batteries and other modern digital devices), for example, communities face accidents and occupational hazards, environmental pollution and degraded community health, and at times, violent conflict and death. This alongside the benefits of poverty reduction, community development, and increased regional stability (Sovacool, 2019).

We seek to highlight, here, that the Just Transition movement comes with both international responsibility - where, for example, opportunities for economic activity in Scotland avoids offshoring significant burdens (e.g., during mining) and facilitates the fair distribution of resources - *and* the acknowledgement that there are more direct spheres of influence and control (see Figure 2). The existence of these so-called "spheres of influence" are recognised in other areas of Scottish policy making.

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[2] The same is true in the context of partial devolution, as mentioned in the introduction, where some key decision-making powers that are likely to influence the attainment of a Just Transition are held at the Westminster level.

The Scottish National Adaptation Plan 2024-2029 (otherwise known as SNAP3) includes four domestic outcomes and one international outcome (outcome 5: International Action).

Figure 2: Spheres on Theories of Change (Source: Van Es et al., 2015)
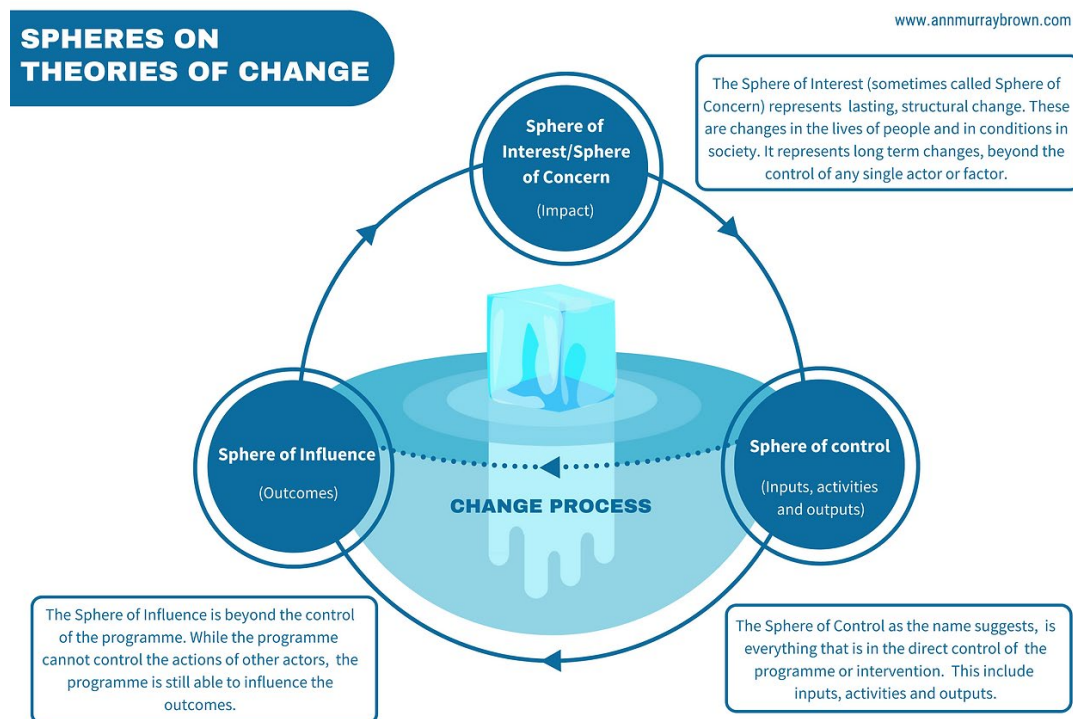
This report and the Theory of Change focus only on what is in the direct control of the programme or activities - Scottish policy -, whilst acknowledging the existence of a much wider international context. This is necessary in part, due to the limitations of time, scope and resources available to this project. We note, too, that emissions reductions are the primary contribution Scotland (or any other jurisdiction) can make to the international dimension. Moreover, in setting out this Theory of Change and its evaluation and monitoring functions, Scotland is amongst the first countries in the world to do so. Therefore, there is capacity to contribute internationally through this work itself.

Further work can explore Scotland's Just Transition in an international context. In situating that future contribution, we draw attention to the Just Transition Commission's earlier work in this space, as outlined in their 2022 Making the Future report. International considerations may take the form of "guardrails" for the domestic transition and its potential international impacts to enable a whole systems view, including attention to the forms of externalities and international flow of workers outlined above.

4. The Just Transition evaluation and monitoring framework

4.1. Introduction

Theories of Change are most useful in emerging areas, where little evidence exists on what works, in what circumstances activities might work best, and which groups are most affected. Theory of Change is a way of mapping the "change journey" of a project so you can see the connections between the "presenting problem" the project wants to solve, the expected impact on that problem at the end of the project and everything that's supposed to happen in between.

4.2. The high-level Theory of Change

The transition to "net zero" risks deepening economic, social and cultural inequalities. Against this background, the Scottish Government has developed a set of policy responses aimed at addressing the social implications of mitigating and adapting to the climate crisis and how to support engagement from vulnerable groups, the risks faced by the overall population, and the readiness of services to meet emerging needs. These are elaborated on in Scotland's 'Just Transition Plan' which sets out steps to mitigate the risk of the low-carbon transition deepening existing inequalities.

The role of the Just Transition Commission concerning the Scottish Government's vision of the Just Transition can be summarised as:

"Evaluating, monitoring, and critically commenting upon whether the Scottish Government is delivering the plan's and objectives efficiently and effectively."

The Just Transition plan and its objectives are the subject of the rest of this report. In this context, the *Presenting Problem* for achieving a Just Transition in Scotland is:

"How to deliver the plan's vision and objectives efficiently and effectively, and responsively to emerging data."

Theory of Change is, on the one hand, a planning tool. It shows the intervention logic of a project – the steps that need to be taken to realise a desired goal or impact, and the expected results of these steps. But it goes beyond this intervention logic. Whereas logic models are essentially descriptive devices for mapping programme or project components and the relationships between them, the Theory of Change model has built into it a set of assumptions and hypotheses about what causes a problem, what particular

actions will change that problem and what are the likely outcomes of these changes. In other words, a Theory of Change shows the theorised 'causal pathways' between a project's objectives, its activities, and its expected outcomes and impacts. It says: "if we take action X, then this will cause effect Y and this will eventually lead to outcome Z".

Theory of Change is, therefore, also a key *evaluation* tool. It tests the intervention logic of a project and allows this to be modified or refined through the evaluation process. The Theory of Change model specifies the underlying assumptions of a project and so incorporates a number of hypotheses about how the activities carried out as the project develops will *cause* changes at each stage of the project. The evaluation design and implementation approach follows this 'change journey'. The evaluation data collected along the way enables these embedded 'causal hypotheses' to be tested. If the evaluation data don't support a particular hypothesis, then this hypothesis needs to be discarded or modified. Theory of Change is therefore a powerful tool to assess *attribution* – whether the project outcomes and impacts that can be identified through evaluation can be attributed to the actions carried out by the project. This is represented by the collaboratively determined Theory of Change statement, which reads:

> <u>If,</u> policy integration, stakeholder participation and safeguarding vulnerable and affected groups are supported by investment, managed innovation and support for jobs and skills...
>
> <u>Then,</u> environmental aims will be achieved, Scotland will be more just, happier, more cohesive and people will have more purposeful lives...
>
> <u>Because,</u> the relevant activities will be coordinated, monitored, continuously reassessed, improved, and made accountable to responsible stakeholders...
>
> <u>However,</u> if the low-carbon transition is undertaken with an emphasis on economics and convenience over equity and social justice, then Scotland will be less healthy and socially mobile, and social cohesion will break down further.

Figure 3 gives a schematic overview of the Theory of Change:

Figure 3: The Scottish Just Transition Theory of Change (Source: the authors)

Presenting problems

Financial and budgetary constraints

Net zero implies risks to the existing workforce, sectors and geographies

Unequal distribution of transition assets and opportunities

Power and representation is skewed so that many communities feel disempowered

Policy-makers must make choices around priorities and trade-offs

Without safeguards, the transition to net zero would exacerbate existing inequalities

Few planning processes and decision-making mechanisms that engage effectively with transition challenge

Public buy-in and support for the net zero transition will be low if the process and outcome is perceived as unfair

Mechanisms for change

M1: Embedding the Just Transition across all policy areas and levels

M2: Identifying and safeguarding vulnerable and affected groups

M3: Stakeholder participation in Just Transition decision making

M4: Managed and principled economic innovation

M5: Investment in low-carbon economy

M6: Support for jobs and skills for the high- to low-carbon transition

Outcome clusters

1. No additional harm

4. Empowerment to act

7. Support for jobs and skills

2. Addressing spatial justice

6. Increased in community productivity and ownership

8. Transition to net zero

Jobs, skills and economic opportunities

3. Addressing financial injustice

5. A stronger democracy

Environment, biodiversity and adaptation

People and equity

Communities and places

Ultimate impact

Achievement of environmental aims (including net zero by 2045) whilst Scotland is more just, people have more purposeful lives and higher wellbeing, and society is more cohesive.

The **context** of the Theory of Change, represented in Figure 3, is that there is currently an unequal distribution of transition assets and opportunities and without safeguards, the transition to net zero will exacerbate existing inequalities (as well as potentially creating new ones). There are recognised intersectionalities that amplify existing inequalities (such as financial poverty, food poverty, fuel poverty, and gender inequality) and there are recognised risks in the transition such as the potential negative impact on the existing workforce. The latter includes for particular sectors like oil and gas and agriculture, and on particular locations which have fewer opportunities to change than others.

At a system level, there are financial and budgetary constraints that limit the amount of funding available to support the plan's implementation and imply making choices around priorities and trade-offs and there may be potential resistance to change as a result of public opinion that remains tied to the belief that the climate crisis is not a real crisis. Critical, too, is that power and influence are unequally distributed across society; many communities feel disempowered, and there's a widespread lack of inclusive and transparent planning processes and decision-making mechanisms that engage effectively with transition challenges. This is the current context for Scotland's Just Transition.

4.3. Key outcomes

Arguably, the key element to measure the success of an ongoing programme from a Theory of Change is the outcomes. Here, outcomes refer to the short- to medium-term results. An outcome is a "state or condition that does not currently exist but must exist for your initiative to work." (Drabble et al, 2023) In the context of the Just Transition, a national programme running until 2045, short- to medium-term results have an unusually long life span. Being a national, complex, long-term initiative means that specifying individual outcomes that come from specific programmes in particular regions within the Theory of Change would be both unhelpful and misleading.

In order to identify a limited list of representative Just Transition outcomes relevant to all of Scotland, we took the following steps:

- Identification of all outcomes that may be achieved by Just Transition activities. These were sourced through the document review, interviews with key stakeholders and workshops. In total, 113 outcomes were identified.
- During the second Theory of Change workshop, the 113 outcomes were prioritised by participants into three categories (crucial to measure; relevant to measure; irrelevant to measure).
- Following the workshop, the outcomes were clustered by the research partnership into eight exclusive themes. These outcome themes were further developed with reference to academic

literature, to ensure they were distinctive, observable, and directly relevant to the Just Transition.

- Once the eight clusters were defined, the individual outcomes were amended to ensure that they were representative of the theme.
- A key outcome was then selected from within each theme which could act as a proxy for the outcome cluster overall, in recognition that resources may not be available to measure every outcome within the cluster.
- The clusters, individual outcomes and key outcomes were communicatively tested and validated in the third Theory of Change workshop.
- Measures were further refined, including integrating components of the eight National Just Transition Outcomes.

Other activities related to outcome elaboration can be found later in the document, such as selecting data sources for these measures, and the causal chains to measure all elements of the Theory of Change.

An important element of the framework was the selection and refinement of the nine key outcomes. Key outcomes are the outcomes selected that best represent and measure each of the eight outcome clusters (Do no harm, Address spatial injustice, Address financial injustice, Empowerment to act, A stronger democracy, Increasing in community ownership and production, Jobs and skills for the high- to low-carbon transition, and Transition to net zero). Although several outcomes are needed to fully measure these clusters, the key outcome can be a proxy outcome for the whole cluster.

The key outcomes and suggested measures for these outcomes are presented below. In most cases, multiple measures are shown, as a single indicator is not sufficient to represent achievement of an outcome.

Rationale: The Just Transition comes with opportunities and risks. Whilst many individuals, communities, and groups will be affected by net zero and Just Transition processes as they integrate new technologies or see changes to their income streams, some socio-demographic groups will be comparatively more affected (Jenkins et al., 2016). This outcome cluster refers to the potential to unintentionally reinforce or extend previous injustices throughout transitions, and to create new ones. Outcomes in this cluster are concerned with whether sub-groups and regions are seeing declines in wellbeing, affordability, deprivation and food security. This cluster also extends the boundaries of concern, through a focus on international unintended consequences.

Key outcome: Pre-existing inequalities are not reinforced or extended
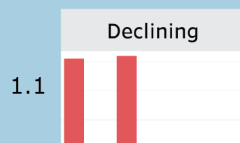
1.1 Declining

Progress summary: Declining. Wealth inequality is currently rising in Scotland.

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure	Comments
1.1 Gini coefficient (a measure of wealth inequality in the population, ranging from 0 to 1, where 1 stands for total inequality) across all	Gini coefficient of wealth inequality (whole population)	[Wealth in Scotland 2006-2020](#)	Direct measure	The Gini coefficient covers the whole population of Scotland. It can be overly sensitive to changes in the middle range, and not as sensitive to changes at the top and the bottom. Data

population subgroups currently experiencing inequality does not deteriorate from baseline (Annual change)				also exists for the average wealth across different subgroups and households. There is also data on the different types of wealth these groups hold (same URL). Note that wealth inequality is higher than income inequality in Scotland.
1.2 Maintenance of environment: no further reduction in biodiversity, air quality, or water pollution for all localities	1.Biodiversity- change to Biodiversity Intactness Index percentage ('indicator of ecosystem integrity that estimates how much of an ecosystem's natural biodiversity still remains despite human impacts on a scale from 100% (the naturally-present biodiversity remains intact) down to 0% (when none of the species remaining in the location were naturally found there', Natural History Museum) 2. Air quality- change in the maximum 24 hour mean of PM2.5 (micrograms per cubic metre) per year 3. Water pollution- change in the proportion of river length that was classed as slightly polluted, polluted or severely polluted (based on 5 parameters)	1. The Biodiversity Intactness Index 2. Annual Statistic Report 3. River water quality indicator	Scottish Environment nt Protection Agency (SEPA)	Proxy measure	1. The Biodiversity Intactness Index is one of the most comprehensive tools to measure biodiversity as a whole. However, there are limitations including that it may underestimate losses. 2. The data source for air quality is broken down by several automatic monitoring sites per local authority. It is also possible to measure other pollutants. Measuring the annual mean could hide times when pollution rates were high. 3. This data is not open access.

Rationale: Distributive justice in general refers to 'where' benefits and burdens are distributed through societies (Jenkins et al, 2016). A spatial justice approach involves not only revealing and describing geographical inequalities, but also critically evaluating such inequalities in terms of wider forms of (in)justice and their effect on human well-being (Bouzarovski and Simcock, 2017). Spatial justice also closely relates to adaptation to the local effects of climate events such as flooding, which can disproportionately affect vulnerable neighbourhoods. Outcomes in this cluster are concerned with whether identified areas of inequality such as rural areas are thriving through the transition, and whether regional inequalities are being lowered.

Key outcome: Reduced local and regional spatial inequality in Scotland

| 2.6 Improving | 2.7 Maintaining | 2.8.1 Improving | 2.8.2 Maintaining |
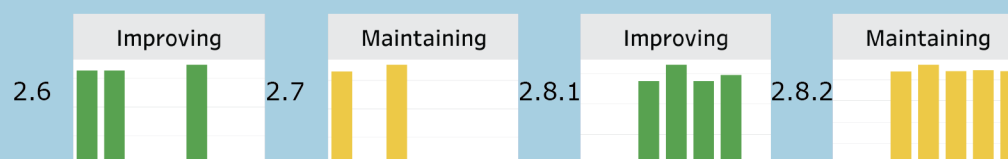
Progress summary: Some improvement. Little data available for most measures, some improvements in work quality and access to green/blue space.

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

| Measure	Currently available data	Data source	Relevance to measure	Comments
2.1 Improvements in ratio of Gross Disposable Household	Improvements in ratio of Gross Disposable Household Income (by	Nomis Labour Market	Direct measure	The ratio would have to be worked out as it is currently not listed in the data source.

Income (by local authority) to national Gross Disposable Household Income (Annual change) with ref to cost of living	local authority) to national Gross Disposable Household Income	statistics		Further investigation is needed to see whether the data also takes into account the cost of living. This is census data, so there is not a yearly figure.
2.2 Reduced geographical differences in transport poverty	Percentage of high risk of transport poverty data zones located in each local authority area	Transport Poverty in Scotland	Direct measure	There is a lack of recent data.
2.3 Reduced geographical differences in fuel poverty	Percentage of dwellings in Fuel Poverty by local authority, compared to Scotland average	Scottish House Condition Survey	Proxy measure	Data is calculated across a three year average with 2017-2019 being the most recent publicly available results.
2.4 Reduced geographical differences in access to health services	Mean travel time (in minutes) to key services, by car or public transport per 2011 Data Zones (geographic areas)	statistics.gov. scot : Scottish Index of Multiple Deprivation	Proxy measure	By definition, key services include health services. However, we could not find data which specifically measures the distance to health services.
2.5 Fewer residents living within five mile radius of polluting industry	We cannot find relevant data.	-	-	It may be possible to assess air and water pollution rates locally as a proxy measure.
2.6 Reduced geographical differences in access to good quality green space	Area of publicly accessible greenspace per 1000 people (ha) by local authority	The Second State of Scotland's Greenspace Report	Proxy measure	It does not appear that the data is collected annually. The data can be broken down into types of greenspace but there is no disaggregation of data related to whether the greenspace is of good quality or not.
2.7 Increased resilience of properties at risk of flooding	Proportion of properties at risk of flooding which have Property Flood Resilience	Property flood resilience	Direct measure	Data not currently being collected
2.8 Work related	Composite of:	Working	Proxy	We could not find data

quality of life is improved in affected areas	1. Percentage of people who respond positively to work's impact on mental and physical health (%) 2. Percentage of people who answered positively about how they feel at work	Lives Scotland report	measures	broken down by local authority.

4.3.3. Key outcome for Cluster 3. Addressing financial injustice

Rationale: Action to enable a 'just' transition recognises a range of forms of injustice, including financial or economic (Martiskainen et al, 2021). Income, wealth and financial injustice are seen as highly related in a capitalist society, where wellbeing is often determined by purchasing power (Abram et al, 2022). Financial injustice is also closely related to spatial differentiation and other socio-demographic intersectionalities, including those due to class and gender. Outcomes in this cluster are related to manifestations of financial injustice, which often go hand-in-hand with key poverty indicators.

Key outcome: Reduced economic inequality in Scotland
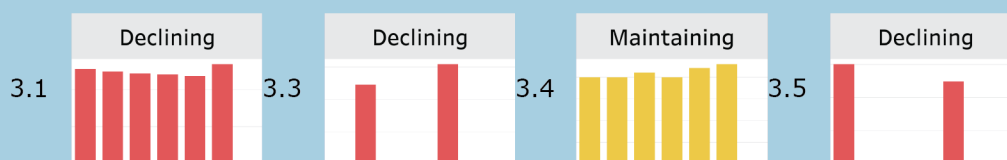
Progress summary: Declining. Income inequality, fuel poverty and life satisfaction declining, child poverty level maintaining.
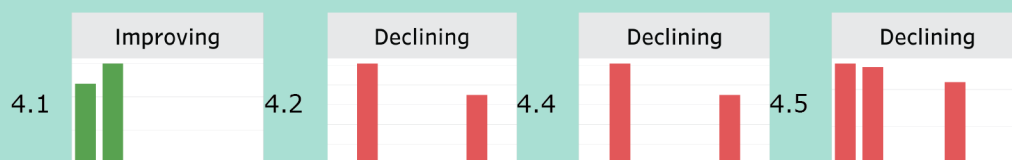
The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure	Comments
3.1 Gini coefficient (a measure of income inequality in the population, ranging from 0 to 1, where 1 stands for total inequality) by vulnerable group (Annual change)	Gini coefficient of income inequality	[Poverty and Income Inequality in Scotland 2020-23](#)	Direct measure	The Gini coefficient covers the whole population of Scotland. It can be overly sensitive to changes in the middle range, and not as sensitive to changes at the top and the bottom. Data also exists for the average income across different subgroups and households.
3.2 Reduced prevalence of transport poverty	Percentage of high risk of transport poverty data zones located in each local authority area	[Transport Poverty in Scotland](#)	Direct measure	There is limited recent data. In order to achieve a national average for prevalence, we would have to aggregate some of the data.
3.3 Reduced prevalence of fuel poverty	Percentage of households were in fuel poverty	[3 Fuel Poverty - Scottish House Condition Survey](#)	Direct measure	This data is presented as a 3-year average.
3.4 Reduced prevalence of child poverty	Reduced triennial percentage of child poverty (relative, absolute, material or persistant)	[Poverty and Income Inequality in Scotland 2020-23](#)	Direct measure	The Scottish Government is mandated to report on four different child poverty measures every year (The Child Poverty (Scotland) Act 2017)- Relative poverty, Absolute poverty, Material deprivation, Persistent poverty. The data source also provides data on material deprivation as an additional way of measuring living standards.
3.5 Improved quality of life for vulnerable groups	Percentage of people in Scotland who rate their life satisfaction as high	[Dataset Measuring national well-being](#)	Indirect measure	The data is not broken down by subgroup/vulnerable group. Annual updates are not possible as data is taken from the census.

Rationale: The Just Transition should be co-designed and co-delivered to empower all partners. Empowerment in the Just Transition context is both a process and an outcome (Scottish Government, 2021b). Empowerment should ensure that actions taken are fair and co-ordinated, communities are invigorated and local economies are stronger (Draal et al, 2024). Outcomes in this cluster are concerned with whether communities have the capacity to take action, and feel able to determine the Just Transition to their benefit.

Key outcome: Increased sense of agency*

Improving	Declining	Declining	Declining
4.1	4.2	4.4	4.5

Progress summary: Declining though improvement in community participation. People in Scotland feel less listened to, influential and volunteer less.

The ability of individuals, citizens and communities to determine and shape the direction of a Just Transition that is fundamentally to their benefit and address their concerns)

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

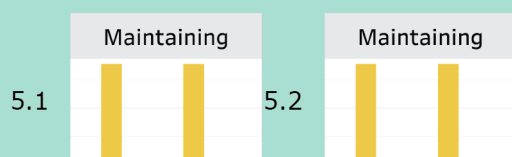| Measure	Currently available data	Data source	Relevance to measure	Comments
4.1 Number of successful community participation requests	Number of successful community participation requests per year	Participation Requests	Direct measure	The data is not complete since not every local authority provides full reporting. There is limited recent data. The data can be broken down into

				categories: by purpose of request and by community participation body.
4.2 Communities relevant to Just Transition initiatives feel listened to	Composite of: 1. Percentage of people who think, 'in general, the Scottish Government is good at listening to people's views before it takes decisions', by subgroups. 2. Percentage of people who agree they have the opportunity to influence decisions the Scottish Government is making about climate change	1. Scottish Social Attitudes Survey 2023 2. Participation - Climate change - public engagement:	Indirect measure	The data does not fully encompass 'communities relevant to the Just Transition' since the subgroups do not include different sectors/ occupations. As an alternative, this could be investigated indirectly by looking at subgroups according to their locality or deprivation status.
4.3 Those involved in climate change engagement activities felt respected	Percentage of people who agree they have the opportunity to influence decisions the Scottish Government is making about climate change	Participation - Climate change - public engagement	Indirect measure	The data is not broken down by people who are 'involved in climate change engagement activities' or not.
4.4 Generally, Scottish people feel able to influence their own lives and the future	Percentage of people who think, 'in general, the Scottish Government is good at listening to people's views before it takes decisions', by subgroups	Supporting documents - Scottish Social Attitudes Survey 2023	Proxy measure	The data which would measure this directly is only available for England (via the Community Life Survey).
4.5 Improvements in civic engagement scales on attitude: (I believe I should make a difference in my community) and behaviour (I stay	Percentage of adults who have done formal volunteering in the last 12 months, by subgroup and local authority	Scottish Social Attitudes Survey 2023	Proxy measure	The data which would measure this directly is only available for England (via the Community Life Survey).

informed of events in my community)				

4.3.5. Key outcome for Cluster 5: Stronger democratic processes

Rationale: Democratic outcomes have been incorporated as a goal within a Just Transition in recent years, as the outcomes of greater democratic engagement, particularly at a local level, lead to fairer outcomes for locals. Raising the voices of vulnerable people in policy decisions helps to achieve Just Transition ambitions, lower anger and resentment with the low-carbon transition and improves policy outcomes (Osicka et al., 2023). Outcomes in this cluster are concerned with whether levels of trust in decision-making and representation of community perspectives have been increased due to the increase in democratic processes.

Key outcome: Increased trust in local institutions and decision making

5.1 — Maintaining

5.2 — Maintaining

Progress summary: Maintaining. However, little data available: proxy indicators cover influencing decisions, not trust.

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure	Comments
5.1 Percentage of people who agree with the statement: 'My local council is good at listening'	Percentage of people who respond 'Strongly agree' or 'tend to agree' to 'Can you influence local decisions?'	Social capital and community wellbeing in Scotland	Proxy measure	This data is available broken down by demographic characteristics.

5.2 Percentage of people who agree with the statement: 'I can influence decisions affecting my local area'	Percentage of people who respond 'Strongly agree' or 'tend to agree' to 'Can you influence local decisions?'	[Social capital and community wellbeing in Scotland](#)	Proxy measure	This data is available broken down by demographic characteristics.

4.3.6.   Key outcome for Cluster 6. Increase in community ownership and production

Rationale: The language of community ownership is central to a Just Transition. Community ownership is positioned as driving investment in the local area, creating revenue streams that communities can direct towards local infrastructure and services (Friends of the Earth, 2024). This comes in contrast to commercial ownership that drives company profits and enables communities to take a leadership role, where costs are minimised and people and places benefit. Outcomes in this cluster are concerned with whether communities are able to own assets, including land, buildings and energy generation infrastructure, for instance.

Key outcome: Communities maximise their local production and ownership

Improving	Improving	Improving	Maintaining	Improving
6.1.1	6.1.2	6.2	6.3	6.4

Progress summary: Improving. Good quality data available for nearly all measures.

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.
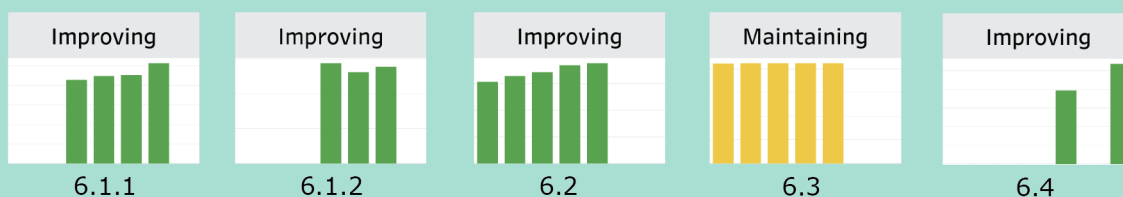
| Measure	Currently available data	Data source	Relevance to measure	Comments
6.1 Number of community or locally owned renewable energy installations/ operational renewable energy capacity in community and local ownership (in absolute numbers and MW)	Number of community or locally owned renewable energy installations/ operational renewable energy capacity in community and local ownership (in absolute numbers and MW)	[Community and locally owned energy in Scotland](#)	Direct measure	This data can be cross referenced with the Scottish Government's target of having 2GW (2,000MW) of operational renewable energy capacity in community and local ownership by 2030.
6.2 Number of assets in community ownership (any land, buildings and any other property of substantial value that a community group may own)	Number of assets in community ownership (building only/land and building)	[Supporting documents - Community Ownership in Scotland 2022](#)	Direct measure	
6.3 Area of community assets (in hectares)	Area of community assets (in hectares)	[Community Ownership in Scotland 2022](#)	Direct measure	There is also data on the area of assets in community ownership broken down geographically for: Highland, Na h-Eileanan Siar and the Rest of Scotland.
6.4 Number of community groups in Scotland (groups within a specific geographical community, with open membership, locally-led and controlled, non-profit, aiming to further sustainable development in the local area, and demonstrating a	Number of community groups on Scottish Communities Climate Action Network member directory	[Scottish Communities Climate Action Network](#)	Indirect measure	This data will not take into account all relevant community groups across Scotland since there will be some groups which aren't members of the Scottish Communities Climate Action Network. There are limitations with this data since some members are not strictly 'community' i.e.. open membership e.g. colleges. There

sufficient level of support/community buy-in)				is data on the amount of community groups in Scotland as a whole. However, this data is not filtered by cause area.
6.5 Increased proportion of tenant farmers and other small holders as proportion of total land holdings	Area of rented land by tenancy type (in hectares)	[Scottish Agricultural Census](#)	Indirect measure	This data set would have to be triangulated with total land holdings. It is important to note that different tenancy types will be more or less stable for tenant farmers. This data is from the agricultural census of 2018 and no more recent data is available.

4.3.7.   Key outcome for Cluster 7. Support for jobs and skills

Two key outcomes have been selected for the Support for jobs and skills cluster to fully represent both jobs and skills.

Rationale: One of the key outcomes for the Just Transition is to ensure that carbon-intensive jobs are replaced in the low-carbon economy in a fair way. This also concerns ensuring that new jobs are good jobs, following Fair Work First principles, and that restorative justice is practised so those harmed in the transition have new job opportunities (Jenkins, 2019). Skills at risk of being lost in the transition, such as for professionals such as gatekeepers, should be safeguarded (Just Transition Commission, 2023). Outcomes in this cluster are concerned with whether jobs are replaced, groups currently excluded have increased opportunities, affected areas have appropriate training, and work is fair, inclusive, and purposeful.

Key outcome 1: Equip people with the education and training required to develop skills and gain access to fair jobs

| 7.1.4 | Improving | 7.1.5.1 | Maintaining | 7.1.5.2 | Improving | 7.1.6 | Maintaining |
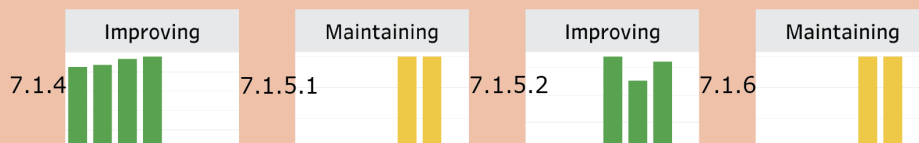
Progress summary: Improving, some areas maintaining. However data is poor for some measures and not disaggregated by affected regions or vulnerable groups.

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure	Comments
7.1.1 Rate of young people not in employment, education or training for affected areas	Percentage of young adults (16-19 year olds) participating in education, training, or employment by local authority	Annual Participation Measure for 16-19 year olds in Scotland 2024	Direct measure (for geographic area) and proxy measure (for sectoral area)	It is possible to look at percentage point change in participation rate across years. There is data available for different demographics and SIMD (2020) quintiles. It could be useful to look at SIMD quintiles as a proxy for sectoral areas.
7.1.2 Enrolment rates in vocational programmes for affected areas	Number of students enrolled at Scottish Colleges (vocational colleges)	College Statistics 2022-23	Distant measure	The data is not broken down by affected area. It is unclear if all the courses included in the data are vocational. The data does not take into account other vocational programmes which are not held at Scottish Colleges.
7.1.3 Employment rates of recent graduates in affected areas	1. Percentage of graduates (domiciled in Scotland) in employment (can be categorised further e.g. full time, part time, part time and study) after 15 months of completing course 2. Number of graduates in employment (can be categorised further e.g. full time, part time, part time and	1. Graduate Outcomes 2021/22	HESA 2 Graduate activities by provider and subject area of degree	Proxy measure	The percentage is worked out from those who completed the Graduate Outcomes Survey.

	study) after 15 months of completing course by provider and subject area of degree			
7.1.4 Educational attainment of labour force in affected areas	Proportion of population qualified to at least Level 4 SQNF or higher (aged 16-64) per local authority	[Proportion of population qualified to at least Level 4 or higher (aged 16-64)](#)	Proxy measure	The data does not examine different sectors of the labour force.
7.1.5 Participation in life-long-learning in affected areas	Composite of : 1. Percentage of participants in learning by social grade in Scotland 2. Gross expenditure by Scottish local authorities spent on adult community learning per year	1.[Adult Participation in Learning Survey 2023: Scotland](#) 2. [Community Learning and Development (CLD)](#)	Indirect measure	The data for data source 2 may include instances of double counting. Since community learning is often targeted at vulnerable groups, it could be an indirect proxy for 'affected groups'. The data is limited in that it does not account for in-work training/learning.
7.1.6 Participation in adult learning in affected areas	Percentage of participants in learning by social grade in Scotland	[Adult Participation in Learning Survey 2023: Scotland](#)	Proxy measure	The data is taken from the adult participation in learning survey. The Social Grades used are categorised as follows: AB: Higher and intermediate managerial, administrative, and professional occupations. C1: Supervisory, clerical, and junior managerial, administrative, and professional occupations. C2: Skilled manual occupations. DE: Semi-skilled and unskilled manual occupations; unemployed and lowest grade occupations plus economically inactive and retired.)

Key outcome 2: Retention and creation of access to green, fair and high-value work within a more open and fair job market

Improving

7.2.3.1

Maintaining

7.2.3.2
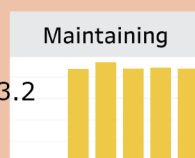
Progress summary: Improving, however, data only covers one indicator, related to quality of working life, not job replacement

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure	Comments
7.2.1 Employment by occupation (by demographic categories) maintains or improves baseline levels	Number of people in employment grouped by industry, sex and age	Scotland's Census	Indirect measure	The data only contains a demographic breakdown by age and sex. The data only contains absolute numbers, not percentages from a baseline. The data is taken from the census and is therefore infrequent.
7.2.2 High-skilled occupations as a proportion of the workforce (High-skilled occupations are classified in the SOC2010 categories 1,2,3 (by demographics) maintains or improves baseline levels	High-skilled occupations (data for levels 1-4) as a proportion of the workforce per industry and demographic	Scotland Labour Market data tables	Direct measure	There is a lot of data to parse and categorise.
7.2.3 National improvement in Work Related Quality of Life scale (WRQoL)	1. Percentage of people who respond positively to work's impact on mental and	CIPD Working Lives Scotland	Proxy measure	Several different measures from the Working Lives Scotland report could be looked at in conjunction.

	physical health (%) 2. Percentage of people who answered positively about how they feel at work			
7.2.4 For affected groups, wage differences are on balance better or equal to previous work	1. Annual salary for those currently in a green job vs those not in green job (percentage of respondents by salary bracket) 2. Number of people who responded wage as a barrier to moving to a green job	[Energy Workers Survey - Your Job in a Net Zero Scotland Initial analysis](#)	Indirect measure	The data is from the Energy Workers' survey. It does not include data from all affected groups.
7.2.5 For affected groups, work packages are on balance better or equal to previous work	No relevant data at present collected			

4.3.8. Key outcome for Cluster 8: Transition to net zero

Rationale: The Just Transition cannot be complete until the low-carbon transition is also complete. The primary goal of the low-carbon transition is to reduce the impact of humans on the environment and this is also the operating context for the Just Transition doing so in as fair a way possible. We also expect that when the transition is fair, net zero progress will increase: demand reduction and engagement are key to reaching net zero goals and these are best facilitated through Just Transition. Without a Just Transition, public opinion towards climate change mitigation is likely to be far less favourable and resistances will slow down the low-carbon transition. Outcomes in this cluster are concerned with progress towards net zero and the improvement of health with vulnerable groups as environmental protections are increased.

Key outcome: Reduction of Scotland's GHG emissions and increases to biodiversity
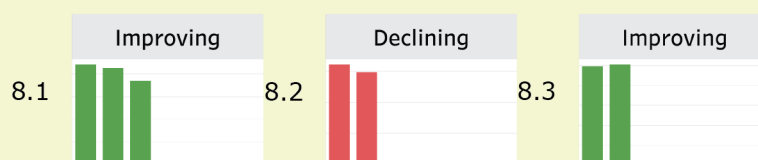
Progress summary: Improving. Lower GHG emissions and slight improvement in terrestrial abundance, with reduction in marine abundance.

The associated measures for this key outcome are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure	Comments
8.1 Reduction of Scotland's carbon footprint expressed in	Scotland's carbon footprint expressed in million tonnes of	Scotland's Carbon Footprint	Direct measure	

million tonnes of carbon dioxide equivalent	carbon dioxide equivalent per year	1998-2020		
8.2 Improvements to biodiversity in terms of marine abundance	Average marine abundance in Scotland per year	Marine and Terrestrial Species Indicators	Direct measure	Any biodiversity indicator can only represent a sample of the species present.
8.3 Improvements to biodiversity in terms of terrestrial abundance	Average terrestrial abundance in Scotland per year	Marine and Terrestrial Species Indicators	Direct measure	Any biodiversity indicator can only represent a sample of the species present.
8.4 Improvements to biodiversity in terms of terrestrial occupancy	Average terrestrial occupancy in Scotland per year	Marine and Terrestrial Species Indicators	Direct measure	Any biodiversity indicator can only represent a sample of the species present.
8.5 Reduced proportion of communities suffering polluted local environment	Change in the maximum 24 hour mean of PM2.5 (micrograms per cubic metre) per year by automatic measuring sites within local authorities	Annual Statistic Report	Indirect/ Proxy measure	This data source only covers air pollution. There is also water pollution, solid waste/contaminated land and noise pollution to consider.

4.4.   Mechanisms

As part of the Theory of Change mapping, we have elaborated the mechanisms that may produce the high-level outcomes. Our emphasis on mechanisms is partly in recognition that the Just Transition is driven as much in terms of how outcomes are achieved (through joined up policy making, identification, safeguarding, and stakeholder participation) as it is concerning a fairer economy and society. Mechanisms are a useful conceptual tool to cluster similar types of activity and outputs produced from policies, strategies and coordination effort. Or, said another way, to consider the conditions for success. Articulating mechanisms therefore means understanding the combination of resources (activities and ways of working), reasoning (the responses these provoke) and outcomes (the results that are achieved) in the form of Context-> Mechanism-> Outcome causal chains.

Interventions like 'Just Transition' are intended to encourage the target groups they are aimed at to make and sustain different choices – for example choosing to buy an electric vehicle. Making these choices requires a change in people's 'reasoning' - the values, beliefs, attitudes, or the logic they apply to a particular situation. It also requires a change in the 'resources' actors have available to them. For example, Just Transition could provide re-training programmes that help workers make the transition to greener jobs. This combination of 'reasoning and resources' is what enables Just Transition to 'work' and is defined as a 'mechanism'. The way the mechanism works depends on the 'context' in which it operates. A re-training programme will work – or not – in different ways for different people depending on 'contextual factors' – like the time and economic resources available to deliver the programme.

These indicative mechanisms may help the Just Transition Commission to interpret the reasons why certain outcomes are achieved (or not) over the duration of a Just Transition programme or activities. It is likely that realist evaluation will be an important tool for the Just Transition in particular to evaluate success, given the focus on sectoral, geographical and target groups (vulnerable and affected groups). In short, the mechanisms will help to understand the types of activities that might produce the outcomes and impacts specified above.

In order to identify the mechanisms for the Scottish Just Transition we took the following steps:

- Established an initial set of plausible "alternative mechanisms" that may deliver Just Transition outcomes. These were developed through the document review, interviews with key stakeholders and Workshop 1 with members of the Commission. Six initial mechanisms were presented during the interim report

- During the second Theory of Change Workshop, six initial mechanisms were presented and refined through collaborative group work

- Following the workshop, the mechanisms were renamed and further specified, including by changing the order such that mechanisms 1-3 are seen to feed into and enable mechanisms 4-6

- These mechanisms themes were further developed with reference to academic literature, to ensure they were distinctive, observable, and directly relevant to the Just Transition

- Measures was then selected which could act as a proxy for the mechanism overall

- The mechanisms and related measures were communicatively tested and validated in the third Theory of Change workshop

- Measures were further refined following final feedback

Based on the analysis, we have developed six "primary explanatory mechanisms" to model the causal pathways expected to result in changes to the presenting problem. These are shown visually in Figure 4. As above, other activities related to mechanism elaboration can be found later in the document, such as selecting data sources for these measures, and the causal chains to measure all elements of the Theory of Change.

Figure 4: Just Transition Theory of Change Mechanisms (Source: the authors)
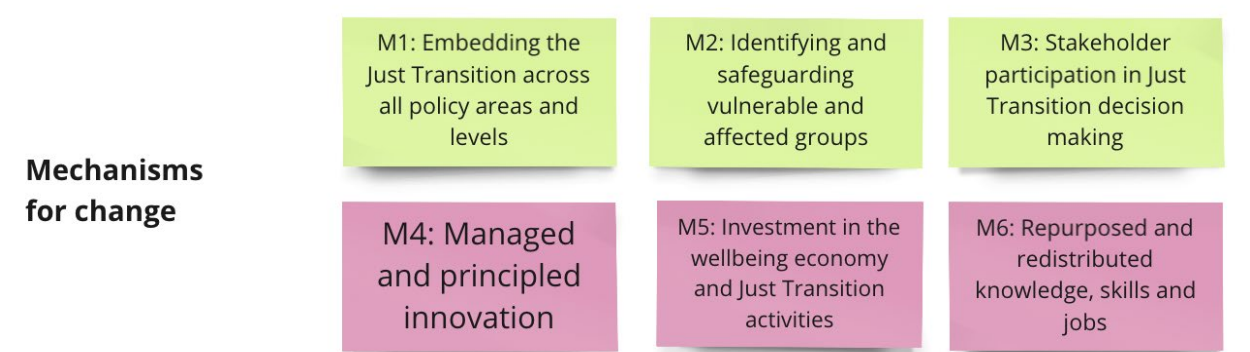
4.4.1.   Mechanism 1: Embedding the Just Transition across all policy areas and levels

Embedding the Just Transition across all policy areas and levels: By embedding the Just Transition across all policy areas and levels, Scotland creates a cohesive, coherent policy framework that aligns climate action with socially and environmentally just outcomes. The cross-sectoral, horizontal approach considers all implicated policy areas, including energy, housing, education, transport, land use and agriculture and aquaculture (Slee, 2024). This helps to ensure that initiatives such as retraining programs or regional development investments have widespread policy support and impact, facilitating the transferability of jobs and skills from one sector to another, for instance. Embedding the Just Transition vertically, at local, regional and national levels allows Just Transition activities to address the specific needs of different communities, whether urban centres or rural areas, and national-level concerns and priorities. Strategic focus is given both to ensuring that policies are context-specific and democratically accountable, and that areas of tensions, trade-offs and contestation are managed across different policy levels, fostering a fairer and more inclusive approach overall (Malakar et al., 2024).

The associated measures for this mechanism are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure
1.1 Proportion of Scottish Public Bodies[3] that report and act upon Just Transition outcomes in their area.	Proportion of Scottish Public Bodies who mention Just Transition in SSN reporting	[Reports](#)	Proxy measure
1.2 Proportion of relevant private investors who report and act on Just Transition outcomes	Proportion of private investors in low-carbon energy who follow guidance on community benefits	[Map · Local Energy Scotland](#)	Proxy measure

Currently, there's no direct data available to feasibly measure mechanism one. Measure 1.1 would require a revision in Scottish Public Bodies' reporting requirements to SSN to be directly measured, since there's currently no requirement or prompt in SSN reporting to report on Just Transition activities or outcomes. It may be possible to analyse across for mentions of Just Transition in current reporting, but these are likely to be rare as they aren't required or directly relevant. For Measure 1.1, data is not easily available on cross-sectoral investment in the low-carbon transition, though energy investors often follow guidance on providing community benefits on a voluntary basis. Whilst community benefits may in the future become mandatory for low-carbon energy investors, a future measure for this mechanism might be to review CSR outputs of private companies who are low-carbon investors.

4.4.2. Mechanism 2: Identifying and safeguarding vulnerable and affected groups

Identifying and safeguarding vulnerable and affected groups: A commitment to a just and equitable distribution of opportunities, costs and benefits is centralised within the Just Transition vision and strategy. This entails identifying and safeguarding vulnerable and affected groups to achieve Just Transitions goals without exacerbating existing inequalities or creating new ones. The Just Transition approach avoids putting a narrow focus on particular 'at risk' groups, such as solely focusing on workers in carbon-intensive industries, and is also rooted in the wider consideration of a fair distribution of costs and benefits for all stakeholders in the country as a whole (Abram et al., 2022). This includes recognising low-income populations and marginalised groups, for instance, who also face significant risks as a result of the net zero transition. Without proactive measures, these groups could experience job loss, reduced income, and community displacement amongst other negative outcomes, which could deepen socioeconomic disparities (Banerjee and Schuitema, 2022). The effective identification of affected groups enables targeted interventions that address the unique

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[3] Public Bodies in Scotland are 210 organisations including all Local Authorities, Educational Institutions (colleges and universities), Integration Joint Boards, NHS bodies, Transport Partnerships and others.

challenges they face, ensuring that they are equipped to participate in and benefit from new opportunities within low-carbon sectors. This prioritisation not only supports social justice but also fosters a more inclusive and resilient economy, as all individuals and communities are given the opportunity to thrive throughout the transformation.

The identification of vulnerable and affected groups comes alongside a commitment to social protections and safeguards, including, for instance, job retraining programs, social safety nets, and community support initiatives. Actions such as investment in energy efficiency and fuel poverty programmes, and the establishment of Consumer Scotland, provide the foundation for an equitable transition that leads to broader social and economic benefits such as a significant reduction in child poverty. Other activities reinforce this primary objective of a just and fair transition.

The associated measures for this mechanism are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure
2.1 Proportion of low-carbon, high nature transition plans[4] which include impact assessments on vulnerable and affected groups	Proportion of annual environmental/low-carbon Acts of Scottish Parliament and policies which contain specific sections outlining potential impact on both vulnerable and affected groups	1. Policies - gov.scot 2. English language Acts of the Scottish Parliament	Direct measure
2.2 Proportion of low-carbon high nature transition plans which include groups and provisions to safeguard vulnerable and affected groups	Proportion of annual environmental/low-carbon Acts of Scottish Parliament and policies which contain specific sections outlining any provisions to safeguard both vulnerable and affected groups	1. Policies - gov.scot 2. English language Acts of the Scottish Parliament	Direct measure
2.3 Proportion of groups / communities suffering polluted local environment who have accessed justice	Number of community cases heard by a Scottish Environment Court annually	NA no court yet established	Proxy measure

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[4] Any decarbonisation/re-naturing plan published or funded by a government agency such as a Public Body.

Data for mechanism 2 is possible to be collected with some further analytical work. Measures 2.1 and 2.2 require tight, agreed definitions of what is meant by a 'good' impact assessment (2.1) or 'good' safeguarding arrangements for vulnerable and affected groups (2.2). In addition, both measures require specific sections within low-carbon policies yet it will require a qualitative assessment on how comprehensive the understanding of affected/vulnerable groups is within those sections.

Indicator 2.3 is extremely difficult to measure at present. Whilst a Scottish Environmental Court would be helpful in the pursuit of measuring community access to environmental justice there's no guarantee this will be set up. The metric of annual cases we have selected has some difficulties in interpreting, since an initial increase in cases would be a welcome sign of communities seeking justice, but over time a decrease should be observed.

4.4.3. Mechanism 3: Stakeholder participation in Just Transition decision making

Stakeholder participation in Just Transition decision making: Stakeholder participation is a cornerstone of decision-making for a Just Transition in Scotland, ensuring that policies and practices are inclusive, equitable, and responsive to the needs of all vulnerable and affected communities including workers, local communities and businesses. Participation is not just tokenistic, but ensures that stakeholders are engaged in transparent decision-making processes that allow participants to express their concerns, contribute their insights, and meaningfully shape emancipatory outcomes (Manteaw, 2007). Processes and outcomes are kept under review, such that public engagement is not used to maintain the status quo or unequal distribution of burdens and benefits, but complements Just Transition outcomes (Subtoicki et al., 2023).

Attention is given to the nature of and burden associated with stakeholder participation, recognising that whilst not all stakeholders will participate, they should be given the choice and capacity to do so. Opportunities for participation are also diverse and groups that are marginalised, hard-to-reach, or have minority views are actively sought (Abram et al., 2020). Lay knowledge and traditional knowledge is explicitly acknowledged and welcomed, including that from "experts by experience" (following a format similar to that run by the Poverty and Inequality Commission's specially appointed panel) and traditional land managers, for instance (Just Transition Commission, 2023). Where decisions are required on complex issues with complex outcomes, methods such as Citizens Juries are used to bring together randomly selected people who represent the relevant community, broadening the range of voices reached (Saarikoski et al., 2023). Elsewhere, the roll-out of Regional Land Use partnerships and similar mechanisms that involve collaboration between local and national government, communities, land owners, land managers, and other stakeholders including citizens groups, optimises the fair and equitable use of land to meet transition objectives.

Stakeholder participation also helps to identify locally and regionally-specific challenges and opportunities, ensuring that transition strategies are tailored and targeted, creating the conditions for deliberative justice, place-based determination of outcome and democratic control. It also creates a collaborative environment where decisions reflect multiple perspectives, thereby enhancing the social legitimacy and sustainability of the Just Transition (Upham et al., 2022). Overall, by prioritising stakeholder participation in decision making, a Just Transition not only promotes shared ownership of the transition process but facilitates the transformation.

The associated measures for this mechanism are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure
3.1 Proportion of Just Transition activities that fulfil minimum requirements of the [STEP index](#)	Scottish Government led Just Transition activities (at regional, sectoral and intervention level) which consult stakeholder groups (residents, unions/workers, companies, AND local authorities) in both planning AND implementation	1. [Publications – Just Transition Commission](#) 2. [Publications - gov.scot](#)	Proxy measure
3.2 Qualitative assessment of participative measures for a given intervention or plan	Qualitative assessments from stakeholder groups (residents, unions/workers, companies, AND local authorities) on how satisfactory they found the consultant process, including the results and implementation	[Publications – Just Transition Commission](#)	Proxy measure

Stakeholder participation is generally easier to measure at a local, intervention level. The national data measures suggested here are both proxy measures and would require a great deal of analytical work to gather. This is because raw counts of activities such as citizens juries or stakeholder consultations don't imply a fair process that involves a sufficient range of stakeholders, or whether the consultation led to actual policy impact. The STEP index would do this, yet it has not yet been implemented in Scotland. The qualitative assessments outlined here would cover aspects of stakeholder consultation, but not all aspects. For measure 3.1, defining what counts as a "Just Transition activity" remains unclear. For 3.2, this qualitative assessment should be a discrete evaluative task involved in each Just Transition activity.

4.4.4. Mechanism 4: Managed and principled innovation

Managed and principled innovation: Planning for a 'managed' transition to net zero means that the risks associated with radical disruptive changes to the economy, as happened with de-industrialisation for example in the coal-mining sector, are reduced (Kaizuka, 2024). Concern for Just Transition ideas and outcomes are prioritised. Through the overarching National Just Transition Planning Framework, supported by sectoral Just Transition Plans, the inevitable trade-offs that will occur as a result of structural change will be effectively managed, leading to more equitable outcomes. This managed transition is reinforced through a holistic, system-wide and sector-wide policy framework that provides 'joined up' benefits for the country as a whole, creating multiplier effects that contribute to increased community economic and social capital, whilst smoothing the impacts – both positive and negative – of the transition to reduce geographical and sectoral disparities.

Innovation that's guided by Just Transition addresses the dual imperatives of reducing carbon emissions and attaining just outcomes (Scottish Government, 2021b). Managed innovation ensures that technological developments, such as renewable energy technologies, green manufacturing processes, and sustainable transportation systems, are introduced in ways that prioritise worker protections, community benefits, and environmental safeguards. Innovations and interventions are designed according to Responsible Research and Innovation principles, ensuring that justice thinking is embedded at the stage of inception - where electric vehicle charging is accessible to disabled users, for instance, or new hydrogen systems are designed for community-scale use rather than feeding into large-scale production and national grids by default (Santos Ayllón, 2022). Managed innovation will stimulate a thriving private sector, which will create new business models based on equitable environmental sustainability within the workforce, supply chains, communities and the local environment.

The associated measures for this mechanism are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure
4.1 Number of national, sectoral and regional Just Transition programmes being implemented	Number of national, sectoral and regional Just Transition programmes being implemented	Publications – Just Transition Commission	Direct measure

4.2 International recognition of Scotland as Just Transition leaders in COP publications	COP work programme on Just Transition pathways which refers to Scotland in favourable terms	UNFCCC	Proxy measure
4.3 Scotland's annual Innovation Scorecard in relation to current key Just Transition sectors (energy, transport, manufacturing, agriculture and land use)	Annual changes in Innovation Scorecard results for Just Transition sectors (energy, transport, manufacturing, agriculture and land use)	Not yet published	Direct measure
4.4 Social Innovation Index (SII) score for top investors in low-carbon transition	Proportion of private investors in low-carbon energy who follow guidance on community benefits	Map · Local Energy Scotland	Proxy measure

The effectiveness of the Scottish Government's management strategy of the Just Transition has two direct indicators which are amenable to measurement in the coming year. Measure 4.1, the number of Just Transition activities occurring, is relatively easy to directly measure, but it may not capture all Just Transition activity in Scotland, for instance UK government activities in Scotland. Measure 4.3 on Scotland's Innovation Scorecard is one of the strongest mechanism indicators. However, whilst the plan for a national innovation scorecard was launched in 2023, it is unclear when the first edition will be published.

The measure on international recognition is important as the only external validation indicator in the framework. However, it is extremely difficult to directly measure. The proxy selected here, positive references to Scotland in the COP work programme on Just Transition pathways, has several weaknesses, including Scotland not having official representation as a nation of the UK and so may not be recognised for political reasons. This measure could be altered to positive mentions in reporting on COP rather than direct recognition in COP. For measure 4.4, as with all measures involving private companies, data is sparse. The Social Innovation Index (SII) is not currently collected in Scotland. The proxy selected here, the proportion of private investors in low-carbon energy who follow guidance on community benefits is the same as measure 1.2, with the same drawback that it only measures energy companies and may become irrelevant if community benefits are mandated.

4.4.5. Mechanism 5: Investment in the wellbeing economy and Just Transition activities

Investment in the wellbeing economy and Just Transition activities: New and innovative forms of low-carbon investment into the wellbeing economy enable the diversification of economic activity

"to attend holistically to a range of issues beyond job substitution and retraining, such as new infrastructures, the development of new green industries, and educational initiatives, amongst others" (Pinker, 2020 pg. 3). Through Just Transition activities, investment is widespread and focuses on establishing robust Just Transition outcomes and a wellbeing economy (Just Transition Commission, 2024). This sees, for instance, the further integration of renewable sources that facilitates job-creation; finance for nature-based solutions to climate change mitigation and adaptation; the upscaling of public transport provision supplemented by zero emissions vehicles; investments in local authority capacity, and direct investments in decreasing regional or social inequalities such as improved access to green spaces and health services. Investments are made by a range of public and private stakeholders, including financial institutions such as the Scottish National Investment Bank, government bodies and agencies, local authorities, individuals and communities, reducing the reliance on market-based approaches (Just Transition Commission, 2024). Investments will lead to improvements in quality of life and in community capital and vibrancy, which will in turn contribute to reducing economic, social and spatial inequalities in Scotland and increased wellbeing.

Low-carbon investment comes alongside stakeholder engagement so that there's a concern not just for financing, but for the procedures through which it takes place. This includes engagement with any affected workers, communities and others impacted by the process of investment and the resultant transition. Consultation and dialogue supports orderly and managed investments and transformational change, including mitigating the risks of social tensions, conflict and business disruption (Clifford Chance, 2024). Investment focuses not just on quantity in terms of access to finance, but quality, considering the geographical location and environmental and social performance of the investment (Just Transition Commission, 2024). This includes attention to frameworks such as the Principles for Responsible Investment.

The associated measures for this mechanism are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure
5.1 Annual public investment on activities categorised as related to Just Transition	Public investment on Just Transition reported by the Just Transition Commission's annual report	Publications – Just Transition Commission	Direct measure
5.2 Annual private investment on activities categorised as related to Just Transition	Total annual community benefit funding from investors in low-carbon Scottish economy	Map · Local Energy Scotland	Proxy measure

5.3 Overall progress on wellbeing economy indicators	Number of wellbeing economy indicators that are worsening, maintaining and improving performance	5. Wellbeing economy monitor	Direct measure

Two of the measures for this mechanism are direct indicators: 5.1 and 5.3. Both are amongst the strongest mechanism indicators though there's some uncertainty for 5.1 over how public investment in Just Transition activities is calculated by the Just Transition Commission. The measure on the wellbeing economy is already being collected and reported on.

Annual private investment (5.2) has a proxy measure with some limitations, particularly only covering energy. Private investment in other important sectors such as transport, agriculture and manufacturing also need coverage. It is also possible that non-community benefit JT investment from private investors may occur which would not be captured by this indicator.

4.4.6. Mechanism 6: Repurposed and redistributed knowledge, skills and jobs

Repurposed and redistributed knowledge, skills and jobs: Progress towards a Just Transition requires changes to knowledge, skills, jobs, work practices and organisational culture alongside training provision (Pinker, 2020). These changes are delivered in managed, intentional and equitable ways, so that they meet employer demands; they don't leave anyone behind, and they contribute to reducing inequalities, including for communities and regions historically dependent on carbon-intensive industries. Changes are implemented through a combination of protection of jobs in areas least affected by transition; managed adaptation or transformation of existing jobs that require repurposing, and retraining and reskilling in sectors radically affected by the movement to net zero (Skills Development Scotland, 2020). This enables the reallocation of skills and knowledge from high-carbon to low-carbon sectors helps to ensure that workers participate in emerging green economies. Concern is not just for the quantity of jobs, but for the parity of pay and conditions that enable a "good job", including "better and decent work, social protection, more training opportunities and greater job security for all workers affected by global warming and climate change policies" (Eurofund, 2024).

Through the implementation of the Climate Emergency Skills Action Plan and other related activities, an overarching approach for managing the skills and jobs transition implements joined up, cross-sectoral actions to ensure that gradually, people in Scotland acquire the knowledge and skills they need to engage with and benefit from the transition while putting in place safety nets. This provides a framework for delivering targeted actions including a skills guarantee for workers in carbon-

intensive sectors, delivered as part of the Green Jobs Workforce Academy, for instance; new models of apprenticeship in sectors that are pivotal to the transition, and increased opportunities for more people, particularly women, to gain qualifications, training and employment in the key transition sectors including on the land and in aquaculture.

The associated measures for this mechanism are outlined below. We also highlight where currently available data exists to measure each indicator and the strengths and limitations of this data.

Measure	Currently available data	Data source	Relevance to measure
6.1 Annual learning hours spent on training and education for those in high-carbon industries and other affected groups	Proportion of adults who work in affected industries [not currently collected] in Scotland who participated in learning in the past three years according to the Adult Participation in Learning Survey	Adult Participation in Learning Survey 2023 - Learning and Work Institute	Proxy measure
6.2 Annual learning hours spent on training and education for low-carbon economy skills for those in vulnerable groups	Proportion of adults from vulnerable groups in Scotland who participated in learning in the past three years according to the Adult Participation in Learning Survey	Adult Participation in Learning Survey 2023	Proxy measure
6.3 Total grants given to education and training agencies and individuals for Just Transition activities taken up by high-carbon businesses as part of low-carbon transition process	Collated reports of grants given by central government and public bodies for training/education for those in affected industries	Publications – Just Transition Commission	Direct measure
6.4 Proportion of high-carbon businesses who are regulated to protect and support their workforce during transition activities	Proportion of high carbon businesses with collective agreements OR covered by specific policies to safeguard and support their workforce	Publications – Just Transition Commission	Direct measure

Knowledge, skills and jobs is one of the most important mechanisms for ensuring Just Transition outcomes yet has some of the weaker associated data. The two direct measures also have some drawbacks. Measure 6.3, total grants to education and training agencies as part of the low-carbon transition, can be measured but may be difficult to collate the information and align time periods, and

it may prove difficult to define what counts as Just Transition related training. Similarly, measure 6.4, proportion of high carbon businesses with collective agreements or specific policy protections, requires an additional analytical task to define what counts as a 'high carbon business' and what the threshold might be, what adequate safeguarding looks like for workforces, and whether agreements and policies are sufficient to lead to just outcomes.

For measures 6.1 and 6.2, adult learning hours aren't generally collected by Scotland. This is unfortunate as reskilling of affected groups and vulnerable groups is crucial to monitor in terms of helping both groups to take the economic opportunities provided by the transition to a low-carbon economy. Measure 6.1, which covers affected groups, would require altering the Adult Participation in Learning Survey. The survey is a useful tool to understand engagement in learning but may lack the required precision as it does not collect data on the region of Scotland participants currently reside in. For measure 6.2 on vulnerable groups, the Adult Participation in Learning Survey does currently break down results by vulnerable groups. Whilst more granular data might be available on request these are likely to be small numbers which will likely hinder the statistical power of the results. We recommend that the Scottish Government improves its monitoring of learning undertaken by affected groups in particular as training and education of groups affected by the low-carbon transition is a crucial aspect of the Just Transition's success.

4.5. Ultimate impact

The ultimate impact is a statement of how Scotland would benefit from achieving its Just Transition ambitions in 2045. As a more fair, equitable and environmentally positive country, the 20-year impact is encapsulated in this statement:

> Achievement of environmental aims (including net zero and nature positive by 2045) whilst Scotland is more just, people have more purposeful lives and higher wellbeing, and society is more cohesive.

Rationale: Research from the previous UK transition away from primary industries during the Thatcher government shows that unjust transitions have a broad and negative impact on social cohesion, sense of the country as fair, and increase in joblessness (Kaizuka, 2024). These negative impacts are concentrated in affected communities but have multiplier effects throughout society and the economy. Avoiding these negative impacts and diverting a substantial portion of low-carbon investment to support both affected and vulnerable groups will ultimately help Scotland become a nation with higher wellbeing, purpose and cohesion.

One key justification for the Just Transition is that the activity of improving procedural justice and securing just outcomes for those who may lose out to the green transition (affected populations), and for those who currently lose out in the current economic system (vulnerable populations) will have a positive effect on getting the wider public to engage in the low-carbon transition and buy into the desirability of the transition (Carmichael, 2019). In the long-term, giving weight to social and procedural justice will make the radical changes needed to lower emissions and protect the environment easier to argue for and achieve, as the interests of the vulnerable and affected will be fully represented and protected.

Below is a breakdown of the five potential measures for the achievement of the ultimate impacts.

1. **Achievement of environmental aims**

Measure: Progress from 1990 baseline towards zero net CO_2 emissions as a percentage and toward biodiversity targets (Global Biodiversity Framework and upcoming Natural Environment Bill)

2. **Scotland is more just**

Measure: Percentage of people in Scotland who agree that 'Scotland is a fair place to live'

3. **People have more purposeful lives**

Measure: Average score of people in Scotland of the Meaningful Life Measure (MLM)

4. **People have higher wellbeing**

Measure: Mean Warwick-Edinburgh Mental Well-being Scale (WEMWBS) score

5. **Scottish society is more cohesive**

Measure: Social cohesion score, following the British Academy's measure with five themes (identity and belonging, social economy, social responsibility, cultural memory and tradition, and care for the future)

4.6.   Assumptions and risks

Whilst the Theory of Change presented above, represents our best understanding of how the Just Transition may work in Scotland, what mechanisms may lead to desired changes, and what areas of impact this may lead to, all stakeholders involved have had to make assumptions, or hypothesises, for

how the programme may work. We also recognise a number of risks which could undermine the achievement of the programme results. This section addresses both these concerns.

4.6.1.   Assumptions

Assumptions are an integral aspect of Theory of Change and arguably one of the key distinguishing elements from logic frames and strategic kernels (Drabble et al, 2021). Continuous tracking the assumptions made in a programme design allow policy makers to understand whether people are behaving in the ways they expected in response to activities (theoretical assumptions), whether the situation where the strategy is taking place is as expected (contextual assumptions), and whether the causal links between what actions are taken and what responses are observed hold true (operational assumptions). In short, assumptions are the reasons the project activities should produce the project outcomes. Assumptions are what theoretically should enable activities to work, the assumed conditions that are needed for something to take place, and how the programme will operate in practice.

Underpinning the Just Transition Theory of Change are a number of overarching 'assumptions' (or 'hypotheses') mentioned during the first and second workshop. These assumptions have been broken down into three categories: theoretical, contextual and operational assumptions (see Figure 5). Given the context of the Scottish Just Transition, which is highly interrelated with Westminster through both reserved and devolved competencies and with international contexts, these assumptions stretch beyond Scottish borders.

Theoretical assumptions
1. Government driven: A Just Transition would not occur if not well managed and guided by the Scottish Government. The process must be managed tightly by central and local government actors to avoid the mistakes of previous transitions, such as with coal and steel.
2. Link to low-carbon transition: The Just Transition is tied to the low-carbon transition. If the low-carbon transition is unjust and/or perceived as unjust, this will slow down the roll out of low-carbon solutions in communities. Decarbonisation and efficiencies will occur partly through Just Transition activities.

Contextual assumptions
1. Agreement with definitions: There is a consensus (within the public as well as organisations and businesses) around the language of a Just Transition, what it means, and whether it is the best term to use. This allows the Commission and other actors to proceed with a degree of agreement over the basic assumptions of the Just Transition.

Figure 5: Theoretical, contextual and operational assumptions underlying the Scottish Just Transition Theory of Change (Source: the authors)
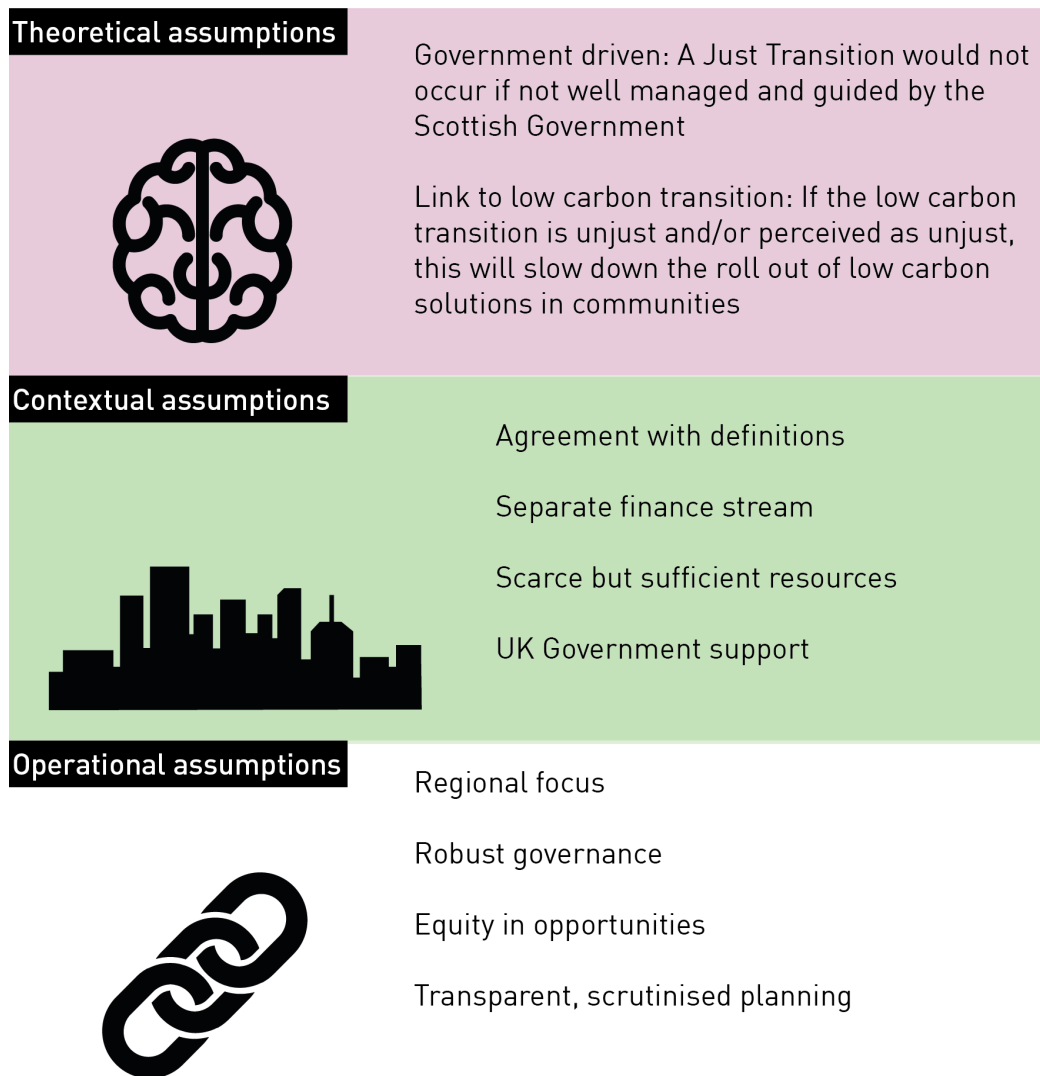
2. Separate finance stream: Finance for the low-carbon economy is not the same as investment for the Just Transition, they have different aims, stakeholders, pathways and drivers. The Just Transition is fundamentally about fair ensuring the outcomes of high- to low-carbon processes.

3. Scarce but sufficient resources: Scarce resources necessitate a focus on the most impactful outcomes and measures. However, finance is available to facilitate Just Transition-oriented systems change.

4. UK Government support: The Just Transition in Scotland will have the support of Westminster. Both the Government in Scotland and Westminster have will and capacity to follow through with actions.

How the Just Transition will operate

1. Regional focus: Much of the Just Transition is driven locally and regionally to safeguard particular places which are affected by the low-carbon transition in unique ways. The Just Transition will take a place-based, bottom-up approach to regional development that sufficiently takes the local context in designing policy responses into account

2. Robust governance: Appropriate policy, regulation, legislation and governance structures will facilitate change, including at the local level where appropriate. There are inclusive and transparent planning processes that allow for citizen participation. Governance allows for stakeholder participation and community plans and decisions are often integrated and taken up at multiple levels. Participatory mechanisms reflect diversity and represent communities of interest and place.

3. Equity in opportunities: There will be an equitable distribution of education, training and employment opportunities across different groups, communities and regions. The education and training infrastructure will be able to meet demand, including availability to sufficiently qualified and skilled professionals.

4. Transparent, scrutinised planning: Clear pipelines and timelines will facilitate a Just Transition through allowing scrutiny and continuous improvement. Trusted sources of information and clear communication are also necessary for the Just Transition. Milestones are realistic and attainable, and are underpinned by evaluation and monitoring to allow for lessons learned.

4.6.2. Risks

The delivery of the Theory of Change to plan contains a number of inherent, overarching risks mentioned during the first and second workshop. These non-exhaustive examples are as follows:

Insufficient Government leadership over the Just Transition

1. Insufficient government attention: The Scottish Government focuses attention on growing the economy and avoiding economic downturn during the transition. Lack of dedicated policy infrastructure surrounding the Just Transition leads to a poor understanding and management of trade-offs associated with the Just Transition leading to uneven wealth creation which amplifies existing inequalities. Just Transition regulation and policies continue to focus on the energy sector. Other affected sectors see less attention and weaker outcomes.

2. New economic models drive new inequalities: The low-carbon transition, growth in AI, and managing global crises necessitates new economic models to remain globally competitive. However, the economic reframing and restructuring may exacerbate existing geographical and

sectoral disparities, encourage competition between communities, regions and internationally, driving a 'go for growth' mentality that undermines sustainability goals.

Unprotected employment

1. Economic benefits are not concentrated in vulnerable and affected groups: the opportunity is not taken to use the transition to address existing inequality and injustice, particularly with groups who are economically precarious. The transition to a low-carbon economy ends up leaving vulnerable groups behind.

2. Workers in high-risk sectors are left behind: Lack of investment and timely action leads many workers under-supported and unable to transition to new work within the same or different sectors. These workers become demoralised and have a lower quality of life.

3. Workers rights not sufficiently protected: Worker protections are not improved in a timely manner. As a result, too many low value, precarious employment opportunities are created.

Flawed participation and disenfranchisement

1. Poor quality, low impact consultations: Communities not meaningfully involved in decision-making around the low-carbon transition. As a result, they become disenfranchised and don't buy into proposed solutions. Most citizen participatory methods are consultative only, leaving people reluctant to re-engage after recommendations are not followed through.

2. Lack of procedural justice in environmental policy making: Stakeholder consultation methods do not follow procedural justice principles. As a result, participatory mechanisms amplify the voice and interests of the powerful and worsen the outcomes of vulnerable and affected groups.

Insufficient investment and structural support

1. Limited structural investment: Limited infrastructure including governance is developed to support Just Transition ambitions.

2. Funding mechanisms: The need for innovation in grant applications and short-term funding models undermines the success of current and ongoing initiatives.

3. Policy emphasis on the 'deserving poor': Other vulnerable groups get left behind, whilst groups which are politically valuable are prioritised.

4. A VCSE sector which does not have capacity to engage with Just Transition: Instead of being a key government partner, insufficient resources are shared with the VCSE sector, leaving them unable to fully contribute and use their networks and expertise to support Just Transition outcomes.

5. National Just Transition Outcomes

5.1. Introduction

For the Scottish Government, an initial statement for the range of Just Transition policy outcomes can be found in the eight [National Just Transition Outcomes](). The framework for the present report was rooted in these National Outcomes, from the proposal stage onwards because the eight National Outcomes have an official place within the Scottish Government's Just Transition strategy, and offer a full vision of Just Transition, taking in equity, communities, jobs, skills and the environment. The National Outcomes have excellent coverage of key thematic areas identified in this report, and map well to best practice in the field, such as the Stockholm Environment Institute's [seven principles for a Just Transition]().

5.2. Proposed revisions to the Eight National Just Transition Outcomes

Whilst the policy areas covered in the eight National Just Transition Outcomes were extensive, some of the specific wording within the outcomes appeared to require further elaboration and consultation with the Just Transition Commission to assess whether they could be translated into an evaluable framework. The first and second Theory of Change workshop with the Just Transition Commissioners focused in part on aligning the language of the outcomes with Just Transition principles.

Our suggested modifications to the Scottish Government's eight National Just Transition Outcomes are shown in Table 1 below. Adjustments were also made to align with the Just Transition Theory of Change.

Table 1: Just Transition high level impact areas (Source: the authors)

Original outcomes	Amended to align with Just Transition Theory of Change
1. Citizens, communities and place: support affected regions by empowering and invigorating communities and strengthening local economies	1. People, communities and place: support affected regions by empowering and invigorating communities through participation and ownership, and strengthening local economies – particularly those of vulnerable affected communities – by creating conditions whereby communities of interest and place can empower themselves and have a fair allocation of resources to do so

Original outcomes	Amended to align with Just Transition Theory of Change
2. Jobs, skills and education: equip people with the skills, education and retraining required to support retention and creation of access to green, fair and high-value work	2. Jobs, skills and education: equip vulnerable affected people with the skills, education and retraining required to support retention and creation of access to green, fair and/or high-value work within a more open and fairer job market, across traditional and emerging roles
3. Fair distribution of costs and benefits: address existing economic and social inequality by sharing the benefits of climate action widely, while ensuring that the costs are distributed on the basis of ability to pay	3. Fair distribution of costs and benefits: address existing economic and social inequality by sharing the benefits of climate action widely, while ensuring that the costs are distributed on the basis of ability to pay, through a transformation of the economy to value jobs that are currently under-valued, and share benefits/profits more widely
4. Business and Economy: support a strong, dynamic and productive economy which creates wealth and high quality employment across Scotland, upholds the UN Guiding Principles on Business and Human Rights, and continues to make Scotland a great place to do business	4. Business and Economy: support a strong, dynamic, *resilient* and productive economy which creates more equitably *distributed* wealth and high-quality employment across Scotland, upholds the UN Guiding Principles on Business and Human Rights, considers the international dimension of transition, e.g. offshoring, and continues to make Scotland a great place to do business whilst reducing inequity in tax and wealth distribution
5. Adaptation and resilience: identify key risks from climate change and set out actions to build resilience to these risks, ensuring our economy is flexible, adaptable and responsive to the changing climate;	5. Adaptation and resilience: identify key risks from climate change and set out actions to build resilience to these risks, ensuring our economy, communities, society and culture are flexible, adaptable and responsive to the changing climate
6. Environmental protection and restoration: commit to act within our planetary boundaries while protecting and restoring our natural environment	6. Environmental protection and restoration: commit to act within our planetary boundaries while protecting and restoring our natural environment, biodiversity and ecological processes for future generations
7. Decarbonisation and efficiencies: contribute to resource efficient and sustainable economic approaches that actively encourage decarbonisation,	7. Decarbonisation and efficiencies: contribute in a just way following rights-based principles and legislation to resource efficient and sustainable

Original outcomes	Amended to align with Just Transition Theory of Change
support low-carbon investment and infrastructure, and avoid carbon 'lock-in'	economic approaches that actively encourage decarbonisation, support low-carbon investment and infrastructure, and avoid carbon 'lock-in'
8. Further equality and human rights implementation and preventing new inequalities from arising: address fuel poverty and child poverty in a manner consistent with Scotland's statutory targets on each, while furthering wider equality and human rights across all protected characteristics	8. Further equality and human rights implementation and preventing new inequalities from arising *inside and outside* Scotland: address fuel poverty and child poverty in a manner consistent with Scotland's statutory targets on each, while furthering wider equality and human rights across all protected characteristics and vulnerable communities and preserving and protecting language and culture
9. N/A	9. Policy development and decision-making: develop the infrastructure, systems and processes for inclusive and transparent policy, planning and decision-making, to actively involve the range of communities of interest, place, language and culture in policy, planning and decision-making on the transition. Regularly evaluate and monitor the extent to which Just Transition is embedded within relevant processes, where meaningful engagement is a key metric for success.

The revisions to the wording of the eight National Outcomes were intended to achieve two purposes:

- **Consultation**: Scrutiny is a primary purpose of the Just Transition Commission, and the National Outcomes were relevant to the monitoring and evaluation framework. Commissioners are recognised senior professionals from unions, sustainable development, academia, social exclusion charities, environmental protection and other areas. The Just Transition Commission welcomed the opportunity for a full consultation on the eight National Just Transition Outcomes and displayed a great degree of expertise in the topic areas.
- **Inter-outcome alignment**: Whilst the titles of the National Outcomes thematically covered many Just Transition relevant areas, these themes were not consistently represented in the National Outcome descriptions. For instance, the fourth outcome had a purpose to "create wealth," yet the third outcome was to "address existing economic and social inequality by

sharing the benefits of climate action widely". The revision from "creates wealth" to "creates more equitably *distributed* wealth" was to ensure that the framework was internally coherent.

Using these National Outcomes as a starting point gave the framework both conceptual and practical breadth and ensured that the framework we developed would align to the existing political consensus. This would make it more likely that the framework would be enduring over the coming decades and able to be built upon in the future. Explicit alignment can be seen in the full Theory of Change table in Appendix 1, where the relevant National Outcome is indicated for each proposed activity. Whilst we hope that, over time, the measurable framework we have developed during this project becomes embedded in Scottish Government policy, this amendment and alignment work ensures that the National Outcomes are thematically and in substance embedded within the framework.

6. How the Theory of Change can be used

This project has focused on consolidating what is known about how Scotland could achieve a Just Transition, and co-constructing a vision of what might work to ensure that the low carbon transition is fair and equitable. This project and its outputs may be used as a foundation in establishing a common methodology to scrutinise, monitor and evaluate Just Transition-related activities across Scotland. In this section we offer some suggestions for how that may be achieved.

6.1. Dashboard of national outcome indicators

One of the most immediate applications of the monitoring and evaluation framework is a national dashboard to track Scotland's progress towards long-term outcomes on an annual basis. This dashboard would extract the suggested outcome measures in this report, find historical and current data, and present the national progress to Just Transition KPIs. Whilst at present the number of data gaps outweighs the available data, over the coming years, the dashboard could become an important tool in scrutinising and improving the Scottish Government's strategies.

It is worth highlighting that data at the national level has both crucial gaps. In particular, national data alone is not sufficiently nuanced to be reliable. We note that only outcome clusters 5 (Increase in community ownership and production) and 8 (Transition to net zero) have relatively good data coverage of the outcomes of interest, and even these aren't disaggregated by affected areas or vulnerable groups. In general, national data is often poor, direct measures aren't usually available, and data is not usually annually collected. In addition, there's more analytical work needed including operational definitions, e.g. where are nationally 'affected' areas, and which groups are 'vulnerable'.

We selected some measures which don't necessarily translate to the national scale, and some outcomes are more suitable to measure at a sub-national scale. For example, whilst we identified proxy measures for democratic processes (outcome cluster 5), democratic participation and engagement are simpler to track at a local level or at the level of an intervention, such as planning the closure of a high-carbon facility. Given these limitations, we recommend ongoing review of the indicators. We particularly suggest that the data collected by the Scottish Government should be subject to continuous improvement to allow accurate and sensitive measurement of the outcomes of interest.

To support ongoing scrutiny, our data mapping found 29 Just Transition outcome indicators for Scotland with at least two recent data points. The latest progress is shown below, first in Table 2 showing the latest change in KPIs, then mini charts showing all data between 2018 and 2024 in Figure 6.

Table 2: Overview of key performance indicator (KPI) progress towards Just Transition Key Outcomes between the most recent data points. 'Maintaining' indicates that the recorded change has been less than one percent change recorded. (Source: the authors)

Declining	Maintaining	Improving
1.1 Annual change in Gini coefficient across all population subgroups	2.7 Increased resilience of properties at risk of flooding	2.6 Reduced geographical differences in access to good quality green space
3.1 Annual change in Gini coefficient for vulnerable groups	2.8.2 Work related quality of life is improved in affected areas (feelings about work)	2.8.1 Work related quality of life is improved in affected areas (work impact on mental health)
3.3 Reduced prevalence of fuel poverty	3.4 Reduced prevalence of child poverty	4.1 Number of successful community participation requests
3.5 Improved quality of life for vulnerable groups	5.1 Percentage of people who agree with the statement: 'My local council is good at listening'	6.1.1 Community or locally owned renewable energy productive capacity
4.2 Communities relevant to Just Transition initiatives feel listened to	5.2 Percentage of people who agree with the statement: 'I can influence decisions affecting my local area'	6.1.2 Number of community or locally owned renewable energy installations
4.4 Generally, Scottish people feel able to influence their own lives and the future	6.3 Area of community assets	6.2 Number of assets in community ownership
4.5 Improvements in civic engagement scales on attitude	7.1.5.1 Participation in life-long-learning in affected areas (for marginalised groups)	6.4 Number of community groups in Scotland
8.2 Improvements to biodiversity in terms of marine abundance	7.1.6 Participation in adult learning in affected areas	7.1.4 Educational attainment of labour force in affected areas
	7.2.3.2 National improvement in positive feelings about work	7.1.5.2 Participation in life-long-learning in affected areas (LA spend on adult education)
		7.2.3.1 National improvement in Work works impact on mental and physical health
		8.1 Reduction of Scotland's carbon footprint

Figure 6: Overview of available data showing progress towards Just Transition Key Outcomes from 2018 to 2024. The columns on each chart represent the value for each year, ordered left to right from 2018 to 2024. Numbers indicate the outcome which are found in Table 2 (Source: the authors)
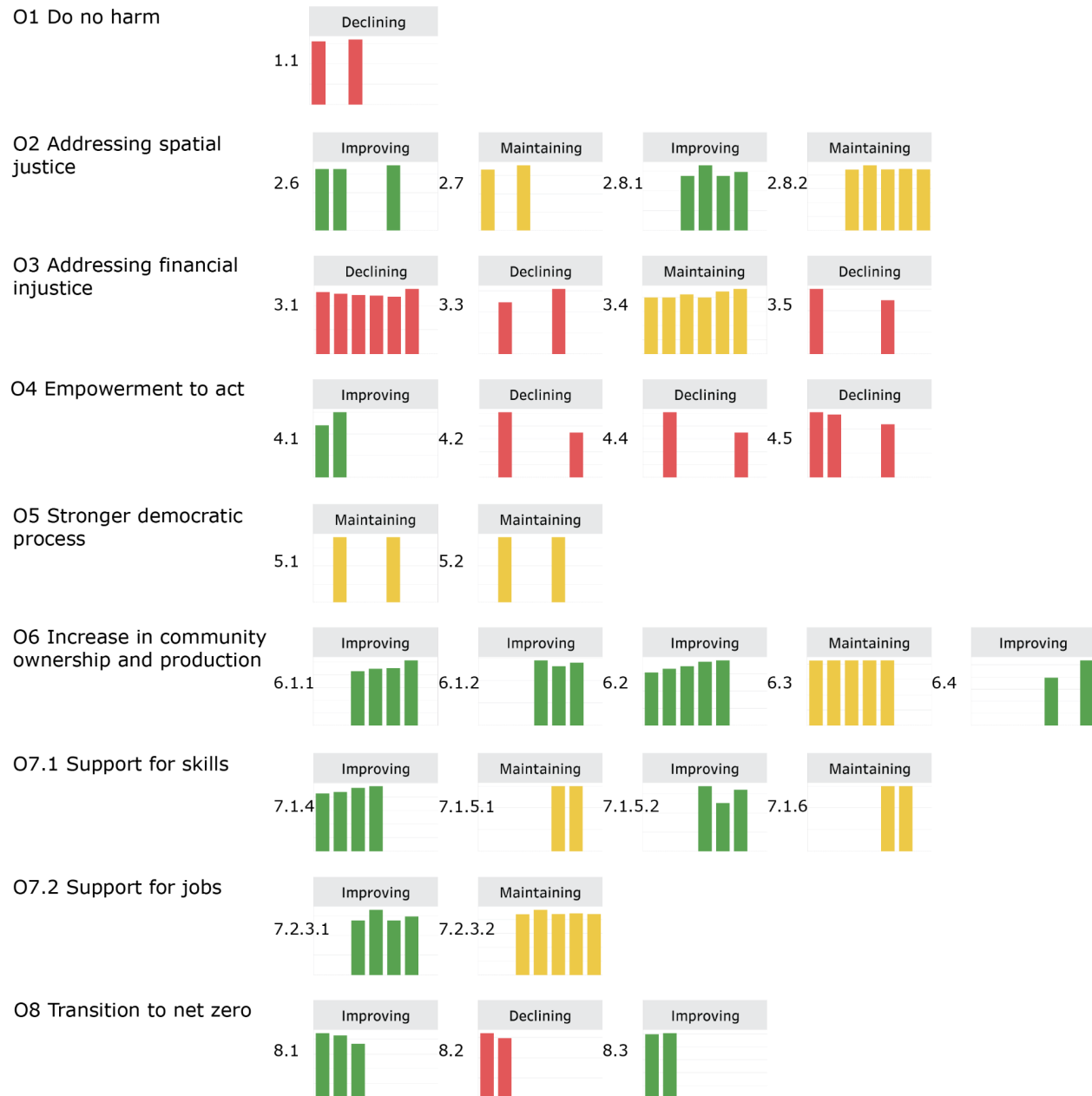
The draft Just Transition dashboard can be explored in more granular detail on the Just Transition Commission's website here [insert link to JT Commission website].

6.2.   Monitoring and evaluating a 20-year vision: a distance travelled approach

Whilst a dashboard is useful in assessing historical trends in achieving desired goals, the Just Transition will occur over a 20-year period with long term targets. The Scottish Government's aspiration is that, by 2045, "a Just Transition to net zero will have delivered a fairer, greener Scotland" (Scottish Government 2021b pg. 7). Since the first Just Transition Commission began meeting in 2019 and the Scottish Government outlined its first policy activities in this space, it is unlikely that appreciable impact has been made on many of the Just Transition outcome areas. Instead, it is more important to measure the distance the activities have travelled towards these outcomes, particularly given that many key ambitions such as investments in hydrogen production capacity and associated jobs and skills impacts are unlikely to achieve substantial outcomes for many years. A distance-travelled approach therefore allows evaluators to understand the trajectory of likely impact planned through Just Transition activities.

The distance travelled approach is foundational to the framework that we have developed. For instance, the mechanisms we have developed, such as stakeholder participation in Just Transition decision making, can be measured through tools such as the STEP index, which provide an indication that the project will follow a pathway that may result in Just Transition outcomes being achieved, such as empowerment, stronger democracy, and community ownership. Assessing progress in those outcome areas can then be more confidently evaluated in terms of likely future impacts. As a second example, a distance-travelled approach for activities which have led to the direct creation of jobs as an output of JT activities, for instance, can be seen as one indication that new job opportunities are replacing carbon-intensive jobs, a key outcome measure for the 'Support for jobs and skills' outcome in our framework. This Theory of Change can therefore be considered a step-wise evaluation and monitoring framework that can feed into ongoing reporting in light of a 2045 Just Transitions target.

6.3.   Functions of the Theory of Change

Mayne and Johnson (2015) outline 10 possible uses for Theories of Change broken into four categories: designing/planning interventions; managing interventions; assessing interventions, and scaling interventions[5]. They note that these functions take place both in using a Theory of Change to model

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[5] We have changed the language of "interventions" to "activities" as interventions refer to specific tasks designed to achieve a certain outcome, whereas activities are typically a broader, more neutral term, capturing a policy, legislation, performance reviews, and material changes such as bus timetable extensions, for instance.

how change is expected to happen (*ex ante* case) or how change has happened (*ex post* case). We explore the following six functions derived from this Theory of Change, drawing on the relevant aspects of their framework:

- Designing interventions
- Understanding and agreeing on interventions with stakeholders
- Ex ante evaluation of proposed interventions
- Designing monitoring systems
- Making causal claims about outcomes and impact
- Generalising to the theory, to other locations and for scaling up and out

In addition, we add a new category to their work, therefore demonstrating a new contribution to the Theory of Change literature derived from this study: establishing accountability.

6.3.1. Designing interventions

The Theory of Change model can be used to examine both areas where (a) interventions are already taking place that fulfil the outcomes and mechanisms required and (b) areas where further intervention may be needed. The mechanisms for low-carbon investment, for instance, are generally well understood and in many cases, well advanced. Interventions to bolster the mechanism of stakeholder participation in Just Transition decision making are arguably less advanced, or at least very challenging, highly contextualised, and without clear direction for what is considered "best practice". The same is true for the outcome cluster related to "empowerment to act", which refers to the fact that the Just Transition should be co-designed and co-delivered to empower all partners, where empowerment in the Just Transition context is both a process and an outcome. Historically interventions in this space have been seen as more challenging to develop. Therefore, at the highest level, by drawing attention to these key facets of the Just Transition, the Theory of Change highlights areas in which further intervention design can be focused. At a more granular level, there is opportunity to use the Theory of Change to inform the design of the interventions themselves, including by using it to illustrate the types of measures that are available and by driving consideration of the wider suite of mechanisms it may feed into. As we explore below, this includes allowing advanced planning of casual chains and outcome chain logics, questioning whether and how the planned intervention will lead to the required outcome and contribute to the ultimate aim.

6.3.2.   Understanding and agreeing on interventions with stakeholders

Just Transitions are highly complex and contested at all scales. At a national level, a high level Theory of Change takes in every sector implicated in a broad framing of the Just Transition, from agriculture and land use to energy, thereby encompassing a wide range of cross-sectoral interactions, tensions and trade-offs. The Scottish Theory of Change model can help actors understand both the different aspects of the Just Transition and how they fit together, as well as the desired outcomes and visions that emerge across all aspects and sectors - the high-level ultimate impact. The Theory of Change can also therefore allow stakeholders to understand the types of interventions required to reach the ultimate aim, feeding into discussions on how the interventions are expected to work. This function is particularly important considering that the Just Transition is such a large, cross-sectoral issue, which involves a vast number of stakeholders and accountable/responsible groups (see below). More precisely, we see a role of the Theory of Change in facilitating multi-stakeholder discussions to determine interventions, building on the design function outlined above. Generally, the Theory of Change can also represent a coherent narrative about an overall programme of interventions that can be used to communicate with stakeholders, including those vulnerable to or affected by the Just Transition.

6.3.3.   Ex ante evaluation of proposed interventions

The Scottish Just Transition Theory of Change development process involved establishing an ultimate aim and through the mechanisms, articulating the conditions for success necessary to reach this. These represent a vision of what a Just Transition could or ought to be. When new Just Transition interventions and policies are planned, the Theory of Change therefore provides an opportunity to evaluate in advance if the interventions will achieve the desired outcomes, contribute to the mechanisms, feed into existing measures or require new ones, and contribute to the ultimate aim. That is, it will allow the evaluation of whether the proposed interventions will meaningfully contribute towards the Just Transition overall.

As fundamental concerns embedded in Just Transition thinking, the Theory of Change also asks that those involved in planning interventions consider the "reach" of their work, including the target groups the intervention is specifically aimed at (Mayne and Johnson, 2015) and how these relate to groups understood as vulnerable to or affected by the Just Transition more broadly. It follows that consideration of these groups is highly related to the measures and data available to assess impact on them e.g., the "Gini coefficient (a measure of income inequality in the population, ranging from 0 to 1, where 1 stands for total inequality) by vulnerable group (Annual change)". The contribution, here, is that using the Theory of Change to evaluate planned interventions allows for a continuous review of

who is vulnerable and affected in the context of a Just Transition, the necessity of which we specified in Section 2.3.

6.3.4. Designing monitoring systems

The outcome and mechanisms measures developed through this work reflect both (a) indicators and measures that have already been identified as directly relevant to the Just Transition (e.g., reduced geographical differences in fuel poverty) and (b) new associations, where pre-existing measures from other policy that haven't been typically been identified as relevant the Scottish Just Transition can be integrated (e.g., the Social Innovation Index (SII)). In some cases, the measures identified also extend previous monitoring and reporting mechanisms. This includes, for instance, the suggested measure for the "proportion of Scottish Public Bodies that report and act upon Just Transition outcomes" which, if adopted, would require a change to reporting standards. Our work also exposes measurement and data gaps, where relevant material is not collected, or not collected systematically, frequently or robustly. Therefore, our work demonstrates the function of designing monitoring systems, where the Theory of Change can be used to: (1) synthesise current measures in a bespoke package related to Just Transition priorities and outcomes, (2) identify new measures in previously unassociated for but directly relevant areas of concern, (3) make a case for updating current measurement and reporting standard to cover Just Transition outcomes and (4) advocate for refined or increased measurement in areas where there are data gaps.

6.3.5. Making causal claims about outcomes and impact

A Theory of Change is a method that explains how a given intervention, or set of interventions, are expected to lead to a specific change, drawing on a causal analysis based on available evidence. This means examining causality to question what leads to what, and how? Through what mechanism(s)? It is easier to make strong causal claims for narrowly defined interventions and more difficult to do so for broadly defined programmes such as a national level for a model of the Just Transition (Wigboldus and Leeuwis, 2013).

When these are combined with the presenting problem, outcomes and alternative mechanisms, the Theory of Change says "if we take action X, then this will cause effect Y and this will eventually lead to outcome Z". These causal chains to measure all elements of the Theory of Change are presented in Appendix 1, showcasing that it enables causal chains about outcomes and impacts. It is worth noting that in the context of the Just Transition these causal chains can represent (a) outcomes and impacts in their direct sense e.g., where X intervention leads to X demonstrable socio-material outcome, such as

reductions in the experience of various spatial injustices and (b) important procedural justice mechanisms in their own right, where, for example, each step in the causal chain increases participation and stakeholder engagement. As an indicative example, where:

- The activity refers to increases in deliberative processes such as climate assemblies that meaningfully consult Scottish residents and this leads to;
- The output of capacity building in communities for devolved power and decision making which leads to,
- The outcome of increased sense of agency across Scotland – the ability of individuals, citizens and communities to determine and shape the direction of a Just Transition,
- And impacts in terms of: Policy development and decision-making, Citizens, communities and place, and Adaptation and resilience

6.3.6. Generalising the theory, to other locations and for scaling up and out

The core aim of this work was to develop a national Theory of Change for Scotland. This could be scaled out, meaning that it could be replicated, adopted, or disseminated without substantial alteration. Alternatively, it could be scaled up, which refers to transformation, evolution and development, typically through a combination of more complexity and a different application (Wigboldus and Leeuwis, 2013).

To achieve our national Theory of Change, we brought sectoral and regional plans together under a national umbrella to create a shared set of activities, outcomes areas and mechanisms for achieving a Just Transition. Now this national approach with a collective view on the ultimate impact has been established, this can feed into national, sectoral, and regional plans and evaluations, so they can reflect national priorities and share a common vocabulary. Varying measures and outcomes can also be tested and refined at each level, including through test cases. For instance, it is possible to select a bespoke sub-set of the outcomes from the national level, chosen according to the priorities or contextual peculiarities of a narrower scope of evaluation, e.g., the closure of the Grangemouth oil refinery facilities. That is, to carry forward only the outcomes relevant to the evaluation in question.

The Scottish Just Transition of Theory Change also offers the opportunity to share best practice across different levels of government, including at the UK level and internationally. Here, there is opportunity for replication and/or refinement. Replication refers here to the process of taking this Theory of Change to a different setting or different target group than the one it was originally conceptualised for: Scotland as a whole. Replication tends to be a three-stage process (Tavistock, 2011):

- Knowledge and awareness stage: In order to replicate or adopt an innovation, it needs to have been shown to meet needs, to be effective and to be known by those considering adopting it; it is also necessary to analyse the new environment in which it is to be applied.
- Choice and decision stage: this involves relevant actors making choices about the replication destination, the process of doing this, and how it will be financed. Both of the first two stages benefit from the existence of evaluation and / or cost-benefit analysis data.
- The final implementation stage involves taking the product, service or other innovation into one or ideally several contexts.

We know from the literature that certain attributes are correlated with the ease with which an innovation such as this Theory of Change can be replicated. Broadly, the perceived advantage of an innovation and its compatibility with existing practices and values, past experiences, and needs of potential adopters and their social system have a positive effect on the replicability of an innovation; while the perceived complexity (the degree to which it is perceived as difficult to understand and use) has a negative effect. In addition, a number of organisational factors matter. The organisation looking to replicate its innovation needs to have strong communication skills and project management expertise, for instance (Greenhalgh et al., 2004; Mandal and Gunasekaran, 2003; NESTA, 2008). Finally, the local and national context matters for whether an innovation can successfully be taken into a different context. This includes factors such as:

- Geography: whether a destination has a very different geographic make-up to the one where the innovation was initially conceived
- Community structures and cultures: for example, whether there are organisations willing and able to support adoption of the innovation locally, and the attitudes towards innovation
- National and institutional policy: whether particular policies operate nationally or in this particular institutional setting that may encourage or hinder the replication process

This means that if there's an aspiration to the Scottish Theory of Change as a model of best practice for other contexts (including offering it as an example for other nations), the points above will inform how Scotland can lead the way, whilst through discussing these attributes, maximising opportunities to work collaboratively.

6.3.7. Establishing accountability

Much of the Just Transition literature focuses on those vulnerable to or affected by the Just Transition, with less emphasis on those that are accountable or responsible for action (Jenkins et al., 2017). This is a critical gap when establishing how action for a Just Transition might take place. Although this Theory of Change is focused at the national level and therefore would naturally speak to national actors, it nonetheless shows in multiple ways how responsibility and accountability for a Just Transition might manifest. Firstly, the exercise of developing the Theory of Change itself in collaboration with the Just Transition Commission responds to the Commission's remit to advise on monitoring and evaluation progress towards achieving a Just Transition in Scotland. As a long-term commitment, this means that the Commission is responsible for keeping the Theory of Change evaluation and monitoring structures under review. For the Scottish Government there's a responsibility to meaningfully engage with the Just Transition Commission's recommendations around effective engagement on monitoring progress, including exploring the relationship between the Theory of Change delivered here and the Monitoring and Evaluation Plan for the Energy Strategy and Just Transition Plan.

The outcomes, mechanisms, and measures delivered throughout the report also signify actions for various different Government and Parliamentary teams. Measures around reduced geographical differences in transport poverty and fuel poverty, for instance, implicate Government teams in recording accurate data and reporting this as part of their own Strategy delivery and wider Just Transition monitoring and evaluation (including Transport Scotland as an executive agency). By the same token, a wider range of Parliamentary Committees may be responsible for scrutinising progress towards the Energy Strategy and Just Transition Plan depending on the outcomes and measures selected, and therefore the implicated policy areas. Effective coordination in this space can foster policy coherence for the Just Transition.

Beyond national political settings, a variety of stakeholders might be considered as outcome, mechanism and measure "owners". Outcome and mechanisms owners would be the groups responsible for enabling Just Transition action. Measure owners would be the groups responsible for reporting on various areas, similar to the examples used above. By way of illustration, addressing financial injustice implicates (at least) employers and the finance sector for setting the right conditions for outcomes in this cluster. The measure of "maintenance of environment: no further reduction in biodiversity, air quality, or water pollution for all localities" emphasises responsibility for the Scottish Environmental Protection Agency and land managers amongst other organisations. The measure of "reduced number of residential properties on recognised flood plains" requires action from those involved in the domestic property construction and planning sectors. As a final example, the mechanism of "stakeholder participation in

Just Transition decision making" implicates all organisations and groups at a range of scales to undertake meaningful action to engage in participatory decision making where practicable, so that this form of procedure becomes normalised and mainstream. This innovative, accountability- and responsibility-based function of the Theory of Change therefore offers opportunity for explicit discussions on action towards the Just Transition ultimate aim via all components of the Theory of Change model: outcomes, mechanisms, measures, and the ultimate aim.

7. Limitations and recommendations

7.1. Limitations

There are a number of unavoidable limitations associated with the enactment of the Theory of Change. Many of the outcome areas listed are currently not associated with easy to access and direct data. As covered in Section 5.1, there are gaps according to topic areas (e.g., data on democracy), geographical levels (e.g., the community level), and identifying newly vulnerable groups, for instance (e.g. following decarbonisation activities). This means that operationalising data collection for the Theory of Change in its entirety is currently infeasible. This informs our recommendations.

Second, whilst quantitative data is more suited to monitoring, both quantitative and qualitative data are required to evaluate the different activities and outputs and to measure whether mechanisms were enabled or not. This qualitative data is typically more time- and cost-intensive to collect and is gathered less systematically (this despite its clear merit in representing the views of vulnerable and affected groups and processes such as participation, for instance). Accessing this form of data requires adequate funding and capacity.

Finally, but not exhaustively, while there are some outcome chains that have excellent potential for monitoring, e.g., financial/spatial injustice, net zero targets, other areas are more difficult to track and require the use of proxies. This includes both direct proxies, such as measures of community ownership, and more distant proxy measures such as stronger democratic processes. Whilst we are therefore able to suggest some 'top' measures and matching data sets for some strands of the Just Transition in other areas, commissioned evaluations will most often be required to assess progress.

7.2. Recommendations

As an outcome of our work, we have identified a number of policy recommendations oriented primarily towards the Scottish Government though in some cases, they are applicable to other stakeholders too. These are to:

1. **Establish a permanent Just Transition Commission with analytical capacity** to continuously monitor, evaluate and develop JT thinking and action, bringing in external experts where needed. As an oversight group tasked with providing advice and scrutiny on embedding justice in the low-carbon transition - a process expected to take until 2045 -, the Commission is well placed to add greater analytical capacity. This would allow it to fulfil a formal function of

reporting on Scotland's progress towards a Just Transition and to actively feed into the policy process to ensure that ambitious low-carbon programmes are developed which embed Just Transition principles. Such measures contained in this report, such as embedding within Just Transition reporting for Scottish Public Bodies, will require extensive redesign and require specific expertise. A permanent Just Transition body with capacity to understand and input into cross-sectoral policy development would help to facilitate coherent and impactful Just Transition policy making.

2. Within the Commission's annual work programme, **permit dedicated time and space to review the Theory of Change in light of developments and learning**. This would involve revisiting the current presenting problems, the desired ultimate impact, likely mechanisms to achieving Just Transition outcomes and the desired outcomes themselves, alongside agreeing definitions, vulnerabilities, and affected groups and keeping these under review. This is particularly critical when setting up new Commissions and will help to keep the monitoring framework up to date and relevant to recent developments.

3. **To develop an ongoing annual cross-directorate dashboard which tracks the achievement of Just Transition outcome measures across Scotland**. Whilst many measures are most suited to evaluate at a local, regional or sectoral level, the majority of measures are also suited to national tracking. Having a live and updated dashboard will aid accountability, scrutiny and resource prioritisation.

4. **Increase the diversity of measures used to monitor and evaluate the Just Transition**, in line with the recommendations made above. Feeding into the dashboard, this requires identifying and gathering more data, particularly in currently under-represented areas, including qualitative assessment of stakeholder participation for a given intervention or plan.

5. **To embed the collaboratively determined Just Transition framework developed in this work in future commissioned Scottish evaluations**. Throughout the work, this evaluation attempted to use the eight National Just Transition Outcomes as the central element of the Theory of Change and monitoring framework. Ultimately, the National Outcomes are a strong policy statement on what the Just Transition should look like, but less useful as a foundation to develop a measurable and distinct monitoring and evaluation framework for Scotland. We recommend the Scottish Government to consider revising the language of the National Outcomes in line with the table in Section 5.2, whilst using the Theory of Change and the Key Outcomes from section 3.3 in particular as the foundation for future Just Transition evaluations including for the evaluation of initiatives and the Just Transition Fund.

6. **To actively facilitate policy coherence** across the full suite of Scottish policy, enabling a cross-sectoral approach that acknowledges both (1) all implicated policy strands and (2) all implicated scales, from local to national. This requires both a shared vision of JT and shared measures and

data across related Scottish Government policy areas. Without this, there is a risk that responses to the Just Transition are fragmented and that tensions and trade-offs across policy areas aren't properly captured or managed and/or co-benefits aren't realised. Assisted by the establishment of a permanent Commission, we recommend both cross-group working within Government and cross-committee security in Parliament, likely via the Convenor's Group (see Section 7.2.1 - 7.2.2).

7. **To establish clear interim Just Transition targets up to 2045,** moving away from a policy framework that's generic and aspirational to one that's step-wise and implementable. This requires the agreement of priority areas and detailed activities across 5-, 10-, 15- and 20-year targets, for instance, with accountability for reaching these attributed to appropriate Scottish Government agencies or mandated for external stakeholders.

8. **To coordinate policy ambition with Westminster.** Scotland is much further advanced in its consideration of the Just Transition than its Westminster counterparts, and yet there are many UK inter-dependencies that affect Scotland's Just Transition outcomes, including agricultural subsidies, labour force protections and energy pricing. There is significant opportunity to (a) share best practice with the UK government, (2) use the Theory of Change to better understand Just Transition pathways through reserved and devolved competencies and their accompanying responsibilities (see section 4.2.7), and (3) advocate for collective outcomes.

9. **To establish an equivalent, permanent Just Transition Commission in each devolved nation.** Much as there are inter-dependencies with Westminster, there are inter-dependencies across each of the devolved nations, opportunities for knowledge exchange, and requirements to represent national-level Just Transition priorities and stakeholder interests. The establishment of permanent Just Transition Commissions in Wales, Northern Ireland and England will complement and extend the work of the Scottish Just Transition Commission, furthering the potential for the attainment of a Just Transition across borders.

10. **To share best practice internationally and further explore international implications and responsibilities.** Although the focus of this work has been on a Scottish Theory of Change and what is in the direct control of the programme or activities - Scottish policy -, the reality of Just Transition activities is that many will have international implications. We recommend sharing this Theory of Change and its evaluation and monitoring functions overseas as an example of best practice and continuing to develop the Commission's earlier work in this space. As noted in section 2.5, this includes an opportunity to develop "guardrails" for the domestic transition and its potential international impacts to facilitate a whole systems view.

11. **To widely communicate the vision held for the Just Transition and the approach used**. The implications of the Just Transition will be widespread, affecting almost every Scottish citizen by 2045, whether it is through transformations to their work, communities, or the types

of products or services they engage in. Other stakeholders will have to carry more responsibilities and accountabilities and operate in new ways. To engender cross-stakeholder support, the vision and approach for the Just Transition must be clear and widely communicated so that it is widely understood and receives support. This will require new forms and styles of communication, including public outreach alongside a long-term commitment to meaningful participation, as outlined above.

7.2.1.   Positioning of the Just Transition in Scottish Parliament

The Scottish Parliament's Economy and Fair Work Committee was established in June 2021 to focus on, amongst other topic areas "the Scottish Government's economic policy and strategy, including a just transition to a net zero economy". Previous work has included inquiries into the Just Transition for the Grangemouth area and the Just Transition for the North East and Moray. Current work includes a review of the National Strategy for Economic Transformation (or NSET), a strategy that sets out "skilled workforce" and "fairer and more equal society" as two of five programmes of actions.

The membership of the Net Zero, Energy and Transport Committee have expressed interest in Just Transition scrutiny through work plan discussions and scrutiny yet are currently advised that this work is not in their area. This despite their role in "scrutinising the Scottish Government's policies and progress towards meeting climate change targets across all government departments" via issues of transport, energy, net zero and circular economy and most environmental policy; work that sees them focus on key issues of land reform and carbon markets, amongst other areas, which will have extensive impact on the justice outcomes in the transition. Other committees will also have clear areas of overlap.

Whilst there's clear and indisputable alignment between the Economy and Fair Work Committee's remit and Just Transitions concerns – and one committee should take a lead –, this positioning of Just Transition scrutiny is limiting and risks creating silos. Or, more specifically, reluctancy from other committees to scrutinise other aspects of the Just Transition is limiting. It is for this reason that this report makes a recommendation that the Just Transition is taken up as a primary workstream by the Scottish Parliament's Conveners Group - made up of all the conveners of the committees and overseen by the Presiding Officer or a Deputy Presiding Officer. This fits with the remit of the group to help committees find ways to work together on issues of shared interest, including an extension of current concerns to hold the Scottish Government to account for how it delivers on Net Zero targets. This approach would align with Mechanism 1: Embedding the Just Transition across all policy areas and levels.

7.2.2.   Positioning of the Just Transition in Scottish Government

Accountability for the Just Transition within the Scottish Government must be carefully considered. Whilst the team developing the Energy Strategy and Just Transition Plan will have the majority of the oversight for its delivery, it is unlikely that each of the policy levers are within their control. As noted in the draft strategy documentation, for instance, the draft draws upon and complements wider Scottish Government policies on economic development, trade, communities, circular economy, environment and land use. Indeed, this wider positioning of the Just Transition means that the vast majority of, if not all, policy areas will be implicated. This will lead to a complex landscape of accountability, responsibility and reporting that requires both a clear stakeholder map, and cross-cutting working, monitoring and evaluation. This feeds into our recommendation for an annual dashboard that sits *across* government directorates and for the active facilitation of policy coherence. In practice, it may also require the establishment of a cross-directorate working group in alignment with Mechanisms 1: embedding the Just Transition across all policy areas and levels.

Finally, several Scottish Government roles and tasks can be distilled from the recommendations listed in Section 7.2. These are to: support the establishment of a permanent Just Transition Commission; to increase the diversity of measures used to monitor and evaluate the Just Transition; revise the language of the National Outcomes; use the Theory of Change as the foundation for future Just Transition evaluations, and to establish clear interim Just Transition targets up to 2045. The Scottish Government can also take a leading role in coordinating policy ambition with Westminster and communicating the vision held for the Just Transition and the approach used.

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