

Just transition to net zero: creating a process that fully accounts for social justice

Background

It is widely accepted that we are in a global climate crisis. Impacts of this crisis are far reaching and include rising sea temperatures, increases in extreme weather events, impacts on global food security and threatening international peace due to competition over resources.¹

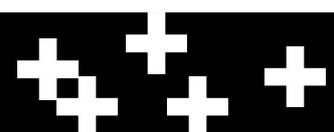
A global target of net zero emissions by 2050 has been set.² The Scottish Government have ambitious aims to reduce emissions by 75% by 2030 and reach net zero by 2045.³ To help achieve this they are aiming for 50% of Scotland's energy needs be produced from renewable sources by 2030.⁴

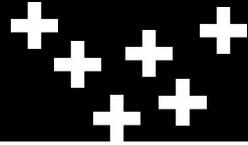
Transitioning from fossil fuels to marine renewable energy sources can create winners (those set to benefit) and losers (those impacted negatively) during both energy generation and consumption.⁵ Therefore, mechanisms need to be put in place to consider the 'justness' of the process and outcome of the transition for all parties.

This brief highlights the findings of research conducted at UHI Shetland. It presents a transition process that fully accounts for all three justice principles: distributional, procedural and recognitional justice within both energy generation and consumption. It can be used within wider management challenges, marine and land processes, and areas of policy development to ensure social justice is achieved.

Key Messages

- Transitioning to renewable energy is vital to hit global and national net zero targets and mitigate against climate change.
- A just transition in the context of energy is broadly defined as the concept that justice and equity must form an integral part of the transition towards a low-carbon world taking into account both social and economic values.⁶
- Current Scottish Government just transition documentation focuses on a just outcome for all (distributive justice) focussed on energy consumption.
- To create a fully just energy transition, it is vital to recognise the importance of the process of transition (recognitional and procedural justice) alongside the outcome of transition (distributional justice) for both energy generation and consumption.





Marine renewable energy developments

Marine renewable energy developments can take the form of offshore wind, wave and tidal energy generation technology and require associated cable infrastructure.

Scottish seas are a prime location for developments of this kind due to the vast amount of natural resources and will be fundamental in reaching the Scottish Government's carbon reduction targets.⁷

Managing marine spaces

Marine renewables are expanding at a considerable rate and alongside other growing marine industries, marine protected areas and existing uses, our seas are becoming an increasingly busy place.^{8,9}

Marine renewable energy developments and associated cables can have social and economic impacts both positive and negative. When assessing these impacts, consideration needs to be given to other marine users as well as existing pressures and restrictions such as MPAs. The scale of these impacts will vary between individuals, communities, industries and place.

Potential impacts	
Positive	<ul style="list-style-type: none"> + energy security + job opportunities + infrastructure improvements¹⁰
Negative	<ul style="list-style-type: none"> + loss of access to marine resources for existing marine users + effects on recreational activities + visual changes in the seascape^{11,12,13}
Considerations	
	<ul style="list-style-type: none"> + what is the scale of the impact? + who will be effected? + where will the impact be felt? + when will the impact be felt?

Sectoral marine plans

To assist in the appropriate siting of marine renewable energy developments, the Scottish Government have produced a sectoral marine

plan for offshore wind developments which gives spatial locational guidance.¹⁴

An additional sectoral marine plan for offshore wind is currently being developed and focuses on decarbonising oil and gas infrastructure as well as innovation projects.¹⁵

However, even with these locational guidance documents, adverse effects on other marine users will still be present. Current practice is to mitigate against identified adverse effects but to achieve a just transition, more action is required.

Current just transition vision and plan

Within their just transition documents, the Scottish Government has committed to a just energy transition which "*puts people, communities and places at the heart of our approach to climate change action*".³

Current documents:

- + Just Transition: A Fairer, Greener Scotland (Scottish Government)¹⁶
- + Draft Energy Strategy and Just Transition Plan⁴

Creating a fully just transition process

Three principles of social justice

Social justice theory is a key aspect in achieving a just energy transition. It comprises three dimensions:¹⁷

Distributional Justice - Is there a fair distribution of impacts, including both burdens and benefits?

Procedural Justice - How are decisions made and what measures are in place to facilitate an inclusive process?

Recognitional justice - Who is represented or ignored and how can underrepresented groups be recognised?

Box 1 details the three justice principles from the perspective of the Scottish fishing industry.

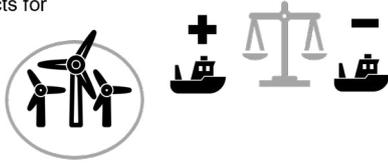
The mitigation hierarchy

The mitigation hierarchy is a standard approach developers use to mitigate environmental and socio-economic impacts of a development.¹⁸ It adopts a sequential approach to the mitigation options, indicating a logic of preferentially avoiding impacts, and reserving compensation as a last resort.

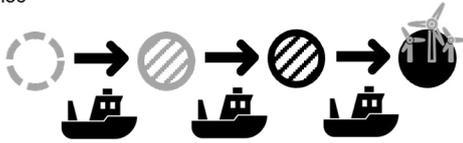
This research, looking at just transition from the perspective of the fishing industry, proposes the addition of **Step 1: Direct positive impacts** to

Box 1 - The three dimensions of energy justice from a fisheries perspective

Distributional justice for fisheries
Balance of benefits and impacts for fisheries of renewable energy harvested at sea



Procedural justice for fisheries
Engagement with fisheries throughout the project life cycle



Recognitional justice for fisheries
Recognition of diversity of fishing industry



- 3. Secondary mitigation** - measures taken to minimise impacts. Usually imposed during licensing/ consent conditions by the licensing authority.
- 4. Residual impacts** - predicted negative impacts (such as loss of access to a marine area) after the implementation of primary and secondary mitigation.
- 5. Compensation** - financial settlements to offset residual impacts.

Box 2 shows the stages of the extended mitigation hierarchy on a fisheries socio-economic impacts axis.

Achieving a just transition

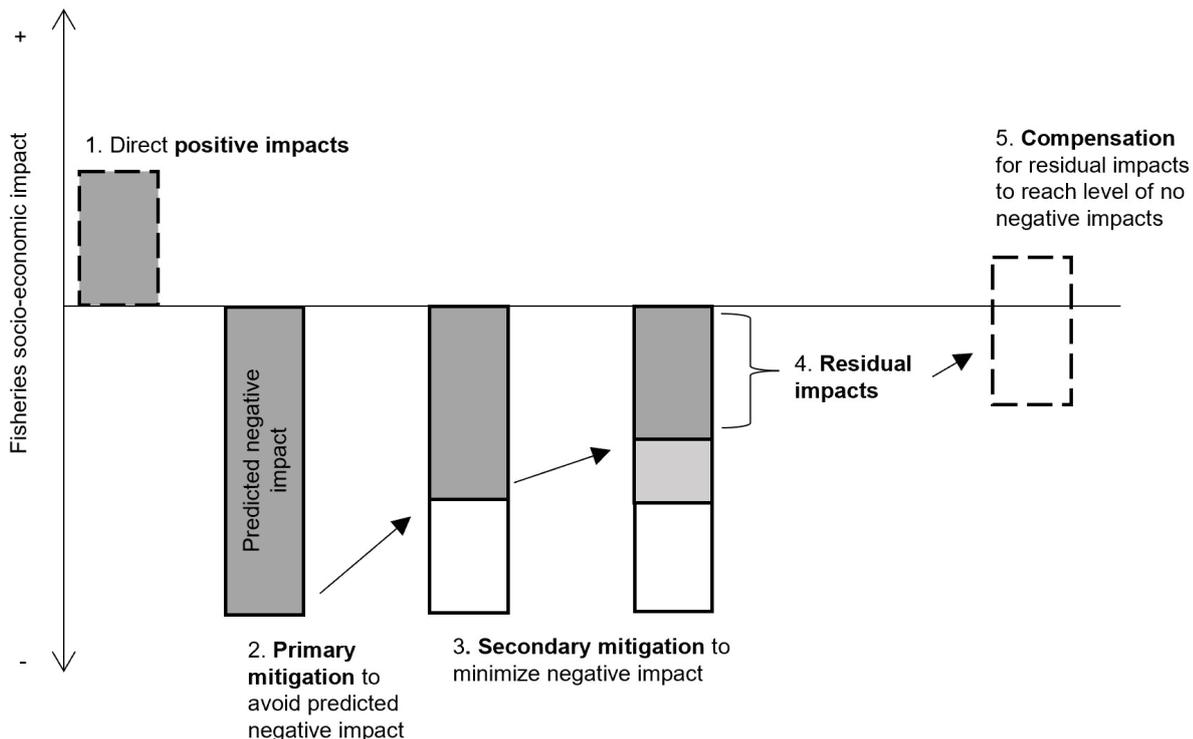
Offshore marine renewable energy generation projects in Scotland were examined using the extended mitigation hierarchy to evaluate the justness of the process from the perspective of the fishing industry.

The research found the process of just transitioning has improved over time with fishers gaining increased representation, indicating improvements in procedural justice. However, it also highlighted areas where there were significant barriers to achieving a fully just transition. This

evaluate the justness of the process.

- 1. Direct positive impacts** - such as employment or improved infrastructure.
- 2. Primary mitigation** - actions taken to avoid impacts. Usually occurs during the initial site selection/ design phase of the project.

Box 2 - The extended mitigation hierarchy used in this case study focusing on the fisheries socio-economic impacts



Adapted from:

J.P.G. Jones et al (2019); E.J. Milner-Gulland et al (2021); Business and Biodiversity Offsets Programme (2018) and Rio Tinto (2008).

included themes such as:

- + **Equal representation** for small and large fishing vessels.
- + **Lack of suitable representation** for small vessels partly due to the difficulties in recruiting fisheries liaison officers.
- + **Inconsistent communication** with developers, in part caused by staffing changes over the time frames associated with taking a development from proposal through to construction and operational phases.
- + **Lack of integration of local knowledge** into the decision-making process.

Conclusion

The research presented here shows that through assessing the three dimensions of social justice at each stage of the extended mitigation hierarchy, the current focus during just energy transition is on the outcome (distributional justice). To facilitate a fully just transition, the process of transitioning (procedural and recognitional justice) must be taken into account alongside distributional justice.

Each stage of mitigation poses different challenges and opportunities to facilitate a just transition, with varying implications for different sectors. These findings can also be transposed to other existing marine sectors and other government policy and decision-making processes.

References

1. United Nations (2019). [The Climate Crisis – A Race We Can Win](#).
2. IEA (2021). [Net Zero by 2050 - A Roadmap for the Global Energy Sector](#).
3. Scottish Government (2021). [Update to the Climate Change Plan 2018 – 2032: Securing a Green Recovery on a Path to Net Zero](#).
4. Scottish Government (2023). [Draft Energy Strategy and Just Transition Plan](#)
5. Carley, S and Konisky, D.M. (2020). [The justice and equity implications of the clean energy transition](#), Nat. Energy. 5, 569–577.

6. Pinker, A. (2020). [Just Transitions: a comparative perspective. A Report prepared for the Just Transition Commission](#), Scottish Government 1-72.
7. Neill, S.P., Vögler A., Goward-Brown, A.J., Baston, S., Lewis, M.J., Gillibrand, P.A., Waldman, S and Woolf, D.K. (2017) [The wave and tidal resource of Scotland](#). *Renewable Energy* 114, part A, 3-17.
8. Borthwick, A.G.L. (2016). [Marine Renewable Energy Seascape](#). *Engineering* 2, 69–78.
9. Willsteed, E.A., Jude, S., Gill, A.B., Birchenough, S.N.R. (2018). [Obligations and aspirations: A critical evaluation of offshore wind farm cumulative impact assessments](#). *Renew. Sustain. Energy Rev.* 82, 2332–2345.
10. Copping, A. (2019). [Social and Economic Data for Marine Renewable Energy Development](#).
11. Firestone, J., Kempton, W. (2007). [Public opinion about large offshore wind power: Underlying factors](#). *Energy Policy* 35, 1584–1598.
12. Haggett, C., ten Brink, T., Russell, A., Roach, M., Firestone, J., Dalton, T., McCay, B. (2020). [Offshore Wind Projects and Fisheries: Conflict and Engagement in the United Kingdom and the United States](#). *Oceanography* 33, 38–47.
13. Ladenburg, J. (2009). [Visual impact assessment of offshore wind farms and prior experience](#). *Appl. Energy* 86, 380–387
14. Scottish Government (2022). [Sectoral Marine Plan for Offshore Wind Energy](#)
15. Scottish Government (2022). [Sectoral marine plan - offshore wind for innovation and targeted oil and gas decarbonisation: initial plan framework](#)
16. Scottish Government (2021). [Just Transition: A Fairer, Greener Scotland](#)
17. Jenkins, K.E.H., McCauley, D., Heffron, R., Stephan, H., Rehner, R. (2016). [Energy justice: A conceptual review](#), *Energy Res. Soc. Sci.* 11, 174–182.
18. Tinker, L., Cobb, D., Bond, A., Cashmore, M. (2005). [Impact mitigation in environmental impact assessment: Paper promises or the basis of consent conditions?](#) *Impact Assess. Proj. Apprais.* 23, 265–280.

Suggested Citation:

Withouck, I. (2023). Just transition to net zero: creating a transition process that fully accounts for social justice. ed. by Allan, K. *UHI Shetland Policy Brief*.

This policy brief was based on the following research:

Withouck, I. (2022). The siting of renewable energy developments in a crowded marine space. *UHI*, PhD Thesis.

Withouck, I., Tett, P., Doran, J., Mouat, B and Shucksmith, R. (2023). Diving into just transition: How fisheries considered during the emergence of renewable energy production in Scottish waters? *Energy Research and Social Science*, 101, 103135. <https://doi.org/10.1016/j.erss.2023.103135>

About this policy brief

This policy brief is part of a series presenting key results of marine science research being carried out at UHI Shetland. The full series can be found by following the link below or scanning the QR code:

<https://www.shetland.uhi.ac.uk/research/marine-spatial-planning/marine-spatial-planning-publications/policy-briefs/>



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