



Sustainable Energy Authority of Ireland

National Energy Research,
Development & Demonstration
Funding Programme

FINAL REPORT TEMPLATE

SECTION 1: PROJECT DETAILS – FOR PUBLICATION

Project Title	Realising Equality, Diversity and Inclusion for Energy sector transformation (REDIE)
Lead Grantee (Organisation)	Maynooth University
Lead Grantee (Name)	Dr. Louise Fitzgerald
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Report Submission Date	January 2025

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Project Summary (max 500 words)
This research explores how equality, diversity and inclusion (EDI) can be used to accelerate the energy transition. The findings demonstrate that EDI frameworks can go beyond traditional applications aimed at addressing barriers to workforce participation and advancement to key decision-making roles to also tackle wider social impacts across the energy system, including impacts for communities, end-users, and marginalised groups. This wider application of EDI facilitates targeted and just energy decision-making, which mitigates the harms and risks posed by the energy transition to marginalised groups.

The report's qualitative research design is based on an international literature review and primary data collection through elite and expert interviews with Irish energy sector leaders, EDI experts, and representatives of marginalized groups. The design also draws on focus groups with three community-based environmental groups, including a sustainable energy community (SEC).

The project culminates in the delivery of five key outputs:

- 1) A state-of-the-art systematic review of the international literature on the role of equality, diversity, and inclusion in the energy transition
- 2) A report and recommendations on the current state and role of EDI in key decision-making roles in the Irish energy sector
- 3) A report and recommendations on the experiences and perspectives of marginalised groups in the Irish energy system
- 4) A report on how EDI can act as an enabler to a successful and equitable energy transition
- 5) A 'REDIE' tool for organisations to systematically assess EDI initiatives within their organisations and the wider energy sector. This tool enables firms to understand the ways their decision-making connects with wider socio-spatial transformations within the energy transition. The findings and recommendations of this report underscore the importance of adopting a social and human-centred approach to the energy transition, positioning EDI as a fundamental and integral component of all decarbonisation strategies.

Keywords (min 3 and max 10)

Equality, diversity, inclusion, energy transition, energy sector, marginalisation, decarbonisation, energy justice, just transition.

NB – Both Section 1 and Section 2 of this Final Report will be made publicly available in a Final Technical Report uploaded online to the [National Energy Research Database](#).

In the following Section, please provide a clear overview of your project, including details of the key findings, outcomes and recommendations. The section headings below are provided as a guide, please update or add to these as best suits your project.

By submitting this project report to SEAI, you confirm you are happy for Section 1 and Section 2 of this report to be made publicly available. If you wish to request edits to this section in advance of publication, please contact SEAI at EnergyResearch@seai.ie.

SECTION 2: FINAL TECHNICAL REPORT – FOR PUBLICATION

(max 10 pages)

1.1 Executive Summary

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applications aimed at addressing barriers to workforce participation and advancement to key decision-making roles to also tackle wider social impacts across the energy system, including impacts for communities, end-users, and marginalised groups. This wider application of EDI facilitates targeted and just energy decision-making, which mitigates the harms and risks posed by the energy transition to marginalised groups.

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1.2 Introduction to Project

This research project, '**Realising Equality, Diversity and Inclusion for Energy sector transformation – REDIE**', examines the role that equality, diversity and inclusion (EDI) plays in creating a just transition within the energy system. EDI in the energy sector is typically understood in the context of industrial and workforce dynamics, where the lack of EDI in the energy sector is evident. For example, the IEA (2022) shows that women account for just 22 per cent of leadership roles in the energy sector, trailing behind most other industries. At the same time, EDI can also act as a mechanism to identify and alleviate the disproportionate impacts of the transition borne by underrepresented and marginalised groups, such as economically or socially vulnerable energy end-users. However, the role EDI plays in the energy system and its importance in enabling a just transition remains underdeveloped both in the international literature and in the energy sector.

In light of this, this research takes a holistic, 'whole systems' approach to explore the multiple dimensions of how EDI impacts and is impacted by the transition, including impacts in the general energy sector workforce, key decision-making positions, among energy end users, and across the international supply chain. This project employs a qualitative approach to the research design. The data is derived from a systematic international literature review, primary data gathered through interviews with energy sector leaders, EDI experts, representatives of civil society groups working with marginalised communities, focus groups with community based environmental groups, and secondary data collection of publicly available gender statistics at the executive and board levels of key energy sector organisations. An intersectional lens is applied to the analysis

of EDI in the energy transition in this research, to robustly examine how axis of social difference, such as gender, race, location, income and age overlap, intersect and impact peoples lived experience in the context of the low-carbon transition.

1.3 Project Objectives

- i. **Produce a state of the art on Irish, European, and international scholarly work on the role of EDI in facilitating energy transitions.** This systematic review maps existing knowledge of this topic in the scholarly literature and aims to expand understanding through un-connected yet related literatures in an interdisciplinary manner.
- ii. **Building from analysis of the literature review, develop a systematic assessment framework for evaluation of EDI in the energy sector.** This tool draws from the latest insights from the international literature and is adapted to be used within multi-scalar public and private organisations in the energy sector, as well as wider actors in the energy system.
- iii. **Assess and analyse the current rates of EDI in senior leadership, paying particular attention to gender diversity in key decision-making roles, to deliver targeted recommendations.** This entails data collection of gender diversity statistics at the Board and Executive levels in Irish energy sector firms, interview data with energy sector senior leaders and EDI experts and insights from the academic literature.
- iv. **Identify marginalised groups within the Irish energy sector.** This will harness applied insights gathered from the literature review and interview data with industry, representatives of marginalised groups, and focus groups, to assesses current opportunities and barriers for participation in the energy transition, with recommendations as to how these challenges should be addressed.
- v. **Analyse the role of equality, diversity and inclusion the energy sector and identify meaningful actions to increase EDI and associated benefits to harness the transition.** This involves the analysis of the scholarly articles, and interview data of senior leaders, EDI experts and representatives of marginalised groups.
- vi. **Develop and disseminate knowledge resources:** Ensure the research and resources of this project are disseminated across industry, academia and policymaking bodies for maximum policy impact. Develop reports and academic articles for publication and host a launch event with multiple stakeholders to share knowledge and key findings.

1.4 Summary of Key Findings/Outcomes

Describe how your project has furthered the current state-of-the-art, current knowledge or current practice. Clearly highlight the degree of novelty and innovation demonstrated by your project.

*Address each innovation in a bullet point below. Add as many bullet points as you need:
Innovation 1: Title - Summary (Max 2-3 sentences)*

- *Innovation 1: State-of-the-art Systematic International Literature Review of Equality, Diversity and Inclusion in the Energy Transition.*
This literature expands the existing state of knowledge of the role of EDI in the energy transition, an underexplored topic within the scholarly literature, linking and analysing previously unconnected but synergetic literature across disciplines.
- *Innovation 2: Identified the experiences and concerns of underrepresented and marginalised groups in the Irish energy sector, providing actionable recommendations for their inclusion in transition processes.*
Advanced the current knowledge and understanding of the vulnerabilities and barriers to participation for marginalised groups in the Irish energy transition, providing actionable recommendations for targeted and inclusive policymaking and stakeholder engagement.
- *Innovation 3: In-depth examination of the current levels of gender diversity at senior leadership within the Irish energy sector across business functions at the Board and C-Suite Levels.*
Collated and analysed publicly available gender data of Board and C-Suite positions in Irish energy firms, demonstrating gender imbalances across business functions in key decision-making roles and provided recommendations to redress fundamental barriers.
- *Innovation 4: Established how harnessing EDI can enable and drive Ireland's transition to a clean and just energy future.*
Drawing from the scholarly literature and interview data, linked and evidenced how EDI frameworks play a critical role in enabling Ireland's energy transition.
- *Innovation 5: Developed the 'REDIE Tool', a novel framework that can be used to analyse EDI in the energy sector and the wider energy system.*
Created a novel systematic assessment framework for energy sector actors, civil society groups and policymakers to identify how to improve EDI in the energy sector and consider EDI and injustices across the entire energy system.

1.5 Project Impact

Clearly position the impact of your project with reference to the needs of the Irish Energy Sector, national and international policy objectives, and SEAI's remit.

Discuss the key impacts of your project: societal, economic, technological or otherwise. Clearly identify and highlight the value of your project in the wider context.

This project advances both scholarly and policy applicable knowledge of how to advance sustainable energy transitions, through the lens of equality, diversity and inclusion. In this sense, the research project is highly relevant to firms within the energy sector, energy communities and end users, as well as policymakers.

The project contributes directly to global academic discourse and policy interventions concerning a 'just transition' and is particularly relevant to Ireland's Climate Action Plan 2021, in its identification of challenges and recommendations of actions to increase public participation and acceptance, mitigating transition risks for vulnerable individuals and groups, and thereby successfully reducing carbon emissions.

The research project supports Ireland's National Energy & Climate Plan (NECP) through its identification of the most vulnerable groups at risk of marginalisation and of energy poverty within the Irish energy transition process, providing actionable recommendations to address these policy challenges.

The research findings of this project aids and helps facilitate the work of SEAI in contributing to implementing the Programme for Government, the Climate Action and Low Carbon Development Bill (2021), 2015 Energy White Paper, and the 2030 Climate & Energy Framework.

Public and private firms in the energy sector will benefit from this research project, through enhancing understanding of the critical role of equality, diversity, and inclusion in the energy transition and recommendations on the promotion of EDI within the sector, drawing upon essential scholarly insights, industry expertise and learnings from the experience of marginalised groups and communities.

The research findings of the REDIE project further contribute to the scholarly literature on equality, diversity and inclusion in the energy sector, which is currently under-examined in the international research community.

1.6 Recommendations

Please highlight any implications/opportunities/recommendations for Ireland (e.g., for policy makers, for the research community, for industry) based on the work carried out in the project.

Recommendations for increasing EDI in senior leadership and key decision-making roles

1. Examination of EDI in leadership must go beyond gender

Throughout the literature and interviews, the underrepresentation of women in leadership in the energy sector is the major issue that is discussed and that has targeted efforts in place. Gender equality and diversity are important issues to address, as women represent half the population and almost half the workforce but are largely underrepresented in the energy sector and its leadership.

However, a narrow focus on only one aspect of diversity is problematic and means that the consideration, understanding and monitoring of other excluded social groups in senior leadership in the energy sector in Ireland is deeply underprioritized, or known.

Further, treating gender as a binary concept of men and women fails to appreciate the heterogeneity of both sexes and the impact of intersectional inequalities such as age, race and socioeconomic backgrounds on their experiences. Firms need to examine EDI in their senior leadership in a broader sense, applying an intersectional lens where possible.

2. Targeted and effective representation is required in key decision-making roles

When addressing equality and diversity in leadership to enable diverse decision-making, representation should be substantive and effective, rather than descriptive. Achieving a critical mass of underrepresented groups at the board or executive level may not be sufficient in practice, as the literature shows how different positions in leadership matters.

Intersecting dynamics such as age and years of experience may impact the ability to influence decision-making. Targets and succession planning to increase diverse representation in Senior Director, Chair, CEO and CFO roles should be considered, to enable more diverse thought and capacity for action in strategic decision-making roles.

3. Organisational hierarchies can influence decision-making ability

Organisational structures and management hierarchies can greatly influence diversity levels in the executive. Consideration of alternative models for top management such as joint or multiple CEO models can allow for more diverse decision-making and representation at the highest operational level. Restructuring executive management C-Suite positions to include new roles that are important for the energy transition, such as a Chief Diversity Officer, or Chief Sustainability Officer can further facilitate more diverse decision-making.

4. Diversification of leadership is needed across business functions

Equality and diversity in leadership of “hard” (typically revenue generating) and “soft” (business support) functions should also be considered and examined in terms of their weight in decision-making power for the energy transition, particularly as these leadership roles tend to have gender-based divisions. Greater collaboration among functions can enhance innovative solutions and thinking. Initiatives to diversify at the business function level, rather than purely the leadership level, may lead to more equal representation in executive leadership.

5. Accountability and action of senior leadership is critical

Action from the top-down is a key enabler of greater equality and diversity in senior leadership. Leadership should be more accountable for driving EDI strategies, including through thoughtful succession planning and setting targets at the business unit levels to help tackle gender-based segregation across functions and their leadership. Targets linked to senior executive performance at the business function level can act as an effective mechanism for executive engagement and accountability.

6. Cross-functional upskilling and flexibility

Firms’ efforts and solutions to increase representation in technical occupations of the energy sector are highly concentrated in entry-level and apprenticeship roles. In order to increase a more diverse supply of technical candidates at the executive level, there are opportunities to re-train or upskill workers in different functions or from different industries at the middle and upper management levels. Structural barriers must also be acknowledged, as obstacles to senior leadership can persist for underrepresented groups, despite having the necessary qualifications.

Workplace flexibility is identified as crucial for women to obtain realistic pathways to senior leadership. More generous parental leave, flexible hours and a culture that supports the taking of these policies in practice can foster a more inclusive environment across various demographics in the organisation.

Recommendations for an inclusive and just transition: from the experiences and perspectives of marginalised communities

1. Gender recognition and proofing the energy transition

- **Recognise Care Work as ‘green’ work:** Develop policies that acknowledge and support maternity, low paid, and unpaid care work, ensuring that the energy transition does not disproportionately burden or exclude women.
- **Gender-Proofing Design:** Implement gender impact assessments in all energy policy creation and implementation to ensure that both men and women benefit equally from the transition.
- **Inclusive Participation:** Create spaces for participation that welcome individuals with childcare responsibilities, such as providing child-friendly facilities at public meetings.

2. Targeted interventions for low-income groups

- **Subsidised Energy Solutions:** Increase access to and the value of subsidies for energy-efficient technologies and retrofitting programs aimed at low-income households.
- **Employment Opportunities:** Develop local employment opportunities in the renewable energy sector, prioritising hiring from low-income and marginalised communities.

3. Maximise local benefits and governance

- **Local Governance:** Empower local community organisations to manage and benefit from renewable energy projects at a grassroots level to support local development and environmental protection.
- **Local Ownership:** Establish dedicated funding streams and provide technical assistance to support community energy projects with to ensuring financial benefits are retained locally.
- **Distributed generation and grid access:** Support small-scale and distributed renewable energy generation projects that can be managed by local communities and mandate grid operators to prioritize and facilitate connections for smaller, community-led energy producers.
- **Environmental stewardship:** Develop educational programmes and resources to build capacity within communities, including creating a local ‘green’ skills base, sufficiency programmes, and initiatives to maintain and restore local habitats and biological diversity.

4. Restructuring grants and subsidies

- **Accessible Support:** Simplify and provide additional supports for the application processes for grants and subsidies, in particular to make them more accessible to those with lower digital skills.

- **Support for Renters:** Provide tailored support for renters to benefit from energy efficiency improvements and renewable energy installations.
- **Public Provision:** Directly provide marginalised groups with access to clean, free, and efficient energy resource and supports.

Recommendations for using EDI as an enabler of the energy transition

1. **EDI as a means of drawing upon diverse perspectives to overcome challenges**

Diversity of **perspectives** should be considered an essential component for overcoming challenges and stimulating innovation for decarbonisation in the energy transition and for broader climate action. EDI should therefore be intrinsically considered across business and decarbonisation objectives and not siloed within recruitment and retention processes.

2. **EDI as a mechanism to allow information to travel**

EDI should be regarded a strategic **resource** for the transfer of information, knowledge, skills, and investment. Transition pathways should be developed through more purposeful intra- and intra-organisational collaboration across businesses and geographies. EDI can help to create greater transparency and coordination to help drive decarbonisation and Ireland's emission targets.

3. **EDI as a way of improving organisational culture**

When promoting EDI initiatives in the workforce, **inclusivity** should be considered a foundational principle. This can drive acceptability and help transform the culture of the workplace, which are crucial to the twin aims of improving EDI and decarbonisation.

4. **Creating greater public acceptance for renewable energy development**

- Organisations can build governance mechanisms that enable more stakeholder participation, which can, in turn, reduce opposition to the energy transition and give rise to democratic processes that can help to build harmony between the public and energy sector organisations.
- Policymakers should place greater policy prioritisation to energy community initiatives, in recognition of their key role in enabling the low-carbon transition.
- Recognising the diverse components of communities through targeted engagement can build more representative and meaningful public participation that can enhance acceptance and trust in the energy transition and cultivate more innovative solutions that benefit the community. Organisations and policy makers need more inclusive policy approaches that provides targeted outreach and adequately assesses the impact of vulnerable groups as part of their stakeholder engagement with communities.

5. The participation and role of consumers in future clean energy use

- Organisations and policy makers can enhance equality, diversity, and inclusion by recognising the diverse behaviours within households and the uneven capabilities and vulnerabilities that energy end users face. The role of energy end users should be acknowledged as vital participants in the energy transition, making it important to understand and harness the heterogeneous nature of individual and household energy consumption and conservation.
- Households should be considered beyond individual analytical units in terms of energy use to decipher and harness the diverse household needs and behaviour, by collecting disaggregated intra-household data, to guide policy and organisational action.

6. EDI in supply chain interventions

- Policy makers and energy sector organisations need to work together to improve and build tailored frameworks that facilitate greater scrutiny of supply chains in the energy system and capture the environmental, economic, sociocultural impacts of decarbonisation efforts across regions.
- Equality, diversity and inclusion should be recognised as crucial principles to guide these processes. Their links with ESG strategies means there should be more collaboration and interconnection within organisational practices to harness and share insights and resources.
- Policies aimed at achieving an inclusive and just transition need to consider restorative justice measures to rectify past and future harms to protect communities disproportionately impacted by the energy transition, predominately in the Global South. This can enable a more equitable energy system and decarbonisation process globally.

1.7 Conclusions and Next Steps

This research project and its recommendations affirm the significant and multiple ways that equality, diversity and inclusion can enable and accelerate the low-carbon energy transition, while highlighting critical issues such as low levels of equality and diversity in senior leadership roles in the energy sector, and the challenges and barriers marginalised groups face in Ireland's energy transition.

Pathways to achieving a just transition through an EDI lens include improving and diversifying representation in key decision-making roles in the energy sector, the active participation and consideration of local communities, the recognition of the valuable and disparate contributions of energy end users in the energy transition beyond that of consumers, and by ensuring more equitable global development through supply chain interventions.

This research therefore outlines equality, diversity and inclusion as enabling mechanisms that engage with but go beyond economic and labour requirements of the energy transition in a sectoral sense, and encourages a much broader, people-centric outlook that is necessary for decarbonisation and emission reductions.

The recommendations of this research should be used by policymakers and organisations to recontextualise equality, diversity and inclusion mechanisms as crucial enablers of the decarbonisation agenda.

Future research should include in-depth empirical case study analyses of how marginalised groups are affected by the transition, including vulnerable groups and countries outside of Ireland who are directly or indirectly impacted by the decarbonisation efforts. More (and richer) data of the diversity levels of senior leadership across business function roles in the energy sector warrants further scholarly and policy attention, going beyond gender to encompass an intersectional approach. Lastly, the wider impact and function of energy communities in the Irish energy transition deserves further scholarly consideration, given its policy importance for clean energy futures.