Report 2
Exploring the Perspectives of Marginalised Groups on Equality, Diversity and Inclusion in the Irish Energy System

Authors: Dr. Conchúr Ó Maonaigh, Laurie Reilly, and Dr. Louise Fitzgerald, 2024.
REDIE project: Realising Equality, Diversity and Inclusion for Energy sector transformation, SEAI 22/RDD/834.
Co-Principal Investigators: Dr. Louise Fitzgerald & Dr. Patrick Bresnihan.

Maynooth University
National University of Ireland Maynooth

DCU
Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND

Contents

EXECUTIVE SUMMARY

1. Introduction

This report examines the lived experiences and perspectives of marginalised groups in Ireland in relation to energy. It provides actionable recommendations on how to incorporate equality, diversity, and inclusion (EDI) principles into energy decision-making around energy to mitigate the harms and risks for these groups. The findings highlight strategies energy sector actors and policymakers can employ to broaden public engagement in renewable energy development and adoption, and ensure a more just and inclusive energy transition for all.

2. Methodology

This report employs a qualitative research design to explore the relationship between marginalisation and Ireland's energy transition. The data derives from a comprehensive literature review, secondary data collection on marginalised experiences in Ireland's energy transition, and primary data gathered through interviews and focus groups with a total number of 18 respondents who work with marginalised communities.

3. Marginalised Experiences in the Energy Transition

Using an intersectional lens, the report highlights a series of flashpoints that characterise the experience of marginalised groups in Ireland, including:

(i) Gendered Experiences

Women face significant challenges in the energy transition due to the gendered nature of energy use and access. Gender roles often dictate energy-related responsibilities within households, impacting women's ability to participate in and benefit from the energy transition. Policies must consider these gender-specific impacts to ensure an equitable transition.

(ii) Low-Income Groups' Experience

Low-income households face significant barriers to accessing energy-efficient technologies and renewable energy sources. The high upfront costs and long payback periods associated with these technologies often exclude these households from participating in the energy transition.

(iii) Older Persons' Experiences

Older individuals face unique challenges in the energy transition, often due to fixed incomes and limited access to technology. Energy ageism, defined as socially conditioned mechanisms related to energy policy that discriminate against older people, further exacerbates these challenges. This exclusionary framing brings into focus the overarching issue of energy ageism in Ireland's approach to the just transition.

(iv) Rural Experiences

Rural areas are central to understanding the challenges of equality, diversity, and inclusion in the energy transition. Despite hosting much of the country's renewable energy infrastructure, these areas face significant disparities in access to resources, economic opportunities, and decision-making power. These experiences highlight broader socio-economic divisions between rural and urban areas, emphasizing the need for a more spatially aware approach to achieving a just energy transition.

4. Acute Challenges

This report shines a light on a number of acute challenges to build the basis for actionable recommendations, including:

(i) Addressing the shortcomings of Grants and Subsidies

The application process for grants and subsidies is often overly bureaucratic and requires high levels of digital literacy, which can create challenges for marginalised groups. The monetary value of grants rarely covers the full costs of home improvements or technology adoption making them inaccessible for people on low incomes. Simplifying the application process and providing face-to-face support and greater provisions are crucial steps to make these resources more accessible. Moreover, identifying different ways to support low income groups to manage grant gap issues should be undertaken with marginalised household provided with subsidies and supports automatically. This measure will reduce complex applications, expand inclusivity and reduce bureaucratic burdens.

(ii) Limits to Public and Community Benefits

Current energy policies often focus on corporate benefits and struggle to maximise local benefits and community-based governance opportunities to develop and operate renewable energy. Empowering local communities to engage with, even manage, and benefit from renewable energy projects can enhance local development and environmental protection. Creating dedicated funding streams and providing technical assistance to support community energy projects can lead to more benefits and stronger public acceptance and engagement

(iii) Labour Force and Skills Shortcomings

The transition to a low-carbon economy requires a skilled workforce, yet there are significant gaps in training and employment opportunities for marginalised communities. Addressing these gaps is crucial to ensuring an inclusive transition. There is also a need to recognise and provide supports to particular workers like community volunteers and care workers whose labour is essential but often overlooked in the mechanisms designed to drive the just transition.

5. Recommendations for Just and Inclusive Energy Transitions

(i) 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 to ensure women that can participate in green

jobs, engage in energy consultations and are not disproportionately burdened with reproductive labour which upholds industrial activity.

Gender-Proofing Design: Implement gender impact assessments in all energy policy creation to ensure equal benefits.

Inclusive Participation: Create spaces for participation that accommodate individuals with childcare responsibilities.

(ii) Targeted Interventions for Low-Income Groups

Subsidised Energy Solutions: Increase access to and the value of subsidies for energy-efficient technologies aimed at low-income households and rural communities.

Employment Opportunities: Develop local employment and training opportunities in the renewable energy sector, prioritising hiring from low-income and marginalised, and rural communities.

(iii) Maximise Local Benefits and Good Governance

Local Governance: Empower community organisations to develop demand management practices to maximise energy efficiency as well as directly engage with and potentially share control of renewable energy projects to support local development.

Local Ownership: Establish funding streams and provide technical assistance to support community-owned energy projects and small-scale local, business and community ownership in rural and marginalised communities. These supports can be linked to the Climate Action Community Fund and Community Benefit Fund.

Distributed Generation and Grid Access: Support small-scale and distributed renewable energy generation projects managed by local communities.

(iv) Restructuring Grants and Subsidies

Accessible Support: Simplify and provide additional supports for the application processes for grants and provide more subsidies for all low-income (not requiring complex applications).

Support for Renters: Provide tailored support for renters to benefit from energy efficiency improvements.

Public Provision: Directly provide marginalised groups with access to clean, free, and efficient energy resources.

6. Conclusion

This report highlights the acute challenges and barriers that marginalised groups face in Ireland's energy transition. It emphasises the need for targeted interventions and policy changes to ensure an equitable transition. By implementing the recommendations outlined, policymakers and energy sector actors can drive the twin aims of a low-carbon and just transition.

1. Introduction

As the energy sector pursues the 'four Ds' of *decarbonisation*, *digitalisation*, *democratisation*, and *decentralisation* (Braunholtz-Speight et al., 2021; Carroll, 2022), there is an increasing recognition of the need to apply an equality, diversity, and inclusion (EDI) lens to public, community, and end-user engagements (Dunphy and Lennon, 2022; Hall et al., 2020; Lennon et al., 2019). Historically, energy infrastructure and decision-making in Ireland have been centrally organised by a few institutions, organisations, and firms, with relatively low levels of public participation in energy system governance (Gaffney et al., 2017). However, the rise of distributed generation, network integration, and demand management strategies now necessitates intensive decentralisation of energy infrastructures and governance. As a result, energy sector organisations are expected to engage with members of the public and community in novel and sometimes challenging ways.

Engaging publics and communities around energy not only aims to address environmental concerns but also presents opportunities and challenges for social equity. Marginalised groups often bear the brunt of changes in the energy system and therefore require special consideration to ensure that the benefits and burdens of the energy transition are equitably distributed. As a result, this report investigates the experiences and perspectives of marginalised groups in Ireland. It captures the critical but often overlooked impacts on these groups and provides actionable recommendations on how to incorporate EDI principles to mitigate harms and risks. Moreover, these recommendations can inform policymakers, academics, and energy sector actors on the potential trade-offs and synergies between Ireland's climate goals and justice considerations. In doing so, this report shines a light on a wide spectrum of strategies energy sector actors can draw upon to maximise public support and move towards a more just and inclusive energy transition.

This report applies an intersectional lens to examine the lived experiences and perspectives of marginalised groups in the energy transition, identifies existing gaps in policy and practice, and explores future visions and strategies for a just and inclusive energy transition. The analysis places issues relating to gender, class, race, age, ability and income (among other issues that characterise social difference) at the centre of its discussion. While this report cannot comprehensively cover the experience of each marginalised group of Irish society, it highlights deep inner-connections between the experiences as well as the desires and needs of different groups. Moreover, it highlights spatial dimensions of marginalisation through a focus on rural communities because rural areas in Ireland are systematically and disproportionately under-funded with regard to local infrastructure and local energy ownership.

The report is organised as follows:

- **Section 2** provides an overview of the research methodology.
- **Section 3** examines the current lived experiences of marginalised groups in the energy transition paying close attention to the dynamics of gender, low-income, and age.
- **Section 4** highlights the acute challenges in Ireland's approach the energy transition as highlighted by marginalised groups. The cases of grants and subsidies, public and community engagement, and labour force shortcomings are used to build the basis for actionable recommendations.
- **Section 5** outlines key policy and sectoral recommendations to enhance an inclusive and just transition for all members of Irish society.
- **Section 6** concludes the report and suggests avenues for future research.

2. Methodology

This report employs a qualitative research design to explore the relationship between marginalisation and Ireland's energy transition. The data derives from a comprehensive literature review, secondary data collection on marginalised experiences in Ireland's energy transition, and primary data gathered through interviews and focus groups with representatives working with marginalised communities. The report applies an intersectional lens to data collection and analysis to consider the experiences across different axis of social identify (e.g., gender or age) and to examine how intersections of identities influence marginalised experiences. The report draws from thematic analysis conducted through the leading qualitative data analysis software NVivo 14.

The researchers recruited respondents through a combination of purposive and snowball sampling, selecting individuals on the basis of their expertise on marginalisation in the Irish energy system or due to their experience of marginalisation in the energy transition. The researchers obtained informed consent from all participants and received ethical approval from Maynooth University's ethic committee [approval number: SRESC-2024-37776; for overview of ethical guidelines see: Maynooth University, 2019]. Table 1 provides an overview of the respondent groups involved in this research.

Table 1 Overview of respondent groups	
• **Total number of interviews:** 5 • **Total number of focus groups:** 3 • **Total number of respondents:** 18	
Interview 1	Policy advisor with an advocacy organization for older people and aging
Interview 2	Policy advisor with a representative organisation for women and women's groups
Interview 3	Policy advisor with a voluntary organisation, focusing on energy poverty
Interview 4	Trade union representative specializing in the socio-economic impacts of the energy transition
Interview 5	Policy advisor with an organisation focusing on Irish Travellers
Focus group 1	Rural Sustainable Energy Community (SEC) – three participants
Focus group 2	Community organisations located near planned and existing industrial wind farms – five participants
Focus group 3	Environmental NGO, focusing on community energy – five participants

3. Marginalised experiences in the energy transition

This section examines the current lived experiences of marginalised groups in Ireland's energy transition, focusing on the how social differences shape the dynamics of equality, diversity and inclusion (EDI).

- **Equality** refers to ensuring equal access to resources, benefits and opportunities in the energy transition.
- **Diversity** involves recognising and valuing differences within the publics, communities and spaces undergoing transition.
- **Inclusion** means creating environments and processes where all individuals acknowledged, welcomed and valued.

In Ireland, marginalisation is often understood through the nine grounds of discrimination concerning, gender, marital status, family status, age, disability, sexual orientation, race, religion, and membership of the Traveller community (IHREC, 2024). However, scholarship on the dynamics of social exclusion has long recognised that marginalisation is not a stable category or contained to specific disadvantaged places or social settings (Speak and Graham, 1999; Urry, 2002). Therefore, marginalised experiences must be approached as multifaceted, shaped by diverse intersections of power. Applying EDI principles can shine a light on these intersections while helping to envision different pathways forward to enable marginalised people and groups to fully participate in and benefit from low-carbon energy systems.

This section explores how these principles are currently upheld or neglected in the lived experiences of marginalised groups in Ireland. In line with international research on social exclusion, it expands approaches to marginalisation beyond the nine grounds of discrimination to explore the diverse capabilities and vulnerabilities that intersect with the lived experience of marginalised groups. The aim is to understand how the various processes that lead to and characterise marginalisation influence the pathways towards a just transition.

3.1 Gendered experiences

Understanding the gendered experiences of Ireland's energy transition is vital for ensuring an inclusive shift to low-carbon energy systems. Women and men face different challenges and opportunities in the energy transition, influenced by their distinct roles in households, communities, and the labour market. Women are particularly disadvantaged and vulnerable to the harmful effects of the energy transition with multiple and diverse intersections of power shaping their lived experience. For instance, women are often disproportionately burdened with readjusting household practices to accommodate new decarbonising technologies, such as residential solar or smart meters (Johnson, 2020; Mechlenborg and Gram-Hanssen, 2022). At the same time,

female-headed households are significantly more likely to experience energy poverty (Oosthuizen et al., 2020; Pearl-Martinez, 2020).

In the international renewable energy sector, despite research showing that women in leadership positions adopt more stringent climate targets and have a greater awareness and concern for environmental issues (see Pearl-Martinex & Stephens, 2016), women represent about a third of the workforce but hold less than twelve percent of senior leadership positions (Allison et al., 2019). Women's experiences in the energy transition, then, are deeply entangled with unequal power relations that demand attention.

One key component identified by respondents, which highlights the significance of gender inequality, relates to the mismatch between the energy sector's predominantly male workforce and women's expected role as primary energy managers. As noted in Focus Group 2:

> [The energy sector's workforce] tend to be men that are the engineers [...] [Whereas], women are the buyers. Women buy the oil. They pay the electricity, then, they drive the kids to school, in general [...] The highest usage of oil was fuel for transport to and from school, you know. So, I think women have been excluded. (Focus group 2)

According to Focus Group 2, unequal divisions in domestic and wage work has led to the exclusion of women within the energy transition. Those making decisions within the sector are often less impacted by changes to everyday energy use. At the same time, efforts to diversify the sector are also limited by the financial burdens of childcare. Consider Interviewee 2's argument:

> ...you don't see women going into the energy sector, into construction sectors, where we are going to see a lot of green jobs [in these sectors] [...] Even if you have women who want to go into these areas, you have the issue of childcare as a huge, huge barrier as well. (Interviewee 2)

Per Interviewee 2, the cost of childcare and the associated demands on women to assume the responsibility of care work is limiting the scope to diversify the energy sector. How these gendered divisions shape Ireland's energy sector is further evaluated in the REDIE project's first report on equality and diversity in senior leadership and key decision-making roles.

The dynamics of care work have wider implications for the marginalisation of women within Ireland's energy transition. For instance, Interviewee 2 highlighted the gender bias that shaped participation in energy governance:

> There's an assumption that people have time, that people have the money, that people have the means of transport [...] Time poverty would be a huge one, and particularly for poorer women, especially if they have children [...] You're trying to make the time to drive between school schedules [...] You're

> also talking about the fact that if you're invited to an in-person consultation, [you think] 'can I bring a baby into that room?' (Interviewee 2)

Per Interviewee 2, the assumptions underlying public engagement and consultation within the energy sector often advance **gender-blind** practices that fail to recognize the conditions that encourage equal participation along gender lines.

> **Gender blindness** calls attention to the ways in which women in energy policy "…are hardly visible, and their social roles and differentiated needs […] generally left on the margins, hence the term gender-blindness." (Mang-Benza, 2021, p. 1)

This burden, moreover, can also give rise to gendered experiences of energy poverty. For example, Interviewee 2 goes on to highlight that wider intersections of inequality reinforce energy poverty:

> Disabled women, older women living alone and single parent-headed households that are headed by women, whether they are living in the likes of emergency accommodation […] or whether they're living alone in council housing or private rental accommodation, these are kind of the groups we see are the most vulnerable to energy poverty. (Interviewee 2)

Interviewee 2's point reflects the ways in which "gender interacts with other social categories of difference, such as income, class, ethnicity, education, geographical location, that produce gendered energy inequalities" (Alda-Vidal et al., 2023, p. 3; citing Cho et al., 2013). The evidence above emphasizes the ways intersectionality shapes gendered experiences of the energy transition where multiple and diverse intersections of power give rise to gender inequality across a range of contexts.

3.2 Low-income groups' experience

A recent ESRI report (2022, p. 11) estimated that in June 2022, 29.4 per cent of Irish households were experiencing **energy poverty** due to rising energy costs. Respondents highlighted various challenges faced by low-income groups in the energy transition, such as the increased likelihood of experiencing energy poverty and the limited access to clean energy resources. Consider Interviewee 3:

> **Energy poverty** refers to: "an inability to realise essential capabilities as a direct or indirect result of insufficient access to affordable, reliable and safe energy services, and taking into account available reasonable alternative means of realising these capabilities" (Day et al., 2016, p. 260).

> The overriding thing at the moment is the price of energy […] [People contact us saying], 'the money doesn't get us through the week anymore.' […] So, people cut back on energy and try to avoid the big bills […] We see that juggle and trade off in other essentials, you know, food, shopping and things like that. (Interviewee 3)

From the perspective of Interviewee 3, Ireland's decarbonising efforts are unfolding in a context where marginalised groups are struggling to afford basic necessities. Families often face the 'trade off' (per Interviewee 3) between essentials like food and energy leading to pressures on emergency food provision, such as food banks. The result can be mean the effects of energy poverty may go unseen because the burdens associated with marginalisation have been shifted on other sectors. Furthermore, for Interviewee 4, the negative impacts of energy poverty are exacerbated by interventions such as carbon taxes and cost prohibitive solutions like retrofitting, which are often inaccessible to low-income households:

> ...we know that the risk is you're in a poorly insulated house, you can't afford to retrofit and you're stuck with a boiler that's inefficient. So, you end up paying two, three, or four times as much for your energy, and carbon taxes are going up and up. (Interviewee 4)

Studies recognises that low-income groups are more likely to suffer from *energy inefficiency* because they often live in older and less energy-efficient homes (Bennear, 2022; Goldstein et al., 2022; Willand and Horne, 2018). As a result, these households must consume more energy to achieve the same level of thermal comfort, highlighting the 'poverty penalty' that exists in the energy system.

The **Poverty Penalty** is the phenomenon where low-income individuals pay higher costs for basic goods and services due to limited access, higher risk, and systemic inequalities (Caplovitz, 1967).

In addition, groups, such as Irish Travellers, can be excluded from retrofitting schemes if they reside in caravans, mobile homes or associated types of accommodation, which account for up to 8 per cent of Irish Travellers (CSO, 2023).

At the same time, improving energy efficiency, especially through distributed energy resources (DERs), such as residential solar, is a cost-prohibitive process. Despite the availability of grants, many households and community groups must apply for loans to install these solutions, risking financial debt and burden, or in some cases experiencing this route as impossible due to not being able to access credit.

Additionally, a growing concern for low-income groups is the potential for future increases in energy prices. For instance, Interviewee 4 argues that the costs associated with installing and maintaining decarbonising infrastructures are likely to drive up energy prices for consumers:

> I don't think the general public are aware of the scale of what's coming in terms of who is going to pay for it [...] again it's widely recognized that with carbon taxes and paying for the new infrastructure, the costs are not going to come down [...] You have to consider social tariffs to protect the poor in society going forward. (Interviewee 4)

From the perspective of Interviewee 4, the scale of fixed investment needed to develop renewable energy and grid infrastructure is likely to lead to result in price increases. Representatives working with low-income groups are seriously concerned that future energy price reviews could deepen Ireland's socio-economic divisions.

One current outcome of this divide is a growing mistrust in the solutions and interventions designed to drive the energy transition. Consider Interviewee 2's argument that, for many, the transition is seen as an elite-driven process:

> ...lot of climate action is still seen as an urban area thing, a middle class thing, people who already own their homes, or people who already have a good salary, who can afford to do the retrofit or the electric car [...] being able to take part in green behaviours is like a status thing [...] I think that puts more people off. (Interview 2)

Thus, the evidence above highlights how low-income groups' experience of Ireland's energy transition reflects uneven vulnerabilities and access, and also reduce broader social acceptance of the transition.

3.3 Older persons' experiences

Recognising the experiences of older persons in the energy transition is crucial for highlighting the significance of EDI. As a demographic facing unique socio-economic and health-related challenges, older individuals are particularly vulnerable to the impacts of energy policies and practices. For instance, older persons tend to require higher than average room temperatures to reach thermal comfort (Bredvold and Inderberg, 2022; Walker and Day, 2012). Yet, many older people are more likely to be "rich in assets but poor in income" (Willand and Horne, 2018, p. 63), making them more susceptible to energy poverty, in particular, those from low-income backgrounds who also rely on state pensions. This feature of older people's experience highlights how the 'poverty penalty' associated with low-income intersects with age, and demonstrates the centrality of intersectional thinking in examining marginalisation within the energy transition.

Furthermore, ageism is often "...allied intersectionally with misogyny, racism, ableism, homophobia, classism, and other biases, [these prejudices], are likely to worsen with the increasing age of the targets" (Gullette, 2018, p. 252). Therefore, to ensure that the energy transition is equitable, inclusive, and sensitive to the needs of all, policymakers must factor the perspectives and experiences of older people into their decision making.

Among the challenges faced by older people in the energy transition, one key issue related to the barriers older groups face is re- or up-skilling in the energy sector. As Interviewee 1 notes:

> At the age of 55, employers say, well there's no point sending you on a training course because you'd be gone in a few years [...] there's a preference given to training younger workers, and so systematically, you have situations where it's harder to get access to skill development [...] You reach the age of 65. You

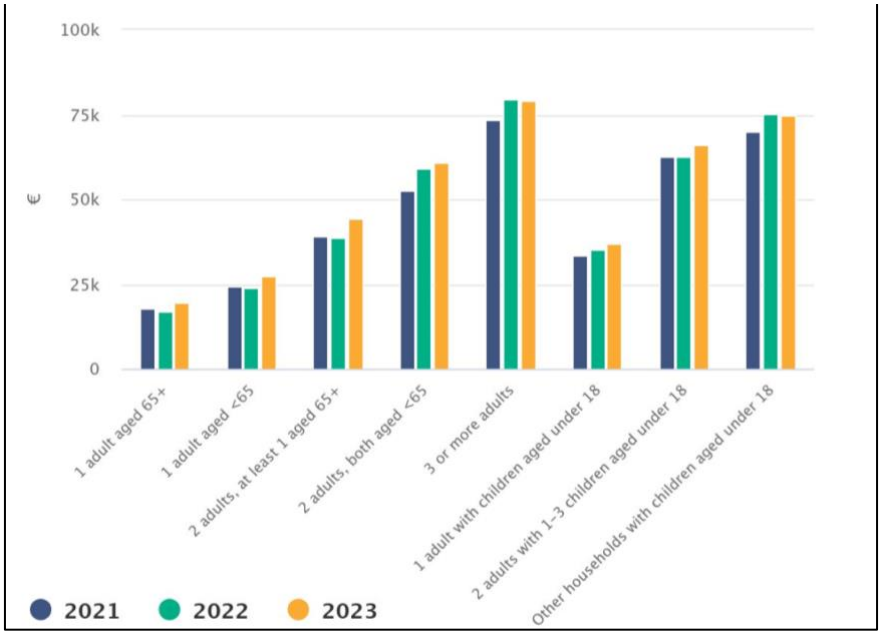
> haven't been offered training in years, and people then tell you what you're not productive anymore. (Interviewee 1)

For Interviewee 1, a core issue but often overlooked issue in the context of industrial restructuring relates to the challenge of reskilling older members of the workforce whose development has largely been neglected the past number of years. One outcome of this process is that older people struggle to participate in the workforce, and are often prompted to retire or resign. In turn, older people then build a reliance on social welfare payments, which significantly reduce their income. Consider Interviewee 1's argument:

> Older persons generally are going to have lower incomes then working age people. Three in ten rely almost entirely on the Department of Social Protection, where they get more than 90 per cent of their weekly income [...] So they have less money, so they've less options [...] and struggle sometimes with things such as getting a full tank of oil. (Interviewee 1)

Figure 1 below highlights the affect aging can have on household disposable income where households older than 65+ have significantly income.

Figure 1 Household Disposable Income by Household Composition(source: CSO, 2024)



This income inequality, moreover, is further exacerbated when factoring in gender. For example, research from ESRI (2019) highlights a gender pension gap in Ireland where the average pension income of retired women is 35 per cent lower than that of retired men, which is compounded by the fact that women live longer on average than men. Furthermore, the challenges presented by reduced income are intensified by lower savings among older groups. In Ireland, the median value of cash savings is around €8,100 for single older adults and €18,100 for couples (Murphy and O'Connor, 2023, p. 48). As a result, older groups often struggle to access home energy efficiency improvements, such residential solar or retrofitting. As Interviewee 1 highlighted:

> [Older] people who are *asset rich but cash poor*, they may own their house, but they're on a low income, they don't have a lot of savings and to anything to do with home insulation can be prohibitively expensive. (Interviewee 1; *our emphasis*)

In addition, DERs such as residential solar are often framed in terms of their payback, which can take years, even decades to emerge. For respondents in Focus Group 1 this framing of technologies like residential solar exclude older people:

> ...elderly are excluded as well because of payback times. Like even with solar panels you might be looking at, you know, 7 to 10 years. Like, if you're in your 60s or 70s, that's not worth investing in, yet these are the people that are cold. (Focus Group 1)

This exclusionary framing brings into focus the overarching issue of **energy ageism** in Ireland's approach to the just transition.

Energy ageism refers to which refers to "...socially conditioned mechanisms related to energy policy that disable and discriminate against older people, reducing their quality of life through limited access [...] to different energy sources, new energy technologies and the benefits of full access to energy circulation" (Zuk and Zuk, 2022, p. 240).

3.4 Rural experiences

Given that around 31.4 per cent of Ireland's population resides in rural areas (CSO, 2019), understanding rural experiences is crucial for grasping the dynamics of equality, diversity, and inclusion in the energy transition. Different regions or locations are likely to experience the benefits and burdens of the energy transition differently. However, rural areas often face significant disparities in access to energy resources, economic opportunities, and decision-making power in the transition, despite hosting much of infrastructure for renewable energy development, such as solar farms or onshore wind projects. Indeed, rural Ireland is witnessing growing hostility towards renewable energy projects. According to Focus Group 3, one key reason for this opposition is the broader set of green interventions that are affecting rural communities, particularly changes in the agricultural sector:

> the main issue I think is that people have a very definite culture here and a way of living [...] The green agenda is perceived as a threat in rural areas [...] We definitely feel that more could be done to bring the rural farmers... (Focus Group 3)

Ireland's decarbonisation efforts are impacting rural economies and livelihoods in ways that generate resistance. Changes in the agriculture sector are understood as part of a wider set of transformations that connect them to developments in the energy sector. These frustrations not only stem from economic shifts but also from changes in the

cultural practices of rural Ireland. For example, Focus Group 3, expressed their frustration with the bans on the practice of cutting turf.

> you look at the tradition [...] going out to the bog [...] instead of putting a blanket ban on turf, you know, people use the turf themselves and it's their decision to go out [....] If we really do want people to buy-in... (Focus Group 3)

Focus Group 3 emphasised the need to better acknowledge the traditions of rural Ireland and how they are being altered as a consequence of the decarbonisation agenda project. At the same time, the challenges faced by rural communities are exacerbated by the lack of adequate decarbonization infrastructure. Interviewee 3 shared:

> I would live in a rural area myself and the nearest town would be 15 minutes away [...] There are two charging points in that town for, I want to say about 1500 people (Interviewee 3)

According to Interviewee 3, infrastructure such as EV charging points is especially lacking in rural areas. Other respondents, like Focus Group 1, noted that even when grants for adopting other types of infrastructure are available, they are often inadequate, particularly due to the income gap between rural and urban Ireland:

> The people that have been excluded [from the energy transition] are the people who can't afford the grants [...] We're desperately trying to get off fossil fuels and we're just going to enter into debt [...] You need money to access all the stuff [...] [A grant] is a good idea, but it's stacked against people, and especially [in rural Ireland] where the incomes will be relatively lower than the East Coast [Dublin]. (Focus Group 1)

Focus Group 1 highlighted how the dynamics of energy poverty and limited access to resources mirror broader socio-economic divisions between rural and urban areas. This divide was echoed by Focus Group 3, who argued that despite rural areas bearing the brunt of renewable energy development, they see minimal local benefits:

> we get the impact of these projects but we get no benefits [...] We don't even get access to the grid, because the grid is just not fit for purpose [...] if we could have access to the power, we would work it [...] every area in rural Ireland should have its own generation system. (Focus Group 3)

For Focus Group 3, then, inadequate and uneven access to the electricity grid prevented locals from building community energy projects of their own. In turn, this is locking residents into an **energy periphery** designed to supply energy to urban locations for the benefit of industrial actors. Overall, then, the experiences of rural areas highlight and intersect with marginalisation in a wide spectrum of ways and bring into focus the need to think spatially in our engagements with equality, diversity and inclusion.

Energy periphery is defined as "places that are systematically disadvantaged through the whole energy system due to their inferior position within the asymmetrical spatial distribution of economic, political and symbolic resources and capabilities" (Golubchikov and O'Sullivan, 2020, p. 1).

3.5 Conclusion

This section shines a light on the lived experience of marginalised groups and the connection with equality, diversity and inclusion in the energy transition. The dynamic interplay between marginalisation and the energy transition in Ireland reveals multifaceted and uneven capabilities and vulnerabilities. Here, the significance of intersectionality – the interconnected nature of social categorizations such as gender, age, and socio-economic status – cannot be overstated. The intersection of these identities means that individuals can experience compounded disadvantages, influencing their ability to participate in and benefit from the energy transition. Recognizing these intersecting factors is crucial for designing policies that address the specific needs of marginalized groups, ensuring that the energy transition is just and inclusive. Without an intersectional approach, efforts to decarbonise may inadvertently perpetuate existing inequalities, undermining the goal of a just transition for all.

4. Acute challenges

Over the course of the research acute challenges came to light that highlighted barriers to enhancing equality, diversity and inclusion (EDI) within Ireland's energy transition. In this section, we examine three acute challenges in close detail with a view to building a basis for actionable and targeted recommendations to address them. These challenges concern:

1. **The shortcomings of grants and subsidies**
2. **Limits to public and community benefits**
3. **Labour force and skill shortcomings**

These issues are diverse in nature and intimately connect with the experiences of marginalisation examined in the previous section. A crucial point here is that there are no silver bullet solutions to address marginalisation within the energy transition. However, the following section signposts helpful building blocks for policymakers and energy sector actors to consider in their efforts to advance a just transition.

4.1 The shortcomings of grants and subsidies

The first challenge relates to shortcomings in the grants and subsidies intended to support Ireland's energy transition. A key issue here is that applying for these grants can be a complicated and bureaucratic process, often requiring high levels of procedural and digital literacy. The information gathering, application processes, and organization around these grants frequently occurs online through digital platforms. For Interviewee 2, this system for organising grants and subsidies reflects *"the assumption that we're all active consumers"* who are willing and able to navigate complex systems. However, about 1 in 5 people in Ireland lack basic digital skills (EU, 2024). In addition, 15 per cent of those aged 60-74 and 45 per cent of those over 75 years do not regularly use the internet (CSO, 2022). Furthermore, there are regional differences: around 65 per cent of individuals in Dublin contact public services and public authorities online, compared to 54 per cent in the west of Ireland, 49 per cent in the Midlands, and 43 per cent in border counties (Norris et al., 2022). In light of this disparity, respondents emphasized the need for increased face-to-face support to help marginalised groups access information and grants relating to the energy transition. As Interviewee 3 noted:

> It can't be a website to help you [...] it has to be a phone call or speaking to someone face-to-face [...] something that we advocate for is a local energy advice services so that people can call up and you know, they might have all sorts of things going on; It might be a bill that they can't pay; It might be housing quality issues and heating systems [...] Then [the local energy advice service] have someone who can assess it and say, 'oh, look, there's an energy efficiency aspect we could improve'. (Interviewee 3)

In contrast, other respondents argued that structural barriers in the design of subventions had driven unequal access. Section 3.2 highlighted the barriers faced by

low-income groups in accessing grants. As Focus Group 3 noted, grants tend to be "*...very low in comparison with the cost of [installations]*". This issue is further compounded by the assumptions underlying the grant system. For example, Interviewee 1 highlighted that older persons living with an adult child are not eligible for fuel allowance because "*...assumptions are made that if another adult is in the house that they are financially contributing.*" Similarly, Interviewee 2 criticised the grant process for prioritising homeowners, further marginalizing those who do not own homes:

> ...the community workers that we're working with, and they've basically talked about how the SEAI grant process is quite difficult [....] We'd be talking about those living in private rental accommodation where you don't get to make the decision ultimately, it's up to your landlord [...] if you don't own the home, or if you don't live in a standardized kind of household, [grants are] not an option for you. (Interviewee 2)

Those living in rental accommodation have less scope to apply for grants and subsidies. This issue becomes more urgent in the context of energy poverty where tenants must negotiate with landlords for energy home improvements. Given this disparity, there is an urgent need to support those in rental accommodation to ensure long-term tenancy in energy efficient homes.

Yet, a crucial point raised by respondents is that grants and subsidies tend to promote an individualised approach to climate action, whereby the responsibility for adopting decarbonising technologies or improving energy efficiency lies with individual applicants. Consequently, these measures struggle to address the root causes of marginalisation. Consider Interviewee 3's point:

> ... where if you're targeting the very most marginalized in our society, there does come a point where it's not grants and it's not "...you pay this much. We pay you back." You have to pay for those people at the end of the day [...] you want them to step up on the ladder. They haven't even got a hand on the first rung yet. They're people who are thinking about can I put food on my table? (Interviewee 3)

In line with Interviewee 3, there is a need to consider public provisions and interventions that involve the systemic and institutional delivery of services and resources directly to marginalised individuals or communities without requiring them to apply or qualify for assistance. This approach recognises a collective right to energy resources and aims to ensure that everyone can benefit from the energy transition.

Summary of grant and subsidy shortcomings:

- Current approaches to grants and subsidies can overlook social differences and inequities that produce uneven access and uptake.

- The monetary value of grants and subsidies is frequently lower than the (perceived) costs of installing new technologies or improving energy efficiency.

- Residents of rental accommodation face barriers when applying for grants due to the links subventions have with home ownership.

- The potential for just social change through grants and subsidies can be limited. Policymakers must consider interventions that directly supply energy services and resources to marginalised groups.

4.2 Limits to public and community benefits

The second challenge highlights several limitations in Ireland's approach to public engagement and community energy projects. Localized energy governance and production are vital features of the energy transition. For example, the European Commission estimates that energy communities could own around 17 percent of installed wind and 21 percent of solar capacity by 2030 (Caramizaru and Uihlein, 2020). In addition, the Irish government aims to double the number of Sustainable Energy Communities to 1,500 by 2030 (Government of Ireland, 2021; SEAI, 2024). However, there is no one-size-fits-all model for local participation in the energy transition. In some case approaches to public and community participation fail to address existing marginalisation within and between communities. As Interviewee 2 notes:

> ...when you think about community, you think about togetherness, you think about warmth, you think about knowing your neighbours [...] [For] marginalised folks, that's not really a reality [...] Getting into the energy community is not a cozy idea for them [...] It is one that [can be] filled with a bit of fear or it's filled with outright [idea of] 'we don't want you here'. (Interviewee 2)

Against this backdrop, respondents highlighted significant issues with consultation processes for renewable energy development. Many argued that the current consultation approaches tend to fragment community responses, creating divisions and weakening collective action. For example, Interviewee 2 noted that public consultation often advance gender-blind and individualised responses that "*...assume you have a certain skill set [...] to read an accompanying document and to write a textual response*." Moreover, Focus Group 2 mentioned feeling "*intimated*" during the consultation process for renewable energy development.

One reason that respondents voiced frustrations with current approaches to public consultation is that the planning permissions process, which is intended to allow the public to raise concerns and shape development can at times appear weighted in favour of private developers. Consider Focus Group 2:

> [The project] was actually refused by An Bord Plenála on certain points. [Those points are] the only thing we can talk about too [...] It's very narrowed down on the audiology and the landslides. That's all that counts [...] It's really intimidation, these developers' planning applications, I'm telling you, thousands of pages, and they are repeating themselves [...] You have to work through it and filter out what it is [...] then you have only a page in the end that you put in, you know, with four points. (Focus Group 2)

As noted by Focus Group 2, it is felt that the planning procedure in Ireland prioritises the perspectives of developers, providing 'narrow' opportunities to communities and members of the public to raise only objections or concerns. Planning and development, then, must involve people more directly to increase inclusivity.

Another reason that respondents argued that public consultation processes were inadequate relates to the perceived lack of (legitimate) local benefits. As Focus Group 2 went on to explain:

> [Wind developers get] grants from the government [...] to come and wreck our environment and lives and then give out community grants, which are only pittance, absolute pittance, which most people won't apply for anyway [...] I know where turbines went up before [the first year] the local school and the local communities got loads of money. The second year? Nothing [...] The households didn't benefit at all. (Focus Group 2)

The approaches to renewable energy development highlighted by respondents reflects broader scholarship on extractivism in Ireland's energy transition. For example, Brennan et al. (2017) found in the case of wind energy projects, while local residents "...bear the brunt of the external costs, most of the benefits would not be felt in Ireland [...] but instead be distributed further afield to wind farm operators, private corporations and their distant shareholders."

At the same time, scholarship on the Irish context also suggests that more participatory approaches, such as community (co-)ownership models, can lead to higher levels of trust among local communities (Lennon et al., 2019). Therefore, a central objective within Ireland's transition should be to leverage extant Sustainable Energy Community (SEC) structures to create the conditions for locally managed and owned energy resources.

Summary of limits to public and community benefits:

- By focusing on individual consent, current approaches to public consultation tend to fragment community responses, which weakens collective action and can negate the needs of marginalized groups.

- The complexity and volume of developer submissions can overwhelm community members, making it difficult for them to effectively raise concerns or objections. As a result, the planning permission process is perceived as favouring private development over public or community input.

- Community groups have raised concerns over the local benefits of renewable energy projects, leading to a perception that local residents bear the brunt of environmental and social costs without receiving commensurate benefits.

4.3 Labour force and skills shortcomings

A crucial area affecting the dynamics of equality, diversity, and inclusion within Ireland's energy transition relates to the shortcomings in the labour force and skills needed to drive decarbonisation. This issue is not only restricted to Ireland. Research from the European Commission (2024), highlighted that across the EU, nearly two thirds (63%) of small and medium-sized businesses cannot find the talent they need to function effectively.

> The notion of '**just transition**' first emerged within the labour movement to describe measures to support and compensate workers laid off as a result of environmental policies (Luke, 2023, p. 94).

However, in Ireland, the consequences of labour and skills shortage needed to decarbonise is compounded by external economic factors, such as, the Irish housing crisis. As Interviewee 4 notes:

> There is a shortage of skills in electricity generation and power industry in general [and] it's very difficult for more [workers] to come [to Ireland] because of the housing crisis [...] An Australian company came over and hired something like something like 10 or 11% of the linesman who work for contractors, who work for ESB and EIRGRID [...] (Interviewee 4)

Interviewee 4 went onto to highlight the impact this shortage may have on developments such as retrofitting:

> Retrofits are done to become more energy efficient and therefore save energy costs [...] The workforce analysis for that is you can't refurbish houses and build new houses, you don't have the resources for both. (Interviewee 4)

Thus, labour and skills shortages are a crucial factor shaping the pace and nature of Ireland's energy transition. In addition, building greater capacity will require more just and inclusive housing, health and educational systems. Efforts to build to capacity are particularly relevant to local economies. As Interviewee 1 highlights:

> ...the idea was that transitioning away from fossil fuels [...] where those jobs would be gone, and the 'just transition' was meant to put money in those areas to build up alternative industries [...] In reality, what you get is, some money goes in to run training programs so people can reskill, but they're expected to find jobs in the local economy. But, there are no jobs in the local economy (Interviewee 1)

For Interviewee 1, the labour and skills shortcomings call attention to the uneven development of local economies, where some areas, especially rural ones, lack the necessary resources to build for a just transition. This lack of resources is further reflected in the interviews and focus groups. For example, Focus Group 1 noted the limits

to developing Sustainable Energy Communities while "*...trying to build the expertise locally*" (Focus Group 1). Similarly, Interviewee 3 discussed the challenge of training and educating local community groups and workers on the just transition without "*...having it as something on top of the work they're already doing*" (Interviewee 3).

Focus Group 2 emphasised the limitations in building community energy projects due to skills shortages:

> ... we essentially discovered that we don't have the resources to bring (a planned renewable project) to the next stage [...] We're getting help with administration. We're getting help with mentoring support. We have to have all these structures in place to draw down money, but what we probably really need is somebody like an electrician [...] How do you move forward if nobody can afford to put energy in, so we can't go beyond our volunteering time...

Overall, respondents identified financial, time, and resource constraints as barriers to developing the local conditions needed to drive the energy transition. In turn, there is a need to consider targeted interventions to support organisations such as cooperatives and specific no-interest loans to meet the grant gap for low-income groups.

An effective response to these constraints, as identified by respondents, is to pursue community wealth building under circular economies, where local benefits are maximised to encourage a more inclusive shift. Consider Focus Group 2:

> I think there is massive opportunity in the rural areas [...] having a circular economy grown in smaller communities [...] put a knowledge base into communities for working with and developing renewable energy [...] what better people to work with the environment, in the localities, than the people that live there [...] It just feels like all of this is done from the position of corporations and shareholders. (Focus Group 2)

Indeed, places like Preston in the United Kingdom have begun to experience the benefits of shifting towards such a model with over £70 million being redirected back into the local economy since 2013 (Centre for Local Economic Strategies, 2024). This approach would involve providing community volunteers with real employment to support their work on the transition. As Focus Group 3 highlighted:

> ...a way of supporting groups is by paying staff that are actually in the group [...] Imagine if we got €100,000 a year, that'd pay for one of us and two maybe [...] what we're doing is we're participating in a public good [...] at the moment it's just grants and contractors and people with money that can access them. (Focus Group 3)

Additionally, there are calls to recognize care work, a vital but often overlooked form of labour, as essential to the green transition, as it is both necessary and inherently low-carbon:

> "[We are] calling for caring work to be recognized as decent green work at the ILO level, and by the UN and Ireland [...] The fact that it is education and care that are going to be necessary to the green transition and they are also low carbon jobs and have always been low carbon jobs [...] again, childcare is still largely privately provided in this country, and yet its workers are still paid very, very poorly, [this] is a huge issue for getting women into work... (backed by paid maternity)."

By recognizing care work in a more meaningful way the energy sector can not only make interventions which support women's participation in the energy sector workforce but also acknowledges the so-called 'invisible labour' that enables industrial activity to occur. Moreover, the meaning of care work could be expanded to the caring duties involved in environmental stewardship. In relation to this, a concrete recommended point of action that emerged within our research focus groups, was to review and expand the Community Services Programme to include the category of environment. This would enable community groups in the area of environment and energy transitions in particular to avail of support to maintain and expand their activities in support of place-based, inclusive energy transitions. Overall, the strategies outlined above could help alleviate the labour and skills shortages while promoting a more equitable and sustainable energy transition in Ireland.

Summary of labour force and skills shortcomings:

- The shortage of skilled labour in the energy industry poses a significant challenge to Ireland's energy transition. This gap is compounded by external factors, such as the Irish housing crisis, which makes it difficult to attract and retain the necessary workforce.

- The lack of skilled labour not only affects the energy sector but also highlights the uneven development of local economies. Rural areas, in particular, struggle to provide the resources and opportunities needed to support a just transition.

- Community energy initiatives face significant barriers due to financial, time, and skills constraints.

- Addressing labour and skills shortages requires systemic solutions that include equitable and inclusive housing, health, and educational systems. There is a call for strategies like community wealth-building under circular economies to maximize local benefits and support a more inclusive shift to renewable energy.

- The recognition of care work as a vital component of the green transition is crucial. Education and care are inherently low-carbon jobs and essential for sustainable development, yet these sectors remain overlooked, undervalued and underpaid. One discreet intervention in supporting care would be to expand the Community Services Programme to include environmental community work.

5. Recommendations for just and inclusive energy transitions.

5.1 Actionable recommendations

Taking stock of the lived experiences of marginalised groups and the acute challenges they face in Ireland's energy transition is essential for just and sustainable transitions. The following section outlines a number of actionable recommendations that policymakers and energy sector actors can draw upon to drive the twin aims of a low-carbon and just transition. These recommendations aim to address the structural and systemic inequities highlighted in the report and draw upon equality, diversity and inclusion (EDI) to ensure that all communities benefit from the energy transition.

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.

5.2 Paradigm shift

The application of an equality, diversity, and inclusion (EDI) lens is pivotal in building the foundations for a just transition. However, there is a pressing need for an expanded perspective on justice within the energy transition. This will involve addressing equality, diversity, and inclusion but also incorporating broader dimensions of justice and ethics. In other words, the REDIE project underscores the need for a paradigm shift in terms of how equality, diversity and inclusion is understood. Consider Focus Group 1:

> We're trying to break the paradigm of the way energy is controlled [...] change the system and give people more control, but also more responsibility, more awareness [...] that is really what is necessary to mitigate climate change. (Focus Group 1)

'Breaking the paradigm' per Focus Group 1 means that policymakers must expand how justice and ethics are theorised and advanced within the energy transition. Scholarship on the notion of 'energy justice' is instructive here insofar as it directs attention to a 'triumvirate of tenets' comprising of distributive, recognition, and procedural justice (McCauley and Heffron, 2018; Wood and Roelich, 2020). These tenets bring into focus the variegated but intimate ways that (in)justice connects with experiences of marginalisation.

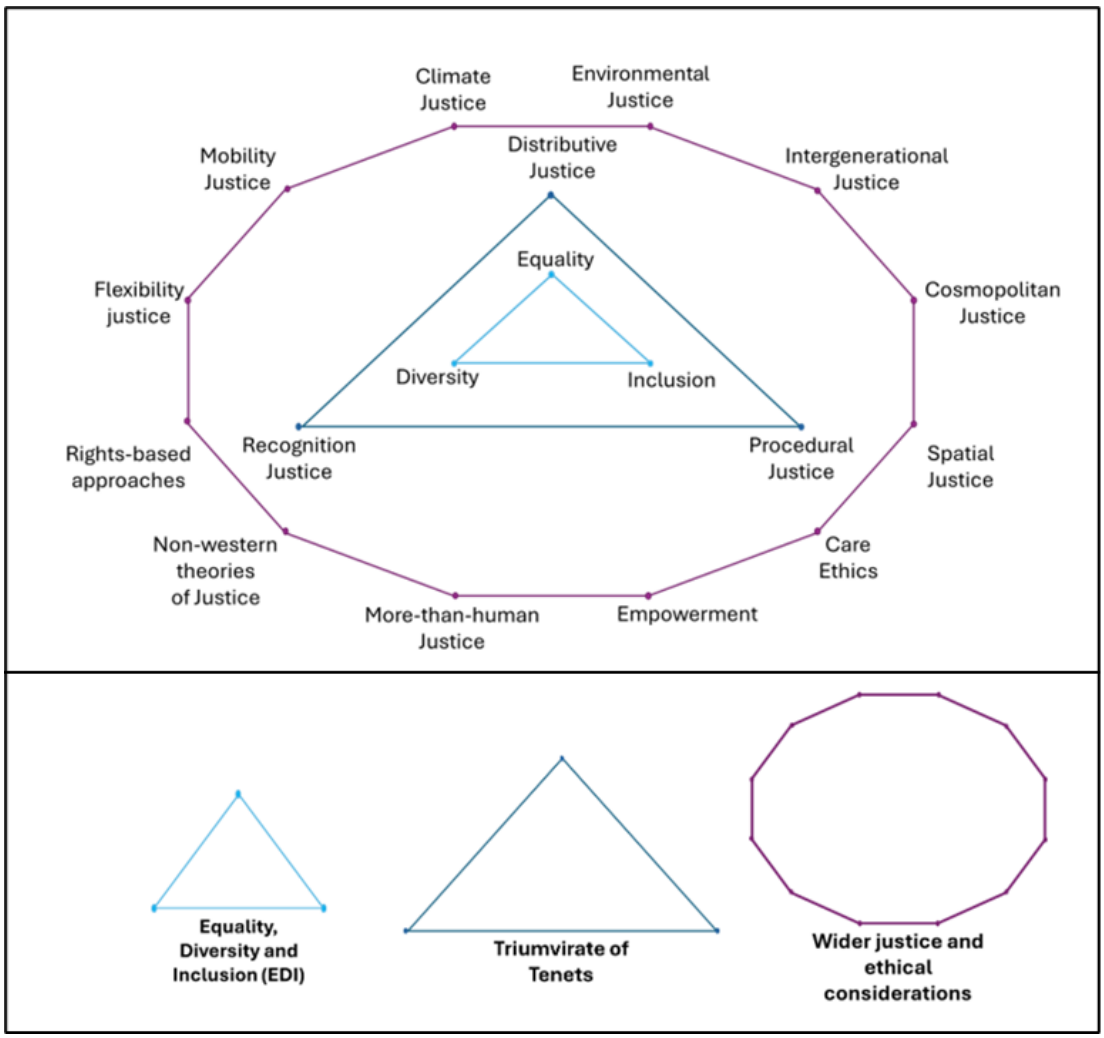
Table 2 Energy Justice: Triumvirate of Tenets
Distributional Justice Ensures fair allocation of energy resources and environmental benefits and burdens, so that everyone, regardless of socio-economic status, race, or location, has equal access to energy and is not disproportionately affected by its negative impacts.

Procedural Justice
Advocates for inclusive and transparent decision-making in energy systems, ensuring that all stakeholders, especially marginalized communities, have a voice and are meaningfully included in the process.

Recognition Justice
Emphasises acknowledging and respecting the identities and rights of all individuals affected by energy policies, particularly those from historically marginalized communities. It underscores the importance of considering historical and social contexts in energy discussions.

Looking beyond these tenets, the REDIE project highlighted several additional justice and ethical consideration that can inform the decisions guiding our pathways towards a just and inclusive energy system. Figure 2 highlights these consideration alongside EDI and the 'triumvirate of tenets'.

Figure 2 Wider Ethical and Justice Considerations



These considerations should not be considered as an exhaustive list of ethical considerations; rather, they invite decision makers to expand how EDI is approached and operationalised within and beyond the sector. This wide terrain of approaches bring into focus the potential for a paradigm shift that goes beyond traditional EDI frameworks towards a holistic approach that reflects the situated and variegated experiences of marginalised groups in Ireland's energy transition.

6. Conclusion

The key findings and recommendations of this report emphasise that Ireland's energy transition must be carefully navigated to ensure an inclusive and just transition for all. The research highlights that while some progress has been made in terms of enhancing equality, diversity, and inclusion (EDI) in energy policies and the wider sector, significant gaps remain. These gaps manifest in the lived experiences of marginalised groups whose wants, needs, and desires must be considered and incorporated into energy decision-making processes if we are to achieve a just transition.

In this report, we make the case that addressing the challenges encountered by marginalised groups requires an intersectional approach that can bring shifts within technical aspects of the transition into conversation with the dynamics of social difference to better understand social equity and community empowerment. Policies must be designed with an intersectional lens, considering the compounded disadvantages that arise from the intersections of gender, age, socio-economic status, and other social categories. The path to a low-carbon future in Ireland is inextricably linked with the principles of justice, equality, diversity, and inclusion. Policymakers and energy sector actors must draw on the insights and recommendations provided in this report to create a more equitable energy system. Future research on Ireland's energy transition must build in-depth empirical case studies to better understand how marginalised groups are affected. By fostering a more participatory and inclusive approach, Ireland can better align its climate goals with social justice, ensuring that the energy transition contributes to a more equitable and sustainable future for all its citizens.

7. Bibliography

Alda-Vidal, C., Khalid, R., Foulds, C., Royston, S., Greene, M., 2023. Gender imaginaries in energy transitions: How professionals construct and envision gender equity in energy access in the Global South. WORLD Dev. 168. https://doi.org/10.1016/j.worlddev.2023.106258

Allison, J., McCrory, K., Oxnevad, I., 2019. Closing the renewable energy gender gap in the United States and Canada: The role of women's professional networking. ENERGY Res. Soc. Sci. 55, 35–45. https://doi.org/10.1016/j.erss.2019.03.011

Barrett, M., Farrell, N., Roantree, B., 2022. Energy poverty and deprivation in Ireland. ESRI. https://doi.org/10.26504/rs144

Bennear, L., 2022. Energy Justice, Decarbonization, and the Clean Energy Transformation. Annu. Rev. Resour. Econ. 14, 647–668. https://doi.org/10.1146/annurev-resource-111920-022328

Braunholtz-Speight, T., McLachlan, C., Mander, S., Hannon, M., Hardy, J., Cairns, I., Sharmina, M., Manderson, E., 2021. The long term future for community energy in Great Britain: A co-created vision of a thriving sector and steps towards realising it. ENERGY Res. Soc. Sci. 78. https://doi.org/10.1016/j.erss.2021.102044

Bredvold, T.L., Inderberg, T.H.J., 2022. Shockingly cold and electricity-dependent in a rich context: Energy poor households in Norway. Energy Res. Soc. Sci. 91. https://doi.org/10.1016/j.erss.2022.102745

Brennan, N., Van Rensburg, T.M., Morris, C., 2017. Public acceptance of large-scale wind energy generation for export from Ireland to the UK: evidence from Ireland. J. Environ. Plan. Manag. 60, 1967–1992.

Caramizaru, A., Uihlein, A., 2020. Energy communities: an overview of energy and social innovation. European Commission: JRC Science for Policy Report.

Carroll, P., 2022. Gender Mainstreaming the European Union Energy Transition. ENERGIES 15. https://doi.org/10.3390/en15218087

Caplowitz, D., 1967. The Poor Pay More. Free Press, New York.

Centre for Local Economic Strategies, 2024. The Preston Model | CLES. URL https://cles.org.uk/the-preston-model/ (accessed 8.22.24).

Cho, S., Crenshaw, K.W., McCall, L., 2013. Toward a Field of Intersectionality Studies: Theory, Applications, and Praxis. Signs J. Women Cult. Soc. 38, 785–810. https://doi.org/10.1086/669608

CSO, 2024. Household Income Survey on Income and Living Conditions (SILC) 2023 - Central Statistics Office [WWW Document]. URL

https://www.cso.ie/en/releasesandpublications/ep/p-silc/surveyonincomeandlivingconditionssilc2023/householdincome/ (accessed 7.26.24).

CSO, 2023. Irish Travellers - CSO - Central Statistics Office [WWW Document]. URL https://www.cso.ie/en/releasesandpublications/ep/p-cpp5/census2022profile5-diversitymigrationethnicityirishtravellersreligion/irishtravellers/ (accessed 7.29.24).

CSO, 2022. Frequency of Internet Usage Internet Coverage and Usage in Ireland 2022 - Central Statistics Office [WWW Document]. URL https://www.cso.ie/en/releasesandpublications/ep/p-isshict/internetcoverageandusageinireland2022/frequencyofinternetusage/ (accessed 7.30.24).

CSO, 2019. Introduction Urban and Rural Life in Ireland, 2019 - Central Statistics Office [WWW Document]. URL https://www.cso.ie/en/releasesandpublications/ep/p-urli/urbanandrurallifeinireland2019/introduction/ (accessed 8.22.24).

Dunphy, N.P., Lennon, B., 2022. WHOSE TRANSITION? A REVIEW OF CITIZEN PARTICIPATION IN THE ENERGY SYSTEM, in: Routledge Handbook of Energy Transitions. pp. 430–444. https://doi.org/10.4324/9781003183020-30

EU, 2024. Digital Decade Report [WWW Document]. URL https://digital-skills-jobs.europa.eu/en/latest/briefs/ireland-snapshot-digital-skills (accessed 7.30.24).

European Commission, 2024. Tackling labour and skills shortages in the EU - European Commission [WWW Document]. URL https://commission.europa.eu/news/tackling-labour-and-skills-shortages-eu-2024-03-20_en (accessed 8.1.24).

Gaffney, F., Deane, J.P., Gallachóir, B.P.Ó., 2017. A 100 year review of electricity policy in Ireland (1916–2015). Energy Policy 105, 67–79. https://doi.org/10.1016/j.enpol.2017.02.028

Goldstein, B., Reames, T.G., Newell, J.P., 2022. Racial inequity in household energy efficiency and carbon emissions in the United States: An emissions paradox. Energy Res. Soc. Sci. 84. https://doi.org/10.1016/j.erss.2021.102365

Government of Ireland, 2021. The Climate Action Plan – Securing Our Future. Dublin.

Gullette, M.M., 2018. Against 'Aging' – How to Talk about Growing Older. Theory Cult. Soc. 35, 251–270. https://doi.org/10.1177/0263276418811034

Hall, N., Hicks, J., Lane, T., Wood, E., 2020. Planning to engage the community on renewables: insights from community engagement plans of the Australian wind industry. Australas. J. Environ. Manag. 27, 123–136. https://doi.org/10.1080/14486563.2019.1670742

IHREC, 2024. Equal Status Acts. URL https://www.ihrec.ie/guides-and-tools/human-rights-and-equality-in-the-provision-of-good-and-services/what-does-the-law-say/equal-status-acts/ (accessed 7.26.24).

Johnson, C., 2020. Is demand side response a woman's work? Domestic labour and electricity shifting in low income homes in the United Kingdom. Energy Res. Soc. Sci. 68, 101558. https://doi.org/10.1016/j.erss.2020.101558

Lennon, B., Dunphy, N., Sanvicente, E., 2019. Community acceptability and the energy transition: a citizens' perspective. ENERGY Sustain. Soc. 9. https://doi.org/10.1186/s13705-019-0218-z

McCauley, D., Heffron, R., 2018. Just transition: Integrating climate, energy and environmental justice. ENERGY POLICY 119, 1–7. https://doi.org/10.1016/j.enpol.2018.04.014

Mechlenborg, M., Gram-Hanssen, K., 2022. Masculine roles and practices in homes with photovoltaic systems. Build. Cities 3, 638–652. https://doi.org/10.5334/bc.211

Murphy, M.A., O'Connor, N., 2023. Spotlight on Income in Older Age: The State of Ageing in Ireland 2023. Age Action.

Nolan, A., Whelan, A., McGuinness, S., Maître, B., 2019. Gender, pensions and income in retirement. ESRI. https://doi.org/10.26504/rs87

Norris, M., Kelleher, J., Bwalya, J., 2022. Digital Exclusion and E-government in Ireland: A Citizens Information Perspective. Citizens Information Board.

Oosthuizen, L., de Kock, I.H., Musango, J.K., 2020. EXPLORING FACTORS THAT INFLUENCE THE MAINSTREAMING OF GENDERED ENERGY INTERVENTIONS IN POOR URBAN ENVIRONMENTS: A STRUCTURED LITERATURE REVIEW. South Afr. J. Ind. Eng. 31, 83–96. https://doi.org/10.7166/31-3-2421

Pearl-Martinez, R., 2020. Global Trends Impacting Gender Equality in Energy Access. IDS Bull.-Inst. Dev. Stud. 51, 7–26. https://doi.org/10.19088/1968-2020.103

Pearl-Martinez, R., Stephens, J.C., 2016. Toward a gender diverse workforce in the renewable energy transition. Sustain. Sci. Pract. Policy 12, 8–15. https://doi.org/10.1080/15487733.2016.11908149

SEAI, 2024. Start an Energy Community | SEAI [WWW Document]. Sustain. Energy Auth. Irel. SEAI. URL https://www.seai.ie/community-energy/sustainable-energy-communities/start-an-energy-community/ (accessed 7.31.24).

Speak, S., Graham, S., 1999. Service not Included: Private Services Restructuring, Neighbourhoods, and Social Marginalisation. Environ. Plan. Econ. Space 31, 1985–2001. https://doi.org/10.1068/a311985

Urry, J., 2002. Mobility and Proximity. Sociology 36, 255–274.

Walker, G., Day, R., 2012. Fuel poverty as injustice: Integrating distribution, recognition and procedure in the struggle for affordable warmth. Spec. Sect. Fuel Poverty Comes Age Commem. 21 Years Res. Policy 49, 69–75. https://doi.org/10.1016/j.enpol.2012.01.044

Willand, N., Horne, R., 2018. “They are grinding us into the ground” – The lived experience of (in)energy justice amongst low-income older households. Appl. Energy 226, 61–70. https://doi.org/10.1016/j.apenergy.2018.05.079

Wood, N., Roelich, K., 2020. Substantiating Energy Justice: Creating a Space to Understand Energy Dilemmas. SUSTAINABILITY 12. https://doi.org/10.3390/su12051917

Acknowledgments

This report has been funded by the Sustainable Energy Authority of Ireland under the SEAI Research, Development & Demonstration Funding Programme 2022, Grant number 22/RDD/834. All REDIE project members thank the SEAI, and in particular Irene Ward, for the support provided throughout the project.

Thank you to all people who contributed their time in the form of interviews and focus groups, which have formed the basis of REDIE's insights shared herein.

Thank you to Ben Meehan for technical support provided to REDIE, and to those working at Maynooth University RDO Finance, formerly Ramya Bhat, and most recently Louise Kiernan and Marie Carr, and Dr. Ecaterina McDonagh, Dublin City University. Thank you to Maynooth University Department of Geography, particularly Dr. Stephen McCarron and huge thanks to Neasa Hogan, for all the support provided throughout REDIE's development.

Sincere thanks are given to REDIE Project Collaborators Prof. Anna Davies, Department of Geography, Trinity College Dublin, Prof. Jennie Stephens, Maynooth University and Dr. Alex O'Cinneide for guidance, support and input throughout the project's development.

REDIE extends a very special thanks and deep gratitude to Dr. Noreen Lacey, Maynooth University Research Development Office, without which this project would not have been possible.