Master's thesis

Participatory Planning for Resilient Westfjords Energy Futures:

Consequences of the Status Quo and Barriers to Transformative Change

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Declaration

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

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Abstract

The energy future of the remote coastal communities of Iceland's Westfjords is shaped by compounding vulnerabilities, as an already-weak transmission system faces the fast-worsening hazards of climate change and the coming demands of transition and electrification. The existing situation is a precarious grid with one tether to the rest of the nation, often relying on diesel generators during winter outages, limiting possibilities for a diversified and vital economy and a steady, prosperous population. However, although technical challenges to building energy resilience abound, this research reveals that the most acute barriers are socio-political, and can be shifted by participatory approaches that strengthen shared local vision. This research brought together experts with residents with no existing background in energy for semi-structured interviews and a collaborative visioning workshop focused on existing challenges and desired futures. Participants expressed widespread dissatisfaction with current policies and frustration with the inaction, delay, and lack of innovation that characterizes the status quo. However, they lacked a shared understanding of how to solve the problem at hand, with some envisioning approaches that prioritize a robust circular grid and strategies for drawing down demand, and others adamant that increasing supply through projects like Hvalárvirkjun is pivotal for the region's future. While consensus on whether more energy should be generated in the Westfjords was elusive, all parties viewed a strengthened grid and stable system as the first priority, and called for improvements in how residents participate in shaping the future, since current pathways for public input are seen as performative, merely "ticking a box" with key decisions already made. This research also aimed to illuminate how such participation might improve local outcomes, and, while more research is needed, preliminary findings indicate that the main barrier is not lack of community knowledge or interest but what has thus far been a lack of institutional willpower and infrastructure to meaningfully consult those outside the expert sphere. For transformative change to occur, decision-makers and engaged citizens must work to strengthen both the material and social linkages of energy infrastructure in the Westfjords.

Útdráttur

Orkuframtíð afskekktra byggða á Vestfjörðum mótast af ákveðnum samverkandi veikleikum. Flutningskerfi raforku, nú þegar veikburða, stendur frammi fyrir versnandi áhrifum loftslagsbreytinga ásamt vaxandi kröfum um orkuskipti og rafvæðingu. Núverandi staða einkennist af raforkukerfi sem tengist flutningskerfi Íslands með einungis einum tengipunkti og reiðir sig á dísilrafstöðvar í rafmagnsleysi yfir vetrarmánuðina. Þetta takmarkar möguleika á fjölbreyttu atvinnulífi sem og stöðugri og blómlegri búsetu. Þrátt fyrir að tæknilegar áskoranir við að byggja upp orkuöryggi séu sannarlega til staðar, sýnir þessi rannsókn að alvarlegustu hindranirnar eru í raun félags- og stjórnmálalegs eðlis og að hægt er að breyta þeim með aðferðum sem tryggja þátttöku heimamanna og taka til greina þeirra sýn.

Í rannsókninni voru leiddir saman sérfræðingar og íbúar án bakgrunns í orkumálum í viðtölum og vinnustofum um framtíðarsýn, þar sem sjónum var beint að núverandi áskorunum sem og ákjósanlegri framtíð. Þátttakendur lýstu almennri óánægju með gildandi stefnumótun og gremju yfir aðgerðarleysi, töfum og skorti á nýsköpun sem einkenna ríkjandi ástand. Á sama tíma skorti þátttakendur sameiginlegan skilning á því hvernig best væri að leysa vandann: sumir töldu mikilvægt að leggja áherslu á öflugt raforkukerfi og leiðir til að draga úr eftirspurn, á meðan aðrir töldu brýnt að auka framboð með framkvæmdum á borð við Hvalárvirkjun.

Þó ekki hafi náðst samstaða um hvort auka ætti raforkuframleiðslu á Vestfjörðum, voru allir sammála um að efling flutningskerfisins og stöðugra rekstraröryggi væru brýnustu forgangsmál. Jafnframt var kallað eftir aukinni þátttöku íbúa í mótun framtíðarinnar, þar sem núverandi leiðir til almenns samráðs eru taldar yfirborðskenndar og fyrst og fremst miða að því að „haka í box“, þegar í raun hafa lykilákvarðanir þegar verið teknar. Rannsóknin leitast einnig við að varpa ljósi á hvernig slík þátttaka geti bætt árangur í byggðinni, og þótt frekari rannsókna sé þörf benda fyrstu niðurstöður til þess að helsta hindrunin sé ekki skortur á þekkingu eða áhuga meðal samfélagsins, heldur skortur á vilja stofnanna og rekstraraðila innviða til að ráðfæra sig á raunverulegan hátt við aðila aðra en sérfræðinga. Til að breytingar geti átt sér stað þurfa bæði stjórnendur og borgarar að vinna saman að því að styrkja innviði orkumála á Vestfjörðum.

Table of Contents

List of Figures

List of Tables

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This research would never have come to fruition without the support of so many people: UW staff, course instructors, and peers, for offering thoughtful feedback on research design and creating an academic space where many unique ideas can flourish, my advisor, Baddi Guðlaugsson, for taking on this project and being a steady, collaborative guide. Steinnun Asa for support with translating workshop fliers and key concepts into Icelandic, brainstorming on design and recruitment, and consistent support and fellowship in so many ways throughout the process; and to my wonderful workshop note-takers and area businesses for snacks and records.

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1 Introduction:

To safeguard a livable future while meeting the energy needs of current and future generations, remote coastal communities face the daunting task of building an energy system decoupled from fossil fuels. At the far end of distribution lines, coastal energy planners face an intersection of compounding vulnerabilities, both exposed to the fast-worsening hazards of climate change and to existing energy systems where transmission and generation is often expensive, unreliable (Morrissey & Heidkamp, 2018). To transition away from fossil fuels and secure stable, sufficient clean energy in a just and democratic manner will require not just forward-looking decision-making and investment from powerful decision-makers, but also active participation from a broad array of stakeholders and citizens with key local knowledge (Baard, 2021). However, broadly, there is scarce precedent for truly participatory approaches to energy planning, and vulnerable rural coastal communities often lack the capacity necessary to approach infrastructural transitions holistically and involve citizens proactively (Heaslip & Fahy, 2018) As a consequence, decision-making, by both its processes and its outcomes, risks entrenching existing inequalities or dysfunctions and may generate steep opposition to new energy projects that fail to win local buy-in (Weller et al., 2024). Despite its abundance of clean energy, this dynamic has been evident in Iceland, as controversies over large-scale hydropower plants have loomed large in the national discourse. Here, as elsewhere across the globe, infrastructure changes necessary for the energy transition face a two-pronged problem: the gaps in policy, governance, and technology, which ensure a rocky operating landscape, and a lack of sociopolitical willpower, where communities are either apathetic, mobilized in opposition, or interested in contributing but uncertain how to intervene effectively (Henry, 2024). Where these complex webs meet, energy transition projects may stall, be push through prematurely, or otherwise fail to generate potential social cascading benefits (Hansen & Coenen, 2015; von Rothkirch et al., 2025).

Icelandic tensions between the pursuit of prosperity and the protection of nature are a familiar narrative, and tradeoffs inherent within any endeavor of energy transition are highly visible in the nation's dramatic landscapes (Benediktsson & Waage, 2020). However, many damaging conflicts associated with decarbonization, socio-political and physical, are not unavoidable, and, proponents of participatory decision-making argue, could be greatly lessened by relocalizing, democratizing, and appropriately scaling new energy systems (Bridge & Gailing, 2020). Scholars suggest that one contributor to these unnecessary conflicts is a citizenry that tends to be disengaged from energy decision-making and blurry on the realities of how power is generated, governed, and distributed— perhaps not exactly content with decisions made by the "unseen experts" in charge of the future, but also not certain if or where they could intervene to change them (Ambrose, 2020). Therefore, a shift to a participatory, place-based approach to an energy transition would require not just a flourishing of technological expertise, but also of community decision-making processes, skills, and citizen activation (Baard, 2021). In small remote coastal communities generally, and in the Westfjords of Iceland specifically, conditions of great urgency around energy transitions and enhanced grid resilience, combined with strong community cohesion and resident practices of active citizenship may provide a promising

landscape in which to study the potential of participatory processes to transform this dynamic toward better outcomes for communities and energy systems alike (Heaslip & Fahy, 2018). Grounded in this possibility, this research seeks to primarily investigate the following question:

- **RQ1:** What insights might a participatory approach to energy issues generate into key concepts for building energy resilience in the Westfjords?
    - *Aim 1.1:* Identify key energy challenges as viewed by Westfjords stakeholders through background research and a series of semi-structured interviews.
    - *Aim 1.2:* Design and host a participatory workshop, informed by the key challenges emerging from interviews, focused on pathways for addressing energy challenges and building resilience, and analyze the resulting discourse.
    - *Aim 1.3:* Synthesize community input collected from surveys, interviews, and workshops into insights for policymakers and develop recommendations for future community engagement for energy projects, infrastructure, and planning.

To discern the potential value of a participatory approach to planning in the Westfjords, it is necessary to first understand the discourse around energy in its current form, in order to identify opportunities where collaborative debate and visioning might serve to improve outcomes. Therefore, this research, as an initial exploration of how these concepts apply in the region, is focused primarily on RQ1, building an understanding the landscape of local attitudes toward energy resilience, to surface and clarify particular points of contention, confusion, and misalignment, as well as any driving values which unite participants from across different positionalities. However, while participation shapes systems in pivotal ways, it also shapes participants themselves, which sparks an additional question, which, though, not definitively addressed in this research, also steers its analysis and methodology:

- **RQ2:** What are the possibilities for participation in energy planning to build a sense of buy-in among stakeholders not normally involved in decision-making processes, and improve both planning outcomes and public energy literacy?
    - *Aim 2.1*: Assess existing levels of energy literacy and practices of "energy citizenship" among participants and their perception of the level of involvement of their peers, neighbors, and communities.
    - *Aim 2.2:* Gather feedback on participants' experiences of participating in energy planning, including through this research, and gauge their desire for continued involvement, weaving insights into policy guidance on how best to involve community voices of all backgrounds in future decision-making.

Starting from this understanding, the rich experiences of participants offer early glimpses into RQ2, with the full knowledge that to understand the true extent of these possibilities would require a profoundly social and collective shift which iterates over time—the insights offered here are simply one starting point.

2 Background & Theoretical Overview

In this chapter, I introduce the theoretical frameworks and concepts which guide this inquiry, and connect these guiding ideas to my choice of methodologies. Informed by this theoretical overview, I then present key context on the existing landscape of energy policy and governance in Iceland, with a particular focus on national goals around the energy transition. I present also the unique energy situation of Iceland's Westfjords region, both from a technical perspective, establishing the challenges facing the region's pursuit of energy resilience, as well as from a societal perspective, establishing the opportunities for a participatory system to build on the Westfjords' strong cohesion and community networks. These various discussions establish the framework through which I examine my findings and their implications and contributions, both to my discipline and to the communities without whose voices this research would not exist.

2.1 Theoretical Frameworks

2.1.1 Transformative Energy Transitions

The energy transition is one of modernity's central wicked problems, and if that transition is to enhance justice rather than worsening existing inequalities, changes will need to go far beyond fuel mix, deep into the organizing principles of existing power structures (Agyeman et al., 2012; de Ruyter & Bentley, 2024; Jasanoff, 2018; Swilling & Annecke, 2022; Weller et al., 2024). Just transitions, described as the "fair and equitable process of moving toward a post-carbon society", insists climate action must be interwoven with justice concerns, rejecting transition pathways that slot one fuel in for another without addressing the structures of exploitation and overconsumption characterizing current energy regimes (Einarsdóttir et al., 2023; McCauley & Heffron, 2018; Stark et al., 2023). Aligned with Donella Meadows and Elinor Ostrom, this research frames an energy transition as a system of systems in which actors engage in a network of networks— there is no singular energy transition but a multitude of transitions occurring in particular places in particular moments in time, therefore place-based mental models and a robust understanding of actors' values and motivations are pivotal (Francis et al., 2022; Gudlaugsson et al., 2022; Hadian & Madani, 2015; Kopainsky et al., 2017). Attitudes toward the end goal of energy transitions diverge, with some seeking continuous growth, others growth within limits, and still others embracing a call for transformative change, and sufficiency approaches which focuses on drawing down demand while still delivering well-being for all, within planetary boundaries (Abson et al., 2017; Dablander et al., 2025, p. 2; Fisher & Calkins, 2020).

Tensions around the goals of transitions are especially palpable in Iceland, where, as discussed in more detail later, an abundance of renewable energy has made one of the prominent challenge of energy transitions elsewhere—specifically, ceasing to use fossil fuels to generate electricity—less salient, but has shaped a distinctive and, at times, fraught, relationship with this abundance and to what ends it is used (H. Guðmundsdóttir et al., 2018). Notably, Iceland is one of the leading nations in the "well-being economies" discourse, which seek to reorient metrics of success from fiscal metrics such as GDP toward more holistic measures of societal

well-being, such as the 39 cross-sector indicators of progress Iceland adopted in 2019 (Committee on Indicators for Measuring Well-being, 2019; M. Lang & Marsden, 2018). However, this stated commitment to re-orienting the very goals of economic activity toward bolstering Iceland's already-remarkable quality of life, for many scholars, is in tension with the nation's resource-dependent and industry-oriented economic realities, with many questioning how well current approaches to building prosperity align with national values (Benediktsson & Waage, 2020; Gisladottir et al., 2020; Karlsdóttir, 2008). Renewable energy is a particularly contentious arena in which the nation is grappling with a stated desire for transformation toward centering well-being and the stark realities of tradeoffs between human well-being, economic opportunity, and ecological protection (Kristjansdottir & Busch, 2019; Monyei et al., 2024).

In Iceland, as across the globe, approaches to building support or culling opposition to renewable energy transmission and generation projects have conventionally focused on either engaging a particular narrowly defined set of stakeholders, or broader public engagement with the intent to build a social license to operate (Lelieveldt & Schram, 2023). Notably, some key hurdles conventionally present, specifically, public distrust of corporate interest, are not always in play in Iceland, given the strong legacy of publicly-owned power generation and transmission (despite fluctuating levels of approval of the national power company, Landsvirkjun) (Benediktsson & Waage, 2020; Guðlaugsson et al., 2020). However, even in light of these dynamics, Iceland's conventional methods stakeholder engagement risk being (or being perceived as) tokenistic, and tend to, as Maonaigh et al. state, "tend to underplay the dynamics of social difference that shape acceptance and consent within and between communities." (p. 1). Particularly in small communities, divisive and split opinions on major energy projects or shallow levels of trust and buy-in may have adverse consequences far beyond the concrete infrastructure (Bossi, 2024). In Iceland, these consequences are evident in the fallout from as Iceland experienced in the fallout from Kárahnjúkar, a large hydropower plant whose destructive construction, driven to meet demand from ALCOA's aluminium smelter, drew strong, sustained opposition that permeated culture, from film to music to direct action protests, souring many citizen's perceptions of large energy projects and government processes for their creation (H. Guðmundsdóttir et al., 2018; Johnstone & Buhmann, 2023).

The limits and consequences of conventional stakeholder engagement are clear; however, especially in areas characterized by strong existing community bonds, organizational capital, and enhanced energy literacy, alternative participatory approaches have promising potential to drive improved outcomes (Devente et al., 2016; Szulecki & Overland, 2020). Participatory approaches is a term which encompass a broad array of practices, theories, and frameworks, but which here is understood as approaches which expand community engagement on energy infrastructure beyond the conventional "decide, announce, defend" touchpoints, allowing communities to shape both the vision and the execution, building support and legitimacy through sustained dialogue (Cohen & Durrant, 2019; Komendantova & Battaglini, 2016; McGookin et al., 2021). In a divergence from typical methods oriented toward social license to operate, the goal of these methodologies is not to build support for a single project or industry, but rather to work toward a continuous process of what scholars refer to as "energy democracy,

in which a community's energy system and its governance is a reflection of local knowledge, priorities, values, and future visions (Szulecki & Overland, 2020; Van Veelen, 2018).

Another key difference lies in how participatory approaches view and define whose voice matters; in other words, who counts as a stakeholder. Conventionally, energy planning processes have defined stakeholders as those who have what they view as a direct interest in the project at hand, and rarely include those who are not considered experts: McGookin's review of energy planning finding that only 10 of the 59 planning endeavors studied included any form of engagement with non-academic stakeholders, and of those ten, 4 of the reported engagement consisted of one singular conversation or survey (Baard, 2021; McGookin et al., 2021). This is despite the clear fact that energy infrastructure—or a lack thereof—has broad and far-reaching impacts on the general public, impacting their cost of living, their viewscape, their safety during extreme weather, their exposure to air pollution, and their access to local opportunity, and that the general public can also have an enormous impact on energy infrastructure, especially if they mobilize in opposition (Polatidis & Haralambopoulos, 2004; Vallejos-Romero et al., 2020). Recognizing this key gap, some localities are leveraging participatory approaches and involving citizens in order to enhance local energy autonomy, preparedness, and resilience, but more often than not, even as infrastructure change becomes more rapid and planning more pervasive, a lack of participation continues to worsen and entrenches epistemic and practical injustices (Ambrose, 2020; Jasanoff, 2018; Lowe et al., 2019).

In cases where formal planning processes led by governments or energy authorities may fail to implement participatory approaches, often due to lack of capacity to do so, embedded researchers and transdisciplinary collaborations have attempted to fill this gap (Heidkamp et al., 2023; D. J. Lang et al., 2012). Through the use of transdisciplinary action research and participatory methodologies centering interviews, workshops, scenario planning exercises, and collaborative research design, and more, unlike tokenism or formulaic consultation, participatory approaches seek to center participants' ways of knowing, seeking reciprocity rather than extraction, doing research with, rather than on, communities, with local benefits at the center of desired outcomes (Späth & Scolobig, 2017; Vaughn & Jacquez, 2020).

2.1.2 Potential of Participatory Approaches

Participatory methodologies for both research and formal planning include a set of practical approaches, with proven value not just from a process perspective, but in how they shape outcomes on the ground. One commonly employed methodology which can be employed as part of a participatory approach is a broad set of interviews with impacted and invested community members, which, in a meta-analysis of 305 case studies, have been shown to carry a strong statistically significant correlation with improved environmental governance outcomes (Newig et al., 2023). Many communities have also transformed local outcomes and strengthened planning through workshops, designed to build both knowledge and rapport by first grounding in shared values, exploring the actors and limitations of the system, and then discussing desired outcomes, often combining stakeholders of different backgrounds and perspectives who might otherwise never enter into dialogue (Bourgeois et al., 2017; McEvoy

et al., 2018; Salter et al., 2009). Some workshops are oriented around one particular question, centering an exchange of perspectives, but others go further through employing scenario planning exercises, in which facilitators gamify planning questions, allowing for an accessible, hands-on exploration of the challenges, tradeoffs and possibilities of different courses of action (Ruffing & Brendler, 2024). Participatory methodologies invite participants to think beyond immediate constraints and imagine desired outcomes without prematurely limiting what is possible, creating a container in which to consider truly transformative change (Engbersen et al., 2024; Fisher & Calkins, 2020). Within this arena, futures-thinking oriented methodologies specifically ask, as Juri et al. (2025) articulate, "transforming towards what?", inviting participants to collectively imagine future realities for their community, identify which is more desirable according local values, and thus be better equipped to evaluate choice points according to their alignment with the desired future (Dhami et al., 2022; Juri et al., 2025). Relevant methodologies include quadrant-based scenario modeling, adjusting different key variables and creating narratives around the resulting futures, as well as the cone of futures exercise, which allows participants to reflect on the forces driving the current "default" trajectory, as well as which changes might alter that trajectory, widening the array of possible and plausible outcomes and reflecting on pathways by which we might arrive there (Gall et al., 2022; Juri et al., 2025; Koskinen et al., 2023).

Research focused on planning has long showed how robust participation has positive implications for the efficacy of policy and project design (Bertsch & Fichtner, 2016; Devente et al., 2016; Krzywoszynska et al., 2016; McGookin et al., 2021). The linear, hierarchical systems of engagement long employed for infrastructure planning, as discussed above, are limited in the scope of socio-political outcome they can achieve and the variety of challenge they are equipped to solve; For issues such as the energy transition, which stretches from infrastructure construction to collective action dilemmas, more flexible, place-based instruments are increasingly in demand (Moallemi & Malekpour, 2018; Wahlund & Palm, 2022). Evidence suggests that the spread and enhancement of participatory approaches may alleviate some of the dysfunction and distrust which threatens to derail energy transitions, particularly in rural contexts (Copeland, 2024; Koskinen et al., 2023; Neudoerffer et al., 2001). There is also a strong argument for investing in participation from a social action perspective, with interviews and workshops serving as a relational starting point from which community members move up the ladder of engagement, from apathy to awareness to sustained involvement (Hendricks et al., 2022; Pelletier et al., 2020). The capacity of participatory research to build energy literacy and encourage co-learning is also pivotal for cultivating leaderful communities skilled in collective decision-making (Ambrose, 2020; Hendricks et al., 2022; Jasanoff, 2018; Lowe et al., 2019; Shehabi & Al-Masri, 2022; Taylor et al., 2012)

2.1.3 Practices of Energy Citizenship & Visions of Energy Communities

Particularly when working toward transformative change, stakeholders should not be viewed as bins of information that researchers or decision-makers take from through consultation: to build the scaffolding for long-term deep collaboration and cocreation of knowledge, it is also pivotal to shape and understand their experience of participation (Baard, 2021; Carlsson-

Kanyama et al., 2008; Copeland, 2024; Krzywoszynska et al., 2016). Borrowing from experiential education and psychology-guided approaches to co-creation, socio-emotional learning, and agency, this project also seeks to experiment with methodologies that do not just enhance the researcher and decision-makers' understanding of participants' perspectives, but that also support participants in making meaning, building a sense of belonging and efficacy in energy spaces, and seeing themselves as integral to community decision-making (Neudoerffer et al., 2001; Del-Busto et al., 2022; Fouché & Brent, 2020; McGookin et al., 2022; Olabisi et al., 2010; Polatidis & Haralambopoulos, 2004). In the context of transition of power generation and mitigation of carbon emissions, this can be described as energy citizenship, a concept which includes not just attitudes, but practices, and works toward the cultivation of energy democracy through systems transformation (Ambrose, 2020; Laakso et al., 2023; Shehabi & Al-Masri, 2022; Uwasu et al., 2020).

Energy citizenship can be understood as a set of practices that range from consumer-participation (i.e. purchasing practices) to direct participation (community energy ownership/prosumerism) to representative participation (influencing the policy-making process) (Wahlund & Palm, 2022). This research focuses on its representative participation dimension, given that this is the avenue with the most relevance for the Westfjords. Notably, energy citizenship must be understood heterogeneously, and is sometimes expressed through resistance to various aspects of the transition—another way in which it is distinct from other models focused on public acceptance (Schlindwein & Montalvo, 2023; Wolsink, 2020). Energy citizenship often emerges in the context of the formation or pursuit of "energy communities", or positive energy distracts, growing in relevance and popularity in Europe and elsewhere, foregrounding stakeholder participation and prosumerism as the building blocks of a locally-driven energy transition (Gjorgievski et al., 2021; Hearn, 2022; Walker et al., 2022).

2.2 Energy Transition Policy and Governance in Iceland

2.2.1 National & International Governance in Iceland

In Iceland, a nation famed for clean energy where despite ambitious climate goals, energy-demanding industrial projects, are driving up emissions, questions of how energy is being generated, for whom, on what scale, and to what ends, are a consistent and contentious part of the national dialogue (Cook et al., 2024; Guðlaugsson et al., 2020; S. B. Guðmundsdóttir, 2023; Sætórsdóttir & Hall, 2019). Through a series of ongoing transitions, Iceland has achieved a highly renewable grid mix of electricity, and its focus now turns to other aspects of the transition, including transport electrification, which prompted the Ministry of the Environment, Energy and Climate to lay out an array of potential demand scenarios, with most stakeholders projecting that the fifth and largest is the most likely, anticipating that energy production in Iceland will need to increase by 124% by 2040 (Stjórnarráð Íslands, 2022). This drive toward increased utilization has driven tensions with nature protection, an ethic integral to the Icelandic national identity, and shifts in public perceptions of large hydropower projects and the energy transition at large (S. B. Guðmundsdóttir, 2023; Johnstone & Buhmann, 2023; Upham et al., 2022). The Icelandic energy future is also increasingly set to see impacts from the nation's

adoption of the Third Energy Package, part of the European Union's framework encouraging competition in markets for electricity, which represents a stark departure from the Icelandic model to date, which has consisted of a majority publicly-owned system, from generation to transmission and distribution, raising some concerns about the potential impact of privatization (Greene & Carlson, 2025; Hallgrímsson, 2024).

2.2.2 Energy System Structures: Responsibilities of Different Entities

Beneath the level of policy-setting, several different authorities and utilities are responsible for electricity and heating reaching the households and businesses of Iceland: the national power company (Landsvirkjun) generates much of the nation's power; and the national grid company, Landsnet, handles much of its transmission, with parts of the distribution system managed by (mostly) publicly owned smaller regional utilities— in the Westfjords, this is Orkubú Vestfjarða (Gisladottir et al., 2020). Although the percentages of generation associated with each major actor have changed since its publication, this Landsnet-sourced diagram reproduced in Figure 1 provides a useful diagram of the actors and major consumers involved.

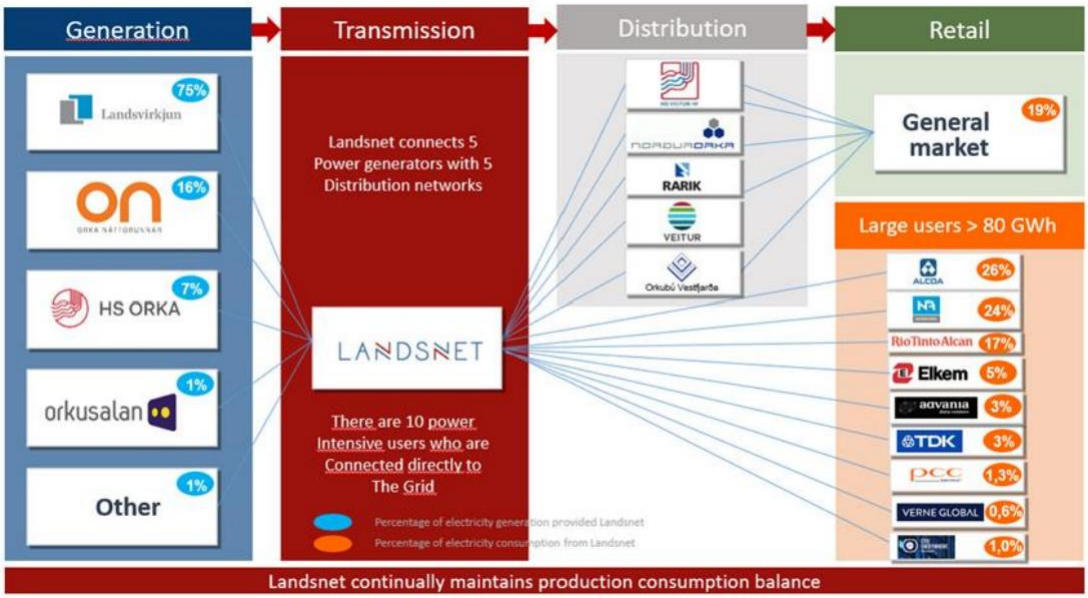

Figure 1. Diagram of Actors in Phases of Icelandic Electricity Distribution (as appears in Breitschopf & Zheng (2020) with data from Landsnet).

Any plans for increased generation and the construction of power plants, from either Landsvirkjun or the other private companies in question, must go through Rammaáætlun, or the Master Plan for Nature Protection and Energy Utilization. Implemented in full force by Parliament in 2013, Rammaáætlun was intended to be a framework to negotiate ongoing conflicts between nature protection and energy utilization, providing a systemic process for assessing impacts and assigning projects to categories such that they either move forward (Energy Utilization), remain undecided (On Hold), or are not pursued due to disproportionate impacts on the natural or cultural resources of the location (Protection) (Ministry of Natural Resources, 2021).

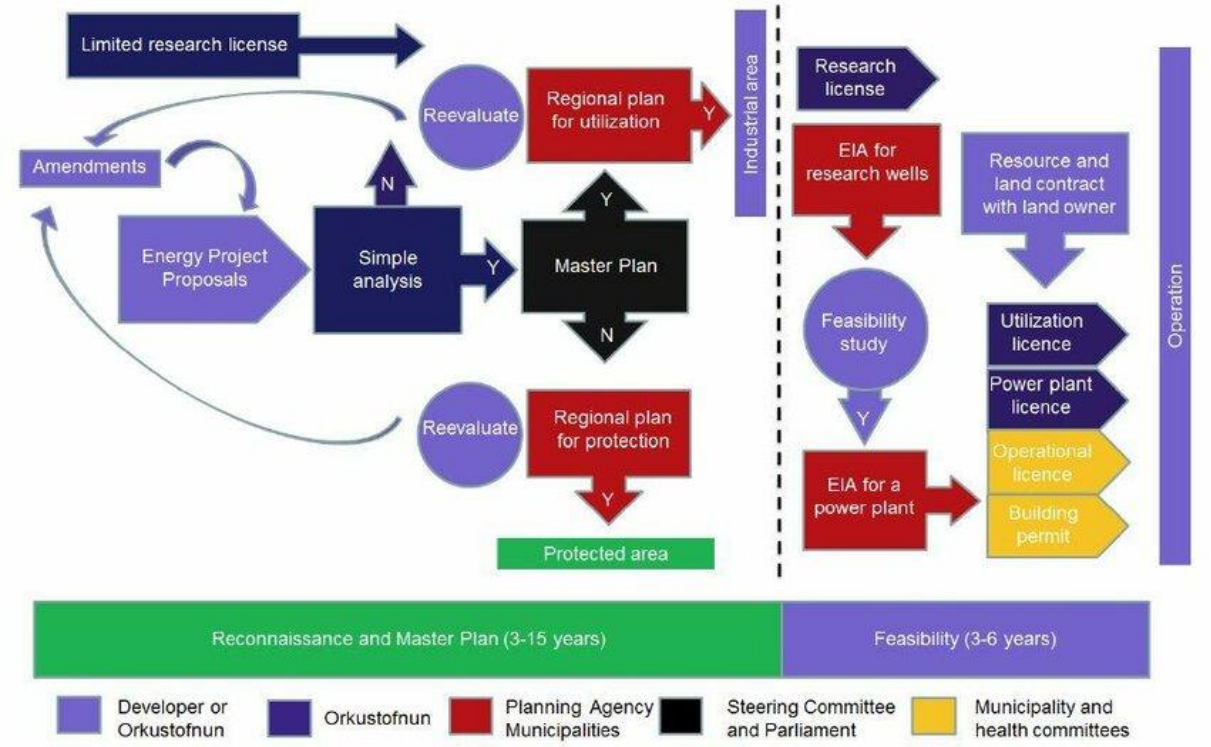

Figure 2. Diagram of the process energy projects in Iceland must follow, including their progress through Rammaáætlun, as appears in Ketilsson et al. (2015)

The framework, diagrammed in Figure 2, has been viewed by some as a functional enough compromise, providing structure to what had previously been a more chaotic endeavor; as Benediktsson & Waage (2020) describe it, "The nature conservation establishment sees in it a way to keep a rapacious power industry in check; the power companies sense a possibility to realize at least some of their ideas without too much resistance from the public. Both sides seem happy with the fact that this contested issue has partly been delegated to (allegedly impartial) experts, instead of subjecting each project idea to endless political wrangling" (p. 123).

However, despite the ambitious goals of the framework and its complex process, perceptions of its effectiveness and ultimate impact are mixed, with some scholars arguing that decisions are sometimes taken with insufficient information, vastly underestimating the importance of intrinsic, difficult to quantify non-economic values or improperly influenced by desire for increased energy production—and predicated on pseudo-objectivity, a technocratic approach, and an implicit belief promise of unending economic growth prompting continuing exploitation (Benediktsson & Waage, 2020; H. Guðmundsdóttir et al., 2018).

2.2.3 Current Methods of Public Participation & Consultation

Current Icelandic approaches to public participation in energy governance, for broad planning as well as for specific projects, although compliant with consultation requirements set out in the Icelandic Planning Act No. 123/2010, often fall short of the stated aims of the actors seeking public engagement (Larsen & Buhmann, 2024). The development of the national climate action plan involved minimal stakeholder input, and municipal consultation processes on energy issues and in general have struggled with declining trust and participation since the financial

crisis (Andrésdottir, 2014; Ásgeirsdóttir, 2023; Dillman et al., 2023). Even when opportunities for public input are offered, specifically in regions outside the capital, uneven power dynamics, distrust, and resentment of centralized decision-making can contribute to local residents choosing not to engage or engaging in a shallower manner (Önnudóttir et al., 2021; Wilke, 2023). Just because opportunities to participate exist does not mean they are accessible or that a participatory obligation has been filled—for instance, one single public meeting per region was held during the nation-wide ten-year planning process from Landsnet, and on this and related issues, officials and policymakers describe a tendency for people to self-select out of attendance, believing that if they do not hold specialized expertise, that they are not the "kind of person" whose perspective is valued (Landsnet, 2025; Wilke, 2023).

Currently, the main institutionalized method for public participation in planning and infrastructure decision-making is Skipulagsgátt (loosely translated as the "Planning Portal"). Launched in May of 2023, and intended as a streamlining innovation for digital public services, this online portal provides a one-stop-shop, where "all issues that are currently being presented in the country, from the beginning of each process to the end, are now accessible in one place", and users can comment, selecting an option through the process that will ensure they are notified of subsequent developments in the case (Skipulagsstofnun, 2023; Stjórnarráðið, 2023). However, in the years since its launch, it has often been used to offer either solely procedural or harshly critical public comments, prompting broader reflections in the literature about the merits and drawbacks of this style of system as Larsen & Buhmann (2024) note, "On the one hand, these have the potential to be accessible to many people; on the other hand, the process of communicating becomes anonymous with no recipient visible, perhaps an automated confirmation of receipt, and no further response […] [it] frequently becomes very polarized because people think it is a way to stop a project. In that case, [it] becomes a framework for conflict rather than conversation" (p. 130).

Reflecting on which tensions prevent public participation in project evaluation from becoming meaningful, they identify disconnects between the formal requirements for what happens once comments are given and the expectations of commenters, feelings of disempowerment due to decision-making being housed at the national level. Another key dynamic is the gaps between the timing of consultation and when community members feel their input would be most valuable, with many pointing out that often, key decisions have been made before locals have been asked to weigh in, and would be difficult or impossible to rework even if robust, meaningful feedback were received, leading to wasted time and effort and unnecessary conflict (Larsen & Buhmann, 2024). The authors also noted that in small, close-knit communities, sometimes residents will take their concerns directly to decision-makers or politicians who they perceive as able to intervene (municipal councils, members of parliament, etc.). (Larsen & Buhmann, 2024). In the Westfjords, uptake and use of this tool is relatively limited: Many other open issues on the portal had comments only from institutions; one hotly-debated (but non-energy-related) recent local issue, had 36 comments, eight of which were from institutions, 6 of which were statements by which institutions declined to comment, and 12 of which were form letters crafted by a local nonprofit central to the issue (Skipulagsgátt, 2025).

Capacity constraints and landscapes of uneven power make robust public engagement in rural contexts like the Westfjords challenging, especially considering when multiple agencies are involved, but evidence from other similar communities in Europe suggest that partnerships with research institutions and community leaders through projects like these can collaborate toward strengthening these processes, even outside of formal policymaking (Hagemeier-Klose et al., 2014; Taylor et al., 2012).

2.3 The Westfjords: Current Energy Landscape

Despite its small population, the Westfjords accounts for a sizable proportion of Iceland's carbon emissions, largely driven by the sustained use of a diesel generator during winter outages, which occur with rising frequency and generate considerable expense, inconvenience, uncertainty, and inefficiency (Barajas et al., 2018; Naderian et al., 2017; Ragnarsson, 2024; Read, 2019). The region's total electricity demand is 268,839 megawatt-hours, 39.2% of which is associated with heating needs, and the total electricity generated in the region is 138,143 (overwhelmingly from hydropower and some geothermal, supplemented by diesel backup generators), leaving a gap of 130,696 megawatt-hours, or 48.6% of overall demand, which is imported from the south (Hrafnkelsdóttir, 2025; Landsnet, 2025; Orkubú Vestfjarða, 2024). That imported supply is also not always assured in nature if Landsvirkjun determines that power cuts are necessary due to extenuating circumstances in the rest of the country. For example, in 2024, due to low water levels in Lake Þórisvatn, Orkubú Vestfjarða was forced to purchase intermittent rather than priority power and supplement the gaps by burning oil, an estimated total of 3.4 million liters of oil for 103 days, with leaders stating they had no way to cover these increased costs without passing them on to the consumer, estimating the amount at close to 520 million krona (G. S. Einarsdóttir, 2024).

The region struggles with highly reactive power and overvoltage issues, worsening stability and combining with weather and terrain risk factors to drive frequent power outages (Hrafnkelsdóttir, 2025). Records indicate that there were at least eleven system-wide outages in the Westfjords in 2024, and though outages are experienced as momentary for residential users due to the rapid response time of generators, for "sheddable users", a category which includes all the Westfjord's industry users, Landsnet estimated that in 2024, these outages lasted from between "30 minutes up to 4.25 hours" (Hrafnkelsdóttir, 2025, p. 9). However, even brief outages can have severe adverse consequences— a 2025 December outage near resulted in the deaths of 20,000 farmed fish at a small land-based operation, despite the presence of on-site backup generation which operators had invested in due to the fragile nature and consistent outages facing the local grid (McDonagh, 2025).

The region's weak grid is a well-established issue, and some solutions are already underway or in planning phases, including efforts to bury parts of key lines underground to minimize disruptions, shift outdoor substations indoors, and to create a small loop connection between communities in the Southern Westfjords (Hrafnkelsdóttir, 2025). Other proposed changes focus on preparing the grid to receive energy from wind, which is projected to come online from sites "in the Hornstrandir peninsula, at Drangsnes and in the vicinity of Hrafnseyri" within the next

ten to fifteen years, and creating a lower-voltage ring network backup loop around the town of Ísafjörður to supply critical loads (i.e. the hospital, water-works) during outages (Landsnet, 2025, p. 73).

Authorities also anticipate bringing online significantly more generation from many proposed hydropower projects at various phases of permit applications, as well as a potential wind farm, (see Figure 3), along with recent discoveries of geothermal heat which could downshift electric heating demand through providing a viable alternative for large population centers in Ísafjörður and Patreksfjörður (Cariaga, 2024; Ragnarsson, 2024). In light of these many potential shifts and changes in the system, Blámi, which is a collaborative project between Landsvirkjun, Orkubú Vestfjarða, the Ministry of the Environment, Energy and Climate Change and the Westfjords Office focused on supporting and promoting innovation and development of energy transition projects, launched its "Orkukort" (Energy Map) in the summer of 2025. In this interactive web-based map, with a still image captured as seen in Figure 3, users can view existing power plants (visualized in blue), the demand of major population centers (in yellow), and proposed power plants and transmission lines (in green), with details on their current status available in a pop-up window.

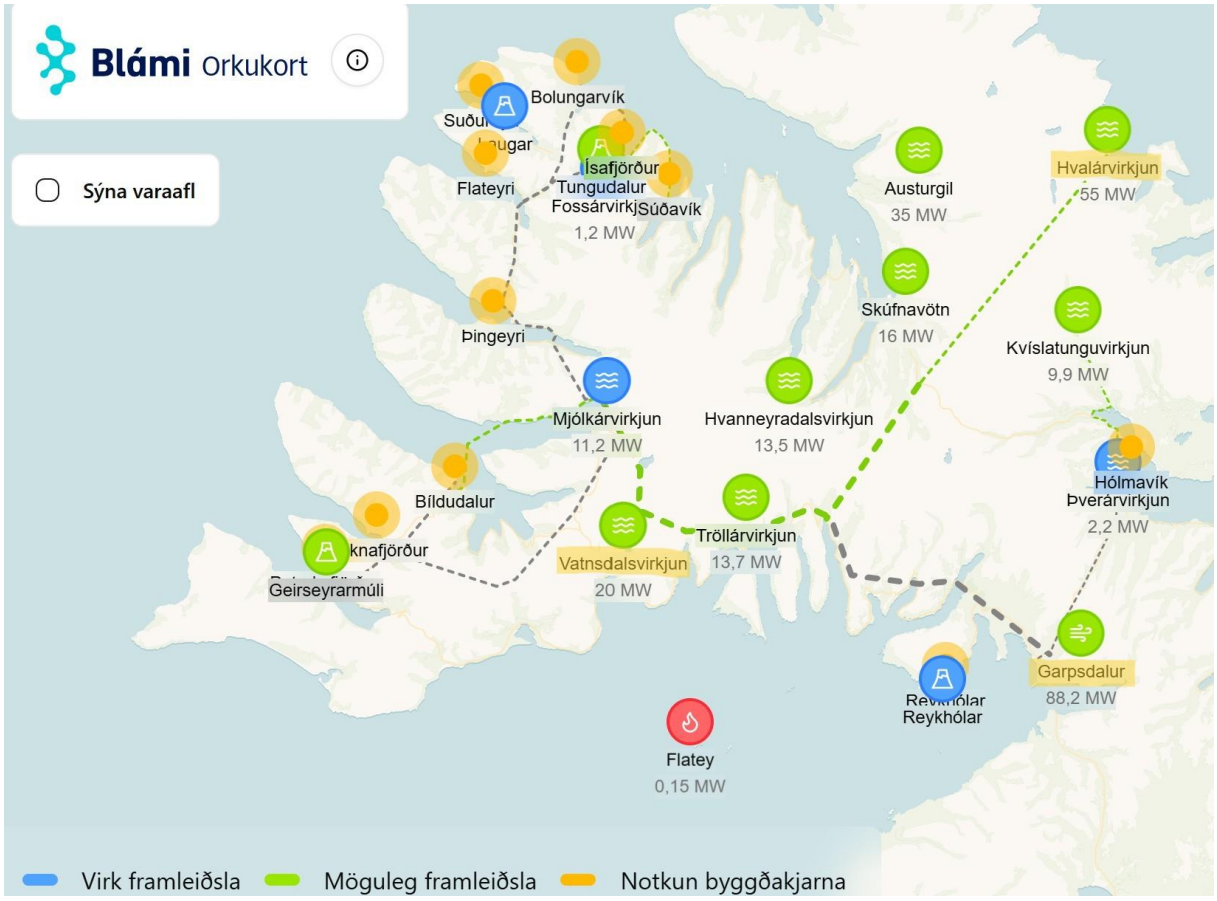

Figure 3. Still image of current and proposed power plants in the Westfjords, with highlights of key projects by the author, as depicted by Blámi's Orkukort, an open-access interactive web map accessible at orkukort.blámi.is (2025)

Key projects with strong public sentiment trends that emerged in this research are highlighted in yellow in Figure 3, and they are:

1) **Vatnsdalsvirkjun:** This 20 MW hydropower plant was proposed by Orkubú Vestfjarða due to its ideal location in the transmission system, with the potential for increased generation at a key point in the Southern Westfjords to bolster reliability and decrease reliance on imports. However, immediate issues arose resulting from the proposed site's location within the Vatnsfjordur Nature Reserve, and because construction would require overturning protection—a difficult task both from a legal and social license perspective, not seen as justifiable based on social benefits— the project is not currently set to move forward (Johannesson et al., 2025).

2) Garpsdalur: This wind farm, proposed by EM Orka, would consist of 21 turbines, with an estimated generation potential of 88-130 MW (EM Orka, 2018). With site studies and plans initially launching in 2017, it is currently designated in the utilization category with environmental impact assessments and final site design pending (Ministry of Natural Resources, 2021). Although formal documentation on local approval is not yet robust or publicly available, anecdotal evidence suggests that neighboring communities and landowners (who are likely to receive significant compensation) take a favorable view of the project, while others have expressed concern about impacts on local bird populations and viewscapes.

3) **Hvalárvirkjun:** This 55 MW hydropower project was first proposed in 1974 and which is still in active dispute and litigation in 2025, with much contention and delay, and many false starts which failed to result in construction moving forward (Fontaine, 2018; Hrolfsson, 2025; Olafsdottir, 2017). Many in Westfjords are strong advocates for the project, focused on its prospects for regional economic boosts and advantages for energy supply, while and many both near and far have spoken out against the project, with a disproportionate share of those voices coming from places outside the region and driven by environmentalist concerns about impacts on what many frame as Iceland's precious scarce undisturbed wilderness (Fontaine, 2018; Magnusson, 2025; Read, 2019; Þorbjarnardóttir, 2018). The project is currently proposed by VesturVerk, which is majority owned by HS Orku, and the dynamic of a private actor pursuing the largest project in the region has led to more intense scrutiny (Benediktsson & Waage, 2020).

In addition to these three large, high-profile projects, experts identify that further upgrades and investments could bolster a large number of existing or new small hydropower plants under 1 MW, with a potential total of 40 MW added to the grid over time (Hrafnkelsdóttir, 2025). On the demand-side, with possibilities for energy-efficiency retrofits for homes and industry and the promotion of electric-vehicle charging infrastructure potentially lowering peak loads, but growing interest in electrification and transportation decarbonization may also drive up overall demand (Johannesson et al., 2025).

As the region seeks to re-establish a steady population after past decline, it has seen a resurgence in economic vitality and social thriving through attracting aquaculture, tourism, and other

innovative entities as tunnels and road improvements make transit less of a barrier, energy costs and security remain a key hurdle to community development goals (Guðlaugsson et al., 2020; Hreinsson, 2012; Sæþórsdóttir & Hall, 2019; Sigfusson et al., 2012). The much-delayed and debated plans for new generation, as well as future-oriented opportunities in marine decarbonization and alternative energy production and fuel sources are all of key importance to the region's energy future (Barajas, 2018; Saeþórsdóttir et al., 2021; Pajdak, 2015; Popescu, 2024; Wilke & Kristjánsdóttir, 2023). With the increasing instability of the Arctic and recent geopolitical posturing surrounding Greenland, Iceland is beginning to echo rhetoric commonly used in other nations and contexts by framing energy in the Westfjords as part of critical infrastructure which must be strengthened to maintain national security (Ólafsdóttir, 2026). However, as it stands, continuous cycles of lawsuits and controversies surrounding key projects demonstrate that although developers and agencies claim to work closely with stakeholders, present methods of consultation are failing to avert costly the negative consequences of lack of social acceptance (Einarsdottir, 2024; Johnstone & Buhmann, 2023; Jonsson, 2024). As discussed in the preceding sections on theory, this is a context to which participatory methods may be well-suited to improve both immediate discourse and long-term resilience outcomes.

2.4 The Westfjords' Participatory Potential

Remote coastal or islanded communities can serve as an ideal laboratory for understanding the complex endeavor of a participatory approach to energy transitions (Heaslip & Fahy, 2018). The Westfjords is one such case. The region's physical isolation, coupled with the intellectual and research capital concentrated there, its strong community cohesion and robust formal and informal institutions, and high levels of trust, make it a stronger potential case for a robust participatory approach than other more atomized communities (Halldórsson, 2017; Johannsdottir & Cook, 2024; Wise, 2017; Wojtyńska et al., 2023). The question of regional autonomy and identity is also particularly strong in the Westfjords, with increased appetite for municipal and local self-determination (Bjarnason, 2020; Halldórsson, 2017; Wilke & Kristjánsdóttir, 2023). Of course, assuming that a shift to local-scale dialogue and decision-making would automatically an improvement falls into an oversimplistic trap — however, evidence supports the importance of place-based insights and robust local autonomy for successfully imagining and enacting more resilient futures (Kurland et al., 2013; Purcell, 2006; Wise, 2017). But in the Westfjords, as in many other places, although many see greater merit and justice in localized decision-making, and resonance, the actual decision-making power often does not rest within the region; its autonomy is challenged or constrained by centralized power structures at the national scale (Copeland, 2024; Devente et al., 2016; McKenna et al., 2018). In this situation, where decision-holders are inherently removed from realities on the ground, participatory processes can provide a mechanism for local people to communicate key context and leverage their values and priorities up the ladder (Hanssen et al., 2018; Larsen & Buhmann, 2024; Polatidis & Haralambopoulos, 2004).

2.5 Summary

By understanding the ways in which energy transitions and resilience-building infrastructure also serves to transform the material and socio-economic conditions of the communities where they are built, this research establishes the importance of understanding energy futures' social landscape. Through considering different practices of energy citizenship and different mechanisms for participation, this section identifies possibilities for alternatives to existing approaches which currently dominate in Icelandic energy governance frameworks. Through articulating the challenging status quo of the Westfjords' energy infrastructure and anticipated future needs and risks, I situate the value of this research as informing decision-making in a moment of particular urgency, and in a region where this approach could be particularly well-suited to making a material difference, both for policy outcomes and for citizen energy literacy.

3 Methods:

This section will establish the region of this research's focus and the scope of its inquiry, drawing on theoretical frameworks to support the choice of suitable methodologies for a remote, close-knit set of communities. I also here discuss the strategies used data collection and the structure of my analysis, as well as the ethical considerations and choices made around demographic disclosures. Through examining the limitations of the chosen methodologies, I provide context for the constraints and contributions of my findings.

3.1 Study Area & Scope:

This research seeks to understand the challenges and opportunities facing the Westfjords, a region in the northwest of Iceland, with a population of 7,176, spread over vast distances and harsh terrain (Statistics Iceland, 2025). The Westfjords is known for its strong fishing heritage, and despite challenges driven by the implementation of fishing quotas, local production of globally-shipped fish continues bolstering the economy, alongside innovative value-added products and growing cruise ship (and to a lesser extent, road-based) tourism (Halldórsson, 2017; Vestfjarðastofa, 2024; Wilke & Kristjánsdóttir, 2023; Wojtyńska et al., 2023).

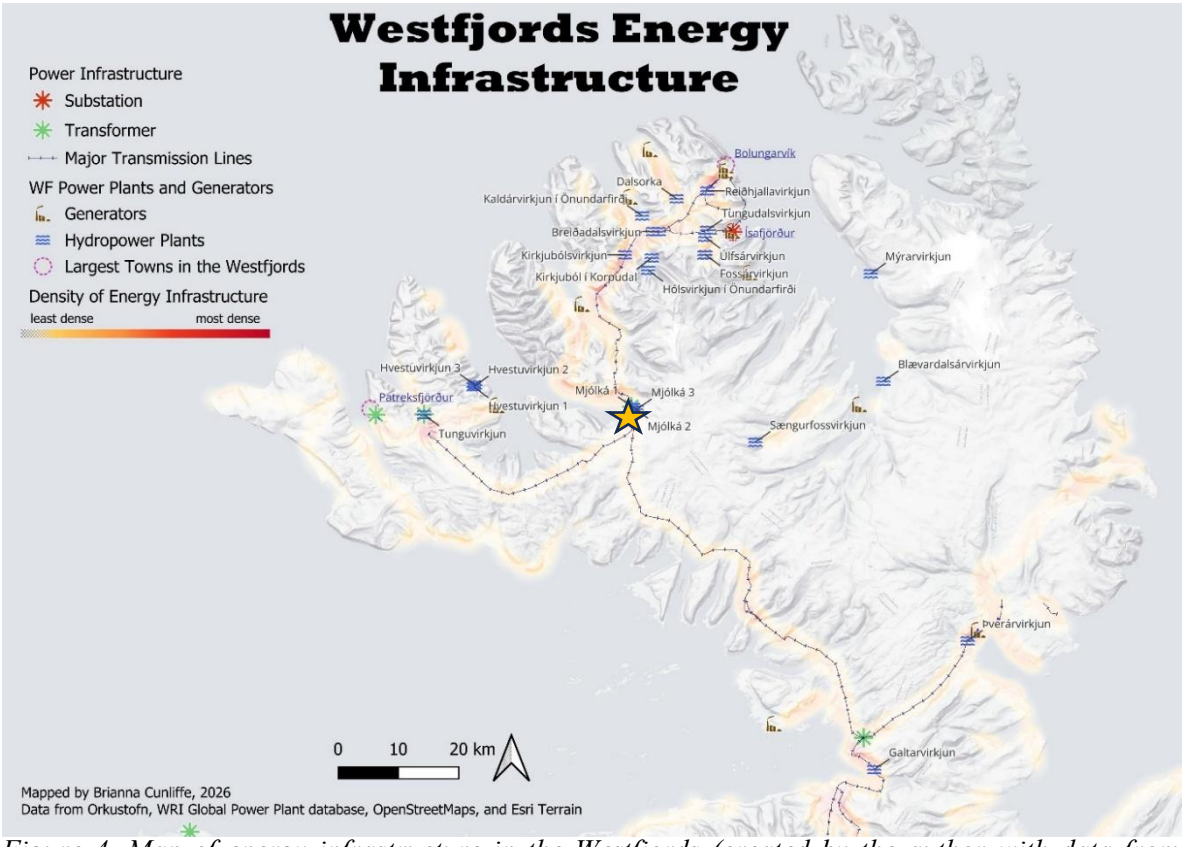

Figure 4. Map of energy infrastructure in the Westfjords (created by the author with data from Orkustofnun, WRI, OpenStreetMaps, and Esri Terrain)

The Westfjords relies on scarce and aging energy infrastructure (as seen in Figure 4, and discussed in section 2.3), with a single transmission line connecting the region to the rest of Iceland, and local generation limited to the 11.2 MW Mjólkárvirkjun (marked with a star) and

a patchwork of smaller hydropower plants and backup generators, and dynamics of energy insecurity exacerbated for smaller villages further from population centers, major roads, and substations (Hrafnkelsdóttir, 2025). To ensure that these within-region variations were captured within the dataset, especially given the tendency for Ísafjarðarbær municipality to be treated as the de-facto focal point of the region, coupled with the fact that this researcher is based in this town, outreach intentionally targeted and prioritized participation from other Westfjords communities, to counteract this risk of inappropriately centering one community or subregion.

3.2 Data Collection:

This research employs best practices for participatory approaches, as defined in section 2.1.2, drawing on the principles of community planning and place-based transdisciplinary action research principles (Baard, 2021; Kammer-Kerwick et al., 2022; Krzywoszynska et al., 2016; Ruffing & Brendler, 2024). With its aim to emphasize knowledge-creation and future visioning, this methodology focused on gaining in-depth insights on stakeholders' initial perspectives through semi-structured interviews, and hosting a participatory energy planning workshop. This method of data collection aligns with best practices around participatory research, forgoing surveys and quantitatively-focused or categorization-based metrics and leaning instead on narratives, rich or "thick" descriptions, and dialogues rather than rankings or binary choices. Although this approach results in more complex, less definitive data, it also creates the opportunity for process-based insights and a more nuanced portrait of local perspectives.

Through the semi-structured interviews, which were audio-recorded and transcribed, I first evaluate the interviewees' PIN codes (position, interest, needs) relative to energy transition pathways developments, a strategy used in transition studies to organize complexity, before taking the "problem centered interview" approach, a focusing framing device that helps establish a common aim for stakeholders that supports collaboration (Rogge et al., 2013; Heaslip & Fahy, 2018; Witzel & Reiter, 2012). Interviews are structured to be accessible and confidence-building for stakeholders who do not consider themselves experts on energy issues. I employ a mixture of purposeful and modified snowball sampling mechanisms to recruit interview participants, beginning with outreach with a goal of securing sufficient representation from the stakeholder categories identified in Appendix B, and then asking each participant for others I should speak with, as well as, for those who held strong opinions, also asking them if they knew others who might be willing to share a different perspective.

Early insights from these interviews supported the development of the workshop in which community members were invited to collaborate in a structured participatory planning exercise titled "The Future of Energy in the Westfjords", hosted at Bókasafnið Ísafirði (the Ísafjörður Library), a venue chosen for its familiarity, neutrality, and welcoming nature. I designed the workshop to build collective energy literacy, articulate common values and goals for energy transitions, and explore concrete solutions and system change mechanism, using systems dynamics modeling and future thinking tools to spark conversations, and facilitate co-learning (Flor et al., 2018; Zhou & Zimmermann, 2019.; Zimmermann, 2022). The workshop format allows me to evaluate key questions of coalition-forming, collaboration, and negotiation in a

way interviews alone do not. Among the many approaches to participatory research, which include conventional scenario planning, the use of "serious games", discrete choice models, and more, I selected this methodology to create the most possibilities for stakeholder dialogue and for stakeholders with a range of different energy systems familiarity to co-create insights that concretely guide the Westfjords' trajectory toward the future (Baard, 2021; Koskinen et al., 2023; Krzywoszynska et al., 2016; Olabisi et al., 2010). My aim was to generate and harness local expertise of all varieties to empower subnational decision-making for just, participatory energy futures (Copeland, 2024).

To encourage participation in the workshop, I publicized the event through fliers, social media posts, local newsletters, and personal outreach, offering an incentive of raffle prizes of gift certificates in modest amounts from local businesses—one awarded for participation during the workshop, and the second awarded in gratitude for filling out the post-workshop survey— and offered food and coffee for participants.

After a brief introduction of the research, the workshop goal, and an overview of the existing energy situation in the region, the whole group contributed their top associations with existing challenges and future desires to a shared session on Mentimeter, an online facilitation support tool, discussing most frequent responses, before moving into the small-group phase of the workshop. The participants chose to participate in one of three groups, each utilizing a different tool and exercise, based on their interests, and then, after twenty minutes, were given the chance to move on to a different group, followed by another opportunity to rotate twenty minutes later. One notetaker was assigned to each group. The notetaker also participated in the conversation, but was excluded from follow-up feedback conversations and post-surveys due to the divergence in their experience from other participants. Data collected from the workshop included responses to pre-and-post surveys, responses to discussion prompts on Mentimeter, outputs of each table activity (as created on large paper, sticky notes, and maps and diagrams), and written notes from each notetaker and myself. Each group had an audio recording running to provide an additional source of clarity if notes and outputs revealed inconsistencies, but word-for-word quotations from individuals were not collected, unless written down as part of the activities.

In **Group 1: Values,** Participants identified the values—defined here as the criteria by which they evaluated energy projects which they viewed as most important for the Westfjords, considering examples provided, contributing their own, and then considering voting informally through the use of sticker dots to provide a sense of which criteria the group views as their highest priority (drawing from methodologies in Ferretti (2016)).

In **Group II: Systems**, participants considered the different players and dynamics influencing the current energy status quo. Provided with an initial list of system actors and key variables and provided with the chance to add their own, participants were prompted to map out the connections, flagging particularly important actors or linkages with voting dots, and identifying challenges and opportunities for system intervention (incorporating methodologies from Gudlaugsson et al. (2022) & Zimmerman (2022)). The result is similar to a large, causal loop

diagram, but without the specific rules, requisite requirements for looping, and technicalities that apply to this tool as used in academia.

In Group III: Futures, participants engaged in a forecasting exercise, working with a shell graphic orienting them to the "cone" of different future scenarios (as seen in Figure 5, modeled after Cork et al. (2023)), and inviting them to envision scenarios belonging to each category, and discuss in particular those in the preferable zone, and how they intersect (or fail to do so) with probable or default projected futures.

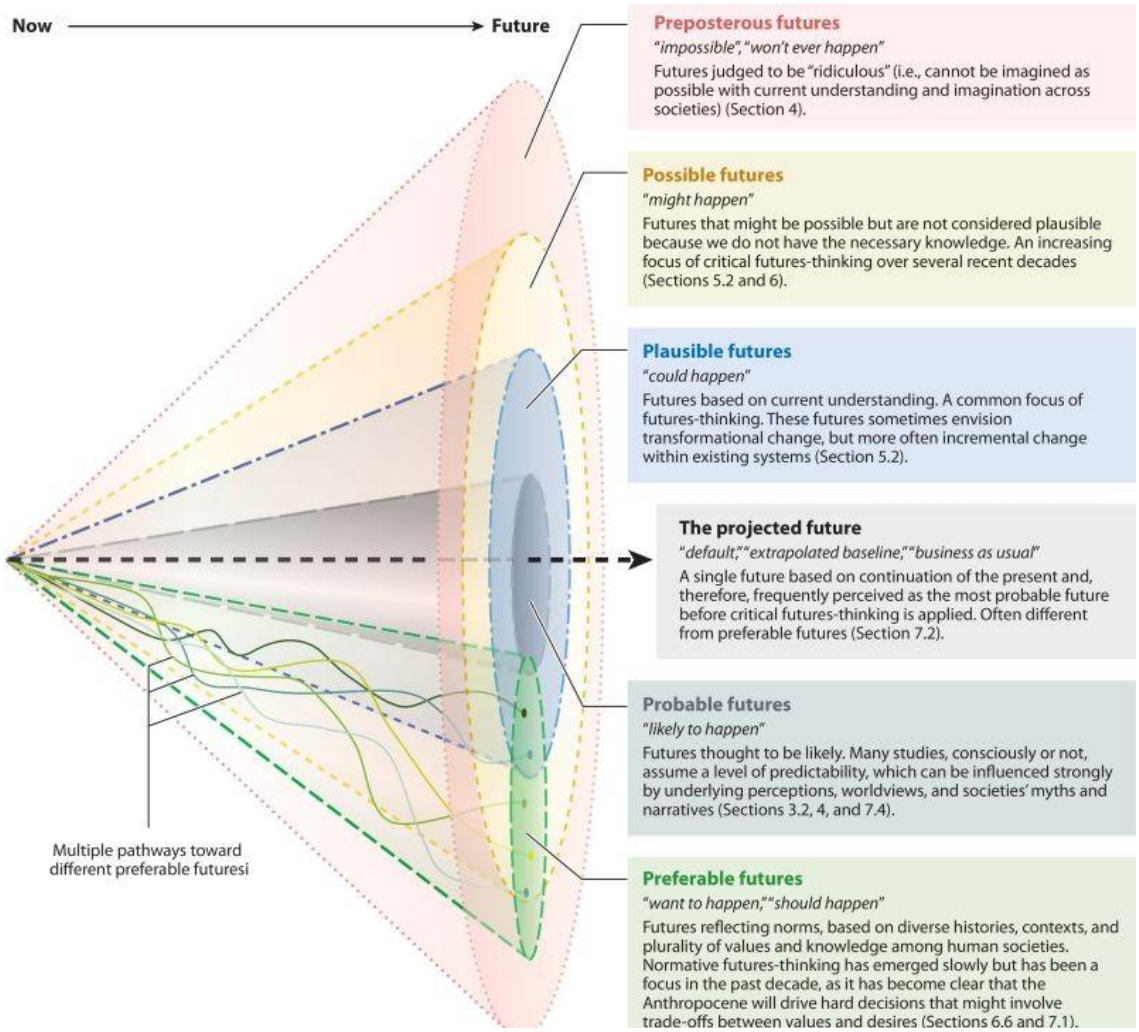

Figure 5. Cone of Futures (from Cork et al., 2023)

Cork S, et al. 2023
Annu. Rev. Environ. Resour. 48:25–54

3.3 Data Analysis

To analyze this data, I utilize the software MaxQDA to attach codes to the transcripts of interviews, as well as workshop notes and table outputs. Leveraging open coding and value coding, alongside thematic coding, enhanced my understanding of key themes, and prevented preconceived theoretical notions from inappropriately guiding findings. Open coding allowed for me to identify all the barriers, consequences, and future actions participants identified, and my analysis thus followed the flow of the problem-centered interview, allowing me to examine how different participants and participant groups framed the issue, its impact, and its desired solutions. Though not utilizing grounded theory, I incorporate its emphasis on giving participants "extraordinary voice" through the intentional use of direct quotes whenever possible (Gioia, 2012). Coding inductively and drawing from narrative analysis and discourse analysis allows me to explore emergent themes and patterns among community voices and analyze their alignment with or divergence from existing theoretical frameworks. To avoid skewed findings in this subjective research, I use a detailed codebook (see Appendix C), sought early feedback, and shared initial findings with a subset of participants to gut-check my interpretations. In presenting findings, in light of the qualitative and nuanced nature of my data, and my relatively small sample sizes, I avoid making any claims of statistical significance and de-emphasize averages and percentages.

3.4 Ethics & Limitations

As mentioned earlier, I use stratified purposeful and snowball sampling (a process through which each interviewee identifies other potential contributors) to recruit interviewees, aiming to gather perspectives from each group identified in my stakeholder mapping process, supported by connections made by my advisor, colleagues, collaborators at key regional agencies. I recruit workshop participants through connections with interviewees as well as from the general public through community engagement and interpersonal networks**.** However, despite the actions I took to promote the workshop, there were many limiting factors and many potential participants were either not connected to these outreach channels or were able to attend, especially given that it occurred on a busy weekend in September. The ideal research design would be for all participants to give an initial interview, attend a workshop, and giving a follow-up interview—however, this was not realistic, given the commitments in work and personal lives of participants, research timing during a busy season on the Westfjords (see Figure 6), meaning this could not become a requirement for participation. Of course, the workshop taking place in Ísafjörður also influenced and constrained who was able and willing to attend. A virtual workshop was considered, but potential participants advised against this, citing lack of appetite for participation and the challenges of navigating potentially divisive issues in a digital facilitation setting. Limitations of this sampling approach include self-selection biases, and potential research fatigue within the community (although notably, this did not appear to limit enthusiasm among contacts made). On a practical level, the fact that I conducted the interviews and workshop in English was also a major limitation, with impacts both on participants' comfort levels and on the clarity of certain terms and sentiments expressed best in Icelandic.

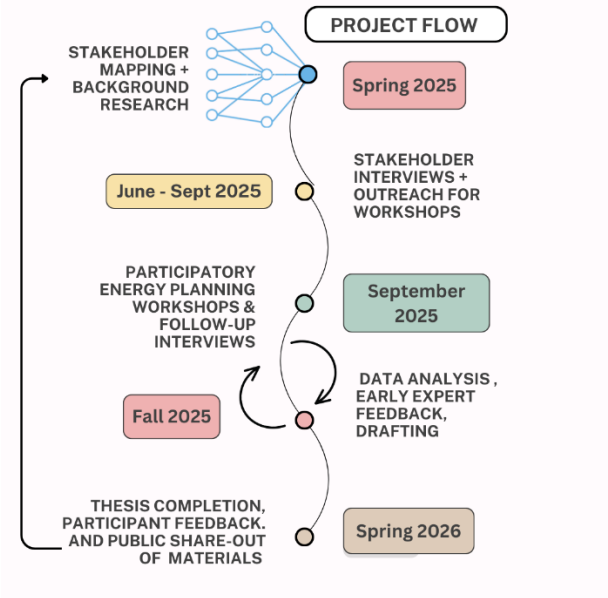

Figure 6. Project Workflow Diagram Timeline

This research is most constrained by time— both the brevity of the thesis cycle and the limited time participants can reasonably be expected to spend engaging with the research. To expect deep, sustained engagement driving transformation toward "energy citizenship" to arise from

these few workshops and conversations is unrealistic. Therefore, this project was designed knowing its findings would only be a snapshot of a long-term, nuanced, nonlinear process. My positionality as a foreign researcher in Iceland, though a limitation in terms of my capacity to deeply understand lived experiences, also serves as an asset. Especially for controversial topics, an external facilitator can encourage free dialogue in small communities where entangled relationships may otherwise prevent participants from speaking freely for fear of social consequences (Pelletier et al., 2020).

In the Westfjords, protecting participant privacy is crucial and challenging, given the tight-knit, well-connected nature of the communities. Although these results would be enriched by a clearer portrait of which perspectives (agencies, businesses, leadership roles, etc.) were represented in my data set, this would likely come at the cost of anonymity, so interviewees are decoupled, to the greatest extent possible, from any data which might make participants identifiable, resulting in vague language and broad categories of analysis.

This research is inspired by research principles which prioritize a nonextractive, reciprocal relationship with not only research participants but the broader community, and although my capacity to do a truly robust share-back of findings before thesis publication was limited by the timing of the cycle, I plan to honor these principles by sharing the findings described here in accessible, engaging formats beyond this thesis, including maps, infographics, one-pagers, and public events and conversations.

3.5 Conclusion

Through a mixed methodology employing semi-structured interviews and a public participatory workshop, I collected robust data from both expert and non-expert stakeholders across the Westfjords. Analyzing these findings with an emphasis on understanding attitudes toward key barriers to energy resilience, consequences of the status quo, and desired future actions helped structure my findings and allowed for constructive takeaways for policymakers. Although these methodologies faced notable limitations, self-selection bias key among them, they nonetheless generated a rich dataset well-poised to generate a richer, more nuanced understanding of public attitudes toward energy resilience in the Westfjords and identify opportunities for increased participation to shape more productive outcomes.

4 Results & Discussion

In this chapter, I present the results of the interviews, as well as the outcomes of the workshop, shaped by the methodologies established in the preceding chapter, and shaped by the guiding theoretical frameworks set forth in Chapter 2, and then discuss these datasets in dialogue with one another. These synthesized findings are organized into thematic sections for discussion. '4.3: Barriers to Energy Resilience' analyzes the most prominent perceived drivers of a lack of security in the region, while '4.4: Challenges & Consequences' articulates the felt impacts of the status quo. In '4.5: Desired Future Actions', participants' visions for the future—sometimes aligning, sometimes divergent—are presented, with an emphasis on how they relate to their understanding of the fundamental nature of the region's problem. Finally, '4.5: The Role of Participation' lays out how participants currently perceive their role in shaping the region's energy future, critiques the existing methods for collecting public input, identifies key barriers and resource gaps, and articulates participants' vision of a framework which could facilitate enhanced energy literacy and sustained community involvement in decision-making. Throughout the analysis, the aim of securing energy resilience in the Westfjords is seen as operating in a complex system where, currently, reinforcing loops contribute to the maintenance or worsening of a vulnerable status quo. Through this lens, the changing conditions of increased interest in developing energy generation and increased public attention on energy issues also emerge as creating opportunities for a more participatory system to shape improved outcomes.

4.1 Interviews:

Between June and October of 2025, 24 interviews resulted in usable data, 22 of which were conversations held either in person or over Zoom, and two of which were conducted in writing over email. The two interviews conducted over email took place because participants preferred to write and then translate their responses rather than speak their answers in English. Interviewees, along with some basic information, are listed below in Table 1 —however, due to the small, close-knit nature of the Westfjords community, to protect participants' confidentiality, no particular interview is associated with any specific role, background, or location which risks identifying an individual.

Twelve interviewees identified as being originally from the Westfjords, with the remainder identifying as from elsewhere in Iceland or from other countries. Eleven interviewees were based in Ísafjörður, with representation from all the other larger villages and some unincorporated areas, with all geographic regions of the Westfjords represented, making up the rest of the data set. All interviewees were long-term residents of Iceland. There were only two interviewees who lived outside the Westfjords; these individuals were selected for input based on the high relevance of their professional roles, and were not asked explicit questions about desired paths forward and personal values, to ensure the data on these matters primarily represented local perspectives. There was an approximately even gender distribution among participants. Fifteen participants represented perspectives informed by an energy background—here defined as professional experience or sustained academic coursework related to power

generation, renewable energy policy, or electrical infrastructure development. Those interviewees with energy backgrounds, marked with a "B" preceding their interview number represented at least one perspective from all the key institutions active in Iceland's energy system, and included people at various levels of status and seniority, from workers on physical infrastructure to high-ranking officials. The other participants, marked with a "A" preceding their interview number, represented a wide variety of community perspectives and professional fields, perspectives included policymaking institutions, area business owners (large and small), and community leaders in other key Westfjords organizations, and their perspectives help provide a better idea of general public knowledge, attitudes, and desires related to energy in the particularly relevant given principles of participatory decision-making.

Table 1. Interviewee information and reference numbers

Interview Number	Energy Background	Origin	Based in Ísafjörður
A.1	No	From the Westfjords	No
B.2	Yes	Not Originally from the Westfjords	Yes
B.3	Yes	Not Originally from the Westfjords	Yes
A.4	No	From the Westfjords	No
B.5	Yes	From the Westfjords	Yes
B.6	Yes	From the Westfjords	Yes
B.7	Yes	Not Originally from the Westfjords	Yes
A.8	No	Not Originally from the Westfjords	Yes
B.9	Yes	From the Westfjords	No
A.10	No	Not Originally from the Westfjords	No
B.11	Yes	From the Westfjords	No
B.12	Yes	From the Westfjords	No
B.13	Yes	From the Westfjords	No
A.14	No	From the Westfjords	Yes
B.15	Yes	From the Westfjords	No
B.16	Yes	From the Westfjords	No
A.17	No	From the Westfjords	No
B.18	Yes	Not Originally from the Westfjords	No
B.19	Yes	From the Westfjords	Yes
B.20	Yes	Not Originally from the Westfjords	Yes
A.21	No	Not Originally from the Westfjords	Yes
B.22	Yes	From the Westfjords	No
A.23	No	Not Originally from the Westfjords	Yes
A.24	No	From the Westfjords	No

4.1.1 Thematic Focus of Interviews

Identifying which issues dominated interviewee perceptions of the energy status quo and desired future for the Westfjords laid the groundwork for identifying key gaps and areas of alignment. For all interviews, topics of conversation fell into three major categories, key themes of which are further analyzed in sections 4.3, 4.4, and 4.5: Barriers to Energy Resilience, Challenges and Consequences of the Current Status Quo, and Desired Future Action, as well as miscellaneous discussion captured in Figure 7 as 'Other Emerging Themes or Dynamics'. Often, discussions of barriers were closely linked to desired future actions. Interview questions were evenly distributed among the three major categories, however as Figure 7 shows, interviewees spent more time sharing their perspective on visions for the future. While all interviews were prompted by the same set of questions, their areas of focus, as well as the attitudes expressed, varied widely, both in terms of their perceptions of existing challenges and in terms of solutions suggested.

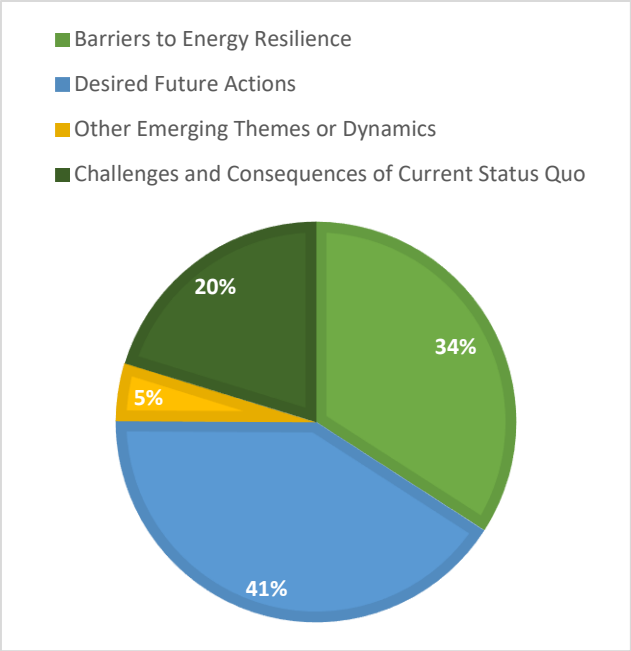

Figure 7. Pie Chart Displaying Percentage of Coded Interview Sections Focused on Major Themes

4.1.2 Interviewee Perceptions of Barriers to Energy Resilience

When discussing barriers driving the Westfjords' energy insecurity, as seen in Figure 8, a lack of capital in the region was the most frequently cited factor. Defined according to a community capitals framework, capital encompasses monetary resources, physical infrastructure, local knowledge, political power, and other levers for achieving objectives (Emery & Flora, 2006). The next most frequent barrier mentioned was a sentiment coded as "Overemphasis in Economics", and describes a cluster of sentiments where participants expressed that decisions driven solely by economic cost-benefit analyses or project profitability have not created a secure, robust grid in the Westfjords, with many expressing a belief that this pattern is likely to continue. The next three most frequent barriers were all negative characteristics of the current decision-making structures governing energy infrastructure, with most interviewees observing

clashing Objectives/Counterproductive Dynamics (often between nature protection and the pursuit of prosperity, or between desire for profitability and obligation to provide services), a Lack of Creativity/Innovation/Foresight (often linked to a perception of delayed or ad-hoc grid maintenance and a lack of successful or innovative new generation projects in the region), and Outside Interference from Reykjavik, foreign companies, or other actors perceived as taking on an inappropriately outsize role in driving outcomes for the Westfjords.

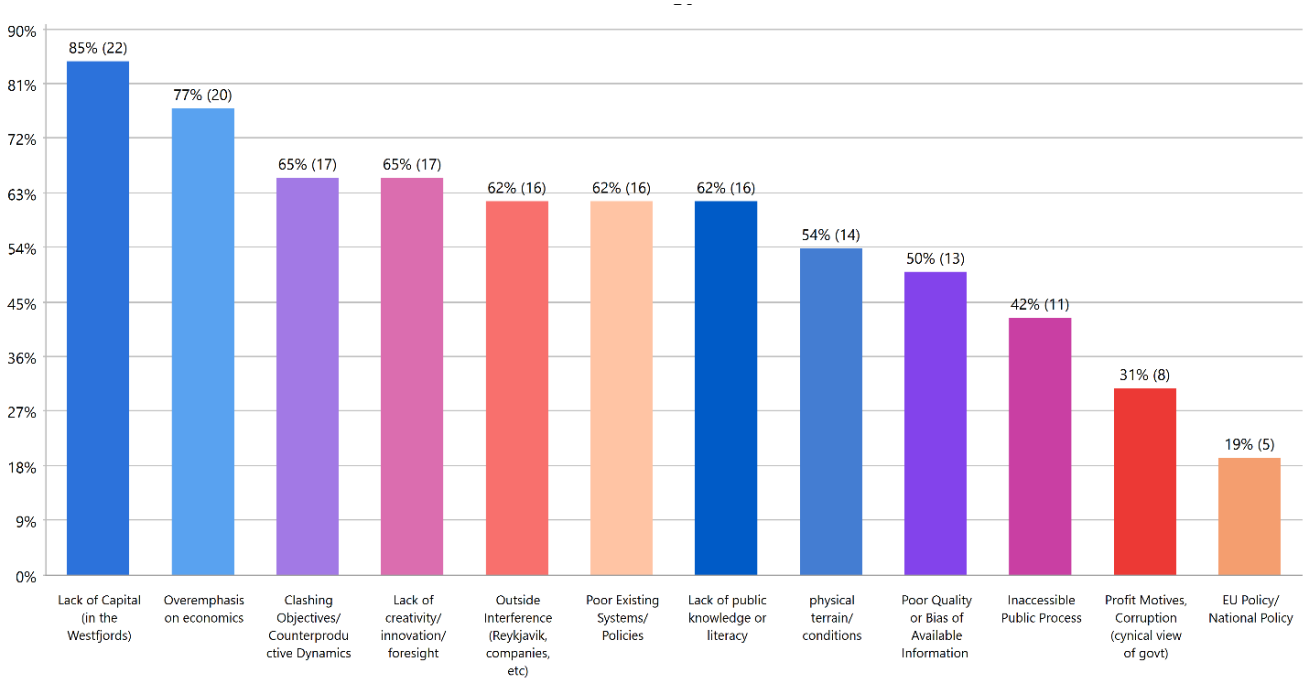

Figure 8. Bar chart visualizing the top barriers driving energy insecurity in the Westfjords, as indicated by both the percentage and number of interviews in which the barrier is mentioned.

4.1.3 Variation in Perception of Barriers by Interviewee Background

Although some barriers were mentioned consistently across groups of participants representing all groups, there were also instances in which perspectives diverged, as seen in Table 2.

Table 2. Comparison of total percentage of coded segments focused on each barrier between groups of interviewees representing different backgrounds.

Barriers Identified	Energy Background	No Energy Background	Based in Ísafjörður	Based Outside Ísafjörður	From WF	Not from WF
Physical Terrain/ Conditions	11%	3%	6%	11%	12%	4%
Clashing Objectives/ Counterproductive Dynamics	17%	18%	20%	15%	18%	16%
Outside Interference (from Reykjavik, companies, etc.)	12%	6%	12%	9%	12%	8%
Poor Existing Systems/Policies	15%	17%	16%	15%	14%	16%
Inaccessible Public Process	5%	18%	10%	6%	5%	12%
Overemphasis on Economics	15%	10%	14%	14%	16%	10%
Lack of Capital (in the Westfjords)	15%	11%	13%	17%	18%	10%
Lack of public knowledge or literacy	9%	15%	11%	8%	6%	17%
Poor Quality/ Bias of Information	6%	27%	10%	14%	12%	10%
Lack of creativity/ innovation / foresight	15%	11%	8%	19%	17%	11%

Barriers consistently identified across groups were dissatisfaction with existing polities and the perceived clashing objectives and counterproductive dynamics stalling progress toward energy resilience. Interviewees across the board also perceived a lack of capital (both tangible and political) in the Westfjords that created a lack of urgency and accountability around action—closely linked to a perception that economic profitability was over-emphasized in decision-making, resulting in outcomes with adverse consequences for the region and its people.

However, there was a notable difference in how different groups perceived the physical terrain and conditions facing infrastructure in the Westfjords as a barrier, as this was much more frequently mentioned by those with energy backgrounds, those who lived outside of Ísafjörður, and participants who were originally from the Westfjords, suggesting that experiential

familiarity with the difficult landscape—either through profession or lived experience—brings it more top of mind Lastly, those based outside Ísafjörður expressed more frustration with what they perceived as a lack of creativity, innovation, or foresight, potentially for similar reasons, as they experience more acutely the consequences of a system insufficiently prepared for what changing conditions bring (Hearn, 2022; Heaslip & Fahy, 2018).

General Public Perspectives vs. "Expert" Opinions:

Notable divergences in key perceived barriers include a tendency for those not from energy backgrounds to focus much more on the poor quality, bias, or lack of information on energy projects and systems (6% of coded segments among "experts", 27% of coded segments among those without energy backgrounds). The same holds true for the inaccessible nature of existing public processes—much more prominent for those without professions or backgrounds facilitating easier access to these spaces. As highlighted in later segments of analysis, this gap between those in roles granting them influence over decision-making and those members of the general public who tend to most experience the consequences is a key area where more participatory approaches can bridge the gap.

4.1.4 Future Trajectories: Desired Actions

As with challenges, the desired actions articulated by participants were partially aligned and partially divergent. As seen in Figure 9, the most frequently mentioned desired action was to strengthen the grid, supported by twenty two out of twenty-four interviews, closely followed by a desire to increase generation in the Westfjords, and to enhance public participation and public energy education.

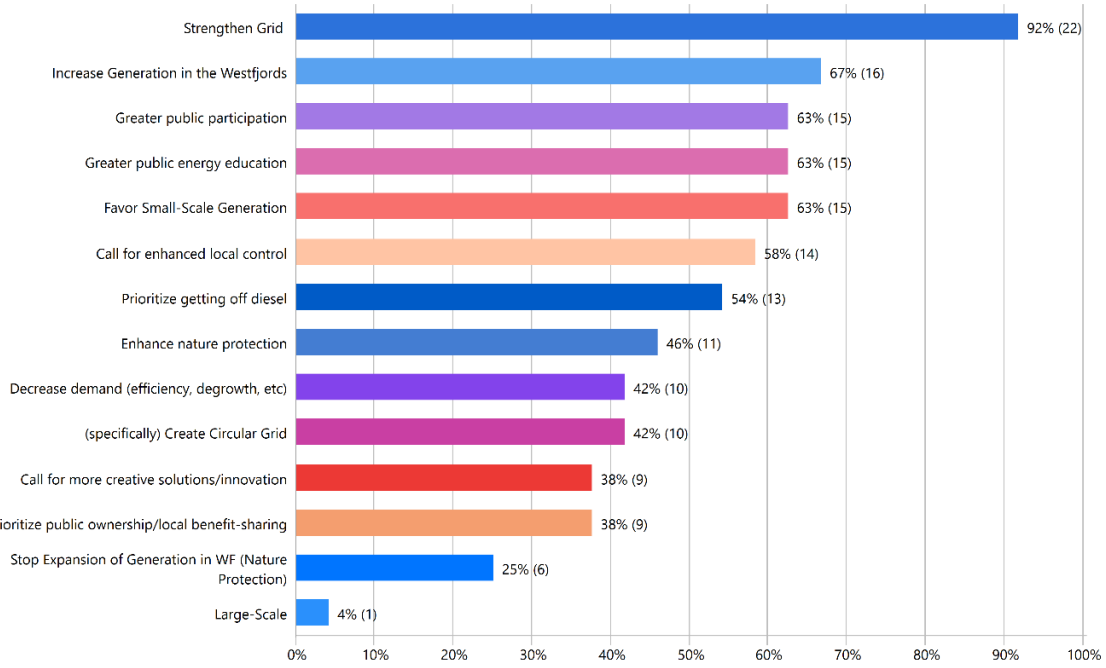

Figure 9. Bar chart visualizing top desired future actions to build energy resilience, as indicated by the percentage and number of interviews in which action is mentioned.

However, here also, as Table 3 indicates, there were some divergences in desired trajectories between groups. There was a stronger emphasis on increasing generation from those based outside of Ísafjörður, and those lacking an energy background. As observed in the challenges section as well, there was a much stronger perceived need for enhanced public participation in decision-making among those lacking an energy background. Well-supported future actions which enjoyed a consistent amount of emphasis across groups were support for a strengthened grid, aims to decrease diesel, and a preference for public ownership and/or insistence on strong local benefits for energy projects in the region.

Table 3. Comparison of percentages of total coded segments focused on desired future actions between group of interviewees from different backgrounds.

Code System	Energy Background	No Energy Background	Based in Ísafjörður	Based Outside Ísafjörður	From WF	Not from WF
Strengthen Grid	19%	11%	13%	20%	21%	10%
Increase Local Generation	10%	22%	8%	20%	18%	7%
Favor Small-Scale Generation	14%	4%	10%	14%	13%	9%
(Specifically) Create Circular Grid	8%	5%	3%	11%	9%	3%
Decrease Diesel Reliance	6%	9%	6%	8%	6%	7%
Prioritize Nature (Strengthen Protection/ Stop new generation)	8%	13%	15%	5%	7%	13%
Prioritize Public Ownership/ Commit to Local Benefits	8%	7%	7%	9%	8%	7%
Maintain or Strengthen Local Control	15%	9%	20%	8%	12%	16%
Greater public participation	8%	25%	16%	9%	7%	21%
Creative Solutions/innovations	15%	3%	9%	11%	11%	11%

4.1.5 Relationship Between Interviewee's Problem Definition & Desired Actions:

Especially when linked to group identity or an expert-non-expert divide, diverging perceptions of the dominant causes of the challenge at hand can cause public discourse to become divisive and counterproductive (Baard, 2021). To evaluate the extent to which perception of certain barriers drove a tendency to support certain solutions, I analyzed how these tended to co-occur within the same interview. As seen in Table 4, some of the patterns between the barriers identified and desired paths forward are, of course, intuitive: for example, those who perceived the problem as primarily driven by insufficient supply also viewed increased generation as the solution. However, some co-occurrences spoke to deeper ideological patterns.

Table 4. Display of co-occurrences of codes between a set of perceived problems and desired solutions. Notably strong co-occurrences (top 33%) are denoted with a green circle, and weak or uncommon co-occurrences are denoted with a red circle.

		Desired Solution											
		Strengthen Grid		(Specifically) Create Circular Grid		Increase Generation in the Westfjords		Favor Small-Scale Generation		Maintain or Strengthen Local Control		Creative Solutions & Innovation		Enhance Nature Protection	
Percieved Problem	Physical Terrain/Conditions	●	13	✕	7	✕	8	△	9	△	9	✕	7	✕	5
	Poor Existing Policy (EU or National Constraints)	●	19	△	10	●	16	△	11	△	11	✕	8	△	10
	Lack of Capital (in the Westfjords)	●	21	△	11	●	15	●	13	●	13	✕	8	△	9
	Lack of Innovation/Foresight	●	16	✕	6	△	11	●	12	●	13	△	10	✕	7
	Poor Grid Connectivity/ Lack of Circular Grid	●	20	△	11	●	12	△	11	●	13	△	9	△	9
	Not Enough Energy Supply	●	13	✕	6	●	12	✕	7	△	10	✕	6	✕	5
	Energy Limiting Economic Vitality/Growth	●	15	✕	8	●	13	△	10	△	10	✕	6	✕	8

		Desired Solution									
		Maintain or Strengthen Local Control		Greater Public Participation		Prioritize Public Ownership/ Local Benefits		Favor Small-Scale Generation		Enhance Nature Protection		Decrease Demand (efficiency/degrowth)	
Percieved Problem	Clashing Objectives/ Counterproductive Dynamics	●	11	○	10	●	6	●	11	○	7	○	7
	Outside Interference (from Reykjavik, companies, etc)	●	11	○	9	○	8	○	9	●	7	●	10
	Overemphasis on Economics	●	14	●	12	●	11	●	12	○	8	●	12
	Poor Existing Systems/Policies	○	10	○	9	●	7	○	9	●	7	●	10
	Inaccessible or Performative Public Processes	●	11	●	13	●	6	●	13	●	10	○	8
	Poor Quality or Bias of Available Information	●	7	○	8	●	5	○	8	●	10	●	5

Those who believe that the issue of energy insecurity in the Westfjords is an issue of insufficient supply, challenging physical conditions, lack of capital, and limitations to economic growth were most aligned with strengthening the grid and building new generation, and largely misaligned with desires for greater nature protection and more creative or innovative solutions such as alternative energies, demand reduction strategies, and social change. These individuals form one camp of opinion in the region, which some members have dubbed the "Build Everything" perspective. However, for those who center instead the dysfunction of existing policies and decision-making frameworks, perceiving issues of competing interests, overemphasis on economics, and poor public processes, their desired set of solutions focuses much more on strengthened local control, enhanced participation, small-scale generation, nature protection, and efforts to decrease demand. Members of this camp, which one interviewee dubbed the "build nothing"s, hesitated when confronted with claims that the region needs more energy, and were much less likely to express support for large-scale projects in the Westfjords.

Of course, these two categories vastly oversimplify interviewees' perspectives: No one individual aligned with the caricaturish, energy-hungry Build Everything archetype, nor with the militant tree-hugging insistence that we Build Nothing, and all individuals expressed an awareness of the tradeoffs inherent in either approach. However, they do indicate a stark gap between views of the system held by otherwise closely aligned neighbors, creating formidable challenges for working toward consensus. Despite the overall civil tone of the discourse, especially for people who identified strongly with one of the two camps, there was a strong sense of frustration with one another's perspective, with a sense of talking past one another or not being able to align on the basics. Particularly for those without expert backgrounds, this creates an environment, as discussed in section 4.6.2, where it is difficult to discern the truth and make informed choices. This contributes to the delay, confusion, and dysfunction which, for many, characterize the current attempts to improve the region's vulnerable system, indicating a need for a shift not just in material infrastructure, but in public discourse.

4.1.6 Summary of Interview Findings: A Need for Bridging the Gap

As more in-depth analysis of participant attitudes will further reveal, although there are some key points of alignment, resident of the Westfjords understand the problem at hand differently depending on their background—and this divergence in understanding shapes their attitudes toward potential solutions accordingly. In particular, experts and members of the public do not share a common initial point of reference for what is driving the energy insecurity the region experiences, and thus, what some view as a desirable solution or savior, others oppose with skepticism and fear the situation will never improve. As evident from research on communities facing similar dynamics, this has consequences for the quality and clarity of the discourse on energy transitions, as well as practical implications for public reactions to policy-making and project development, and indicates a need for more robust strategies in both education and engagement in order to bridge this gap (Bogdanova & Primova, 2022; Krick, 2022; Schlenker & Bosch, 2025).

4.2 Workshop:

Although valuable insights emerged from the workshop component of this research, the workshop was first and foremost an experimental methodology for exploring participatory ways for community members to engage with energy issues. This thesis' limitations, as noted previously, also constrained its scope and robustness, as well as the completeness of the data available. In light of these factors, the workshop findings and outcomes generated are offered more as additional context for understanding residents' perception of the existing energy system and their role in shaping its future than as a definitive answer to my research questions. This is especially true, because, although those who attended contributed thoughtfully, they could not possibly convey the full nuance of the many perspectives present in the Westfjords, and our conversation surely missed many important voices. If myself or another researcher were to host this same workshop again, even with identical protocols in place, different attendees would likely result in an entirely different dataset—as is always true with dynamic, transdisciplinary methodologies (D. J. Lang et al., 2012; Transformations et al., 2025). In light of this context, the data presented here and in the following discussion is not intended to be taken as representational, but as possibilistic—one snapshot of a perpetually shifting dialogue that nevertheless has value for guiding decision-making processes, which are also perennially in flux, as leaders navigate a changing energy and socio-economic landscape.

4.2.1 Workshop Attendee Characteristics

To calibrate the discussion to the level of knowledge in the room, and to gain insights into the characteristics of those who attended, attendees were asked to rate their own level of familiarity with energy issues in the Westfjords. Notably, as seen in Figure 10, no one ranked themselves as an expert (5), with a majority considering their knowledge level "average" (3) Detailed demographic data was not collected in order to maintain participant privacy and to keep entry surveys brief enough to ensure completion. Participants were also asked about their interests in specific questions, and responded with curiosities about specific projects, ideas for innovative programs, and points of confusion about the existing system which shaped table exercises.

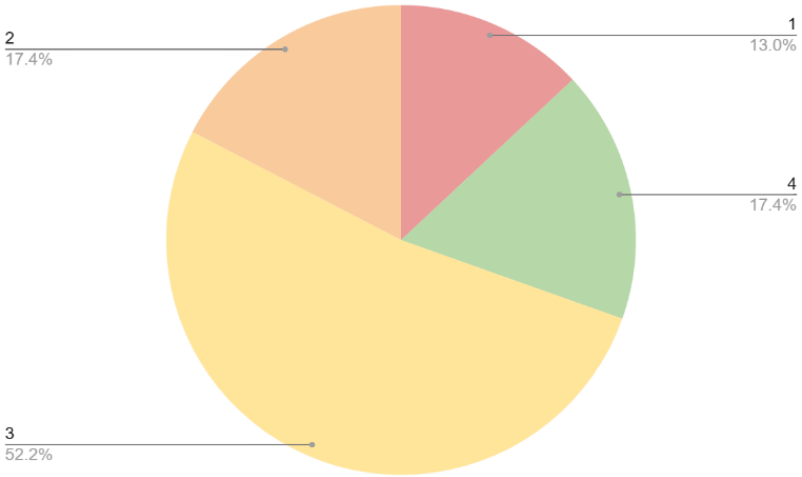

Figure 10. Pie chart displaying responses to the question: "How would you rate your current level of knowledge of and engagement with energy issues in the Westfjords?1 being none, 5 being expert"

4.2.2 Key Themes of Discussion

Participants were asked to respond to a collaborative brainstorm with the first three words or phrases that came to mind when they thought of energy in the Westfjords. As seen in Figure 11, the top emerging concerns were the region's reliance on diesel, the fragile nature of the existing grid, the prevalence of hydropower, a belief that current decisions insufficiently protect the natural environment, and other mentions of different dynamics and potential solutions. Because responses were visible to the group, a snowball effect may have impacted the data, with early responses influencing those that followed.

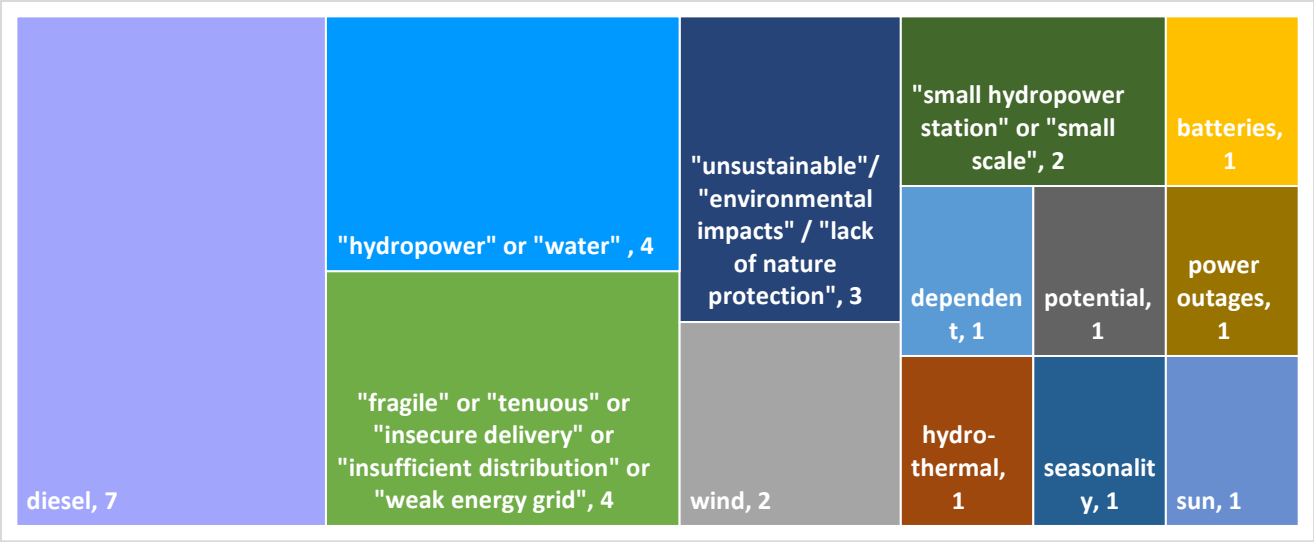

Figure 11. Treemap Chart displaying workshop participants' responses to the question: "When you think of energy in the Westfjords, what three words or phrases come to mind?"

When asked to rank the challenges facing the Westfjords by importance, participants assigned the most importance to Grid Infrastructure (average importance ranking: 5.9 out of 7). Impact on nature (5.7 out of 7), and Stability/Outages (5.6 out of 7). However, in reflecting on this activity, the group also discussed the overlapping and intersecting nature of these challenges and how they are difficult to disentangle from one another. For example, one participant pointed out that they were hesitant to rank grid infrastructure over stability/outages, because a lack of robust grid infrastructure partially drives outages. Similar complications arose around reliance on diesel, since some pointed out that this might be seen as a challenge by some, because it helps lessen the felt impacts of power outages, others might view it as a solution. For this reason, these rankings were considered by participants (and myself as a researcher and facilitator) as a starting point for discussion rather than as a list of items to address in order of priority.

4.2.3 Group 1: Values ("Compass" Activity)

In this group, participants were asked to lay out the criteria of values they felt should guide decision-making. This activity was presented through the metaphor of a compass, in the hopes that this familiar concept would support participants' understanding of the values as a reference used to determine whether a given direction was suitable. Participants listed a wide variety of criteria, which, as seen in Figure 12, were ultimately represented as a compass of different value categories rather than a prioritized list. Though the instructions invited participants to weigh in on which they felt should be most influential in guiding decisions, participants found it difficult to vote or rank with the dots – communicating to the notetaker that this would not reflect their belief that these criteria are "all important", and that the desired outcome is a balance between them. Putting too much emphasis on one criterion, the group felt, would drive decisions with unacceptably adverse consequences for others. However, they also clearly stated that if they had to choose, the value they placed on public ownership and ensuring local benefits would supersede their concern over nature protection.

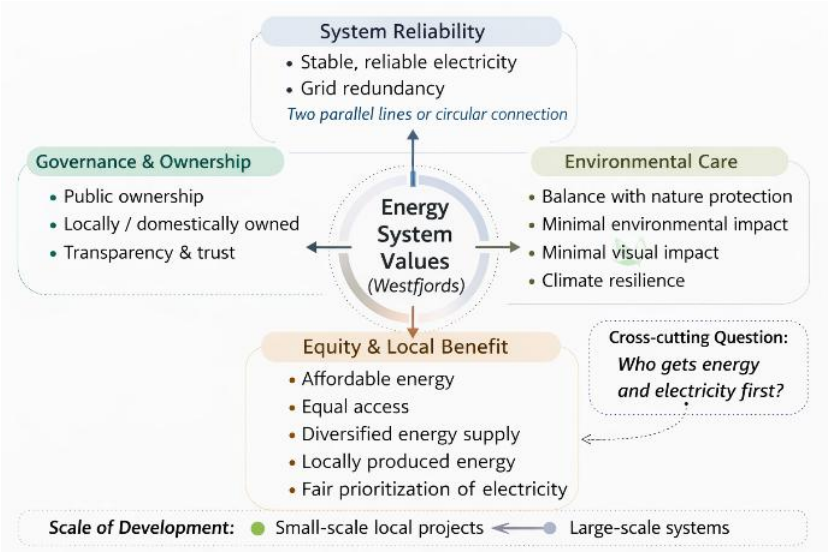

Figure 12. Diagram created based on participant-contributed values and criteria for guiding future energy decisions in the second workshop group, "Compass".

4.2.4 Group 2: Systems ("Lay of the Land" System Diagram Activity)

In this activity, participants were asked to sketch out the "lay of the land"; or a loose map of the different entities and connectors involved in the region's energy system. When it came to the web of connected stakeholders, a key player that kept returning was the big industrial users (or, in the Westfjords, the lack thereof). The economic and socio-political power of these entities was often framed as the only thing that might move the needle on long-stalled projects or change the region's overall trajectory. The question of funding kept returning to prominence in the discourse as well (as seen in Figure 13), linked closely to the question of political willpower, and a lack of incentive to take bold action in a system which is a patchwork of actors with overlapping interests and responsibilities, sometimes directly contravening each other (Burke & Stephens, 2018; Guðlaugsson et al., 2020).

Figure 13. Digital recreation of the output created by participants in workshop group 3, titled "Lay of the Land", depicting community understanding of the connections between key energy stakeholders.

4.2.5 Group 3: Futures ("Destinations" Cone of Futures Activity)

In the last exercise, modeled after Cone of Futures (Dhami et al., 2022; Hancock & Bezold, 1994; Theunissen, 2024), participants brainstormed different imagined scenarios, or, potential "destinations" for the energy future of the Westfjords, and to place them in different areas of the cone depending on their perceived likelihood and desirability. As seen in Figure 14, participants also reflected on the possible pathways by which we might arrive there at these different potential futures.

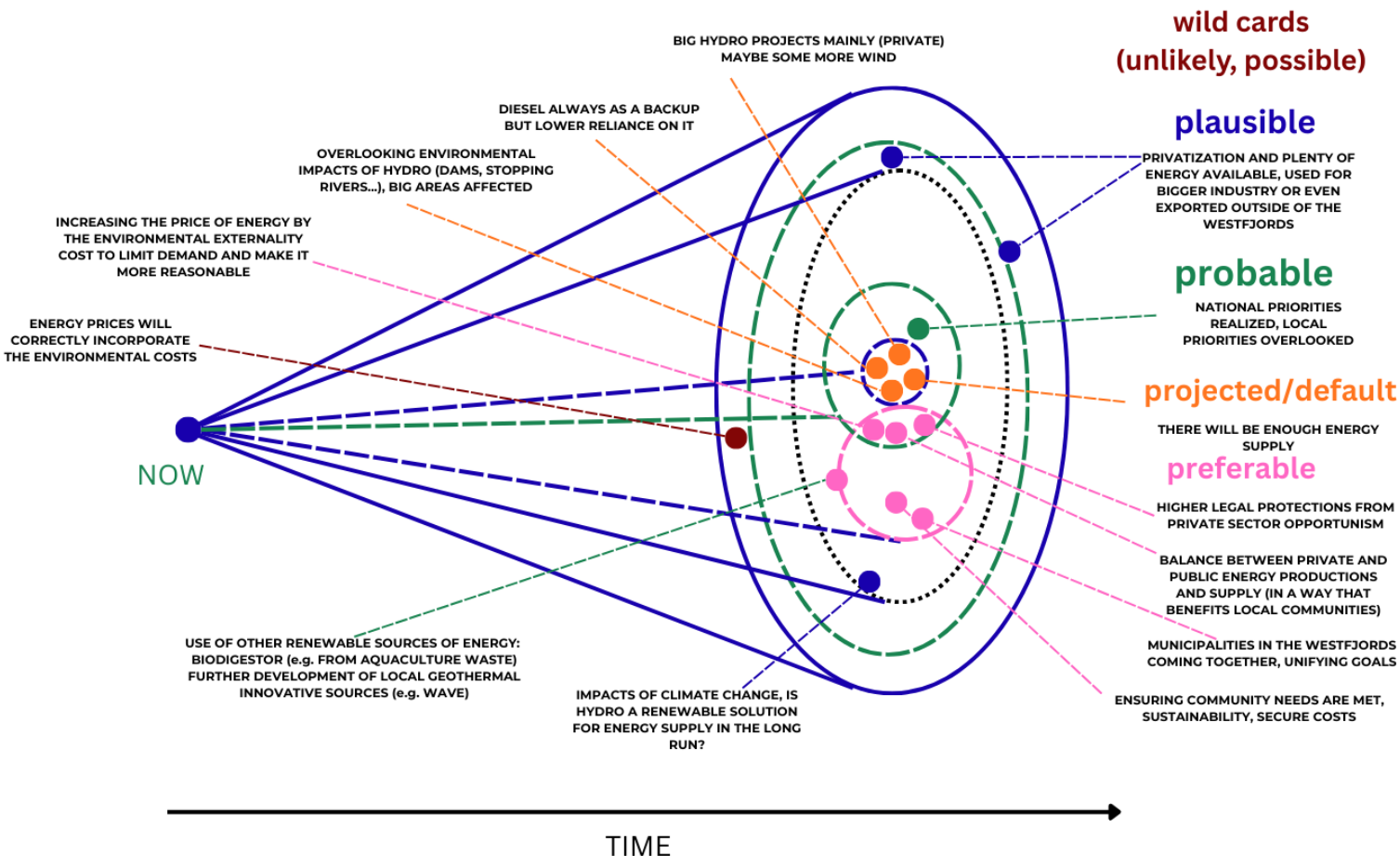

Figure 14. Digital recreation of the Cone of Futures diagram created by workshop participants, with scenarios of different likelihoods and desirabilities represented by dots joined to descriptions.

Notably, people predicted that the default future (one which constitutes a "straight line" from the present, with no existing conditions fundamentally changing) would be one in which the Westfjords attained a sufficient supply of energy by constructing large privately owned hydropower projects while overlooking their environmental impacts, with diesel still used as a backup, though with diminishing reliance on it over time.

In the probable but preferable futures zone, participants forecasted: 1) higher legal protections from private sector opportunism; 2) a balance between private and public production and supply that benefits local communities; and 3) policies that increase the price of energy to account for

the environmental externality it takes to create it, shaping a future where citizens limit their demand. Preferable but less plausible scenarios included: 1) municipalities in the Westfjords uniting in pursuit of goals and a fully sustainable system; and 2) the use of other renewables, including biodigesters, wave energy, and other innovative solutions.

4.2.6 Key Insights and Possibilities for Future Participation

Participants remarked, both through formal and informal feedback mechanisms, that their experience participating in this workshop—which was, for most, their first time participating in any sort of energy-oriented conversation—was a positive one, and that they would be eager to attend similar events in the future. The conversation during the workshop was respectful, curious, and thoughtful, with participants embracing differences of opinion and grappling in real time with questions of how to use and where to direct scarce resources and how to structure ownership of the infrastructure needed to sustain the Westfjords in the future.

Despite not framing it in these theoretical terms, workshop participants favored a shift toward what scholars would call energy sufficiency rather than abundance, with their dialogue focused on strategies seeking to meeting current needs, prepare for plausible futures, and shift down costs and consequences—not to maximize power generated or profits made. They weighed the advantages and disadvantages of two approaches to generating more energy locally, discussing the tradeoffs of opting for a distributed system of small-scale plants generating many small interruptions to the natural world compared with adopting a few large projects doing larger concentrated damage, but leaving vast swaths untouched. Some, as in the interviews, questioned whether more energy was even necessary at all for a thriving future in the Westfjords—and again, as in the interviews, the need for a strengthened, better-connected grid united participants despite their varying preferences, priorities, and values.

In addition to exploring how the Westfjords' energy future might be strengthened by participatory processes, this research also inquired what extent participating in an energy planning workshop might build a sense of ownership and buy-in for stakeholders not normally involved in the decision-making process and contribute to the cultivation of energy citizenship. Though participants' reactions to this workshop and insights from interviews indicate a strong community desire for spaces to grapple with and voice insights on energy issues—and increased willingness and confidence concerning their future participation in these spaces— a definitive answer will require much more robust programming and the ability to track attitudes and actions over a longer time span than this thesis permits (Laakso et al., 2023).

4.2.7 Alignments and Divergences Between Workshops and Interviews

The combination of these two methodologies provided an opportunity to observe whether there were significant areas of overlap or divergence in the sentiments expressed in a workshop setting compared to interviews, offering clues into what dialogue with peers might unearth which would not emerge in a one-on-one interview setting. Table 5 displays the topics for which I observed the strongest alignments, as well as the greatest divergences, between the datasets.

Table 5. Alignments and Divergencies between themes in interviews compared to workshops, as assessed based on the percentages of total codes associated with themes

Strong Alignments:	All Interviews	Workshops
Challenge: Grid Connectivity/ Lack of Circular Grid	4.90%	4.76%
Physical terrain/conditions	3.35%	3.57%
Outside Interference (from Reykjavik, companies, etc.)	3.35%	3.57%
Overemphasis on Economics	5.03%	4.76%
Desire to Strengthen Grid	5.55%	5.95%

Sharp Divergences:	All Interviews	Workshops
Prioritize Public Ownership/ Commit to Local Benefits	2.97%	11.90%
Consequence: Limitations to Economic Vitality/Growth	7.10%	1.19%
Desire to Decrease Demand (efficiency, degrowth, etc.)	1.68%	7.14%
Lack of creativity/innovation/foresight	5.16%	1.19%
Desire to Maintain or Strengthen Local Control	3.23%	7.14%
Desire to (specifically) Create Circular Grid	2.19%	5.95%
Desire to address Climate Change	1.42%	4.76%
Lack of public knowledge or literacy	4.13%	1.19%
Desired to Increase Generation in the Westfjords	3.87%	1.19%

Notably, workshop participants placed much more emphasis on the importance of public ownership structures and local benefits than interviewees, although this could have been due to the fact that this was raised early in the discussion by several participants, and due to the workshop's framing of a values-driven rather than a problem-solving approach. However, this does align with the differences observed in when participatory methods employ a community-forward dynamic, which surfaces more collectively-oriented concerns than one-on-one conversations (McEvoy et al., 2018; Newig et al., 2023).

Consistent throughout both the workshops and interviews was the agreement that the current weak grid must be strengthened, and that challenges are shaped both by the Westfjords' physical terrain and by the dynamics of outside interests operating in a region with relatively little political capital of its own, as well as from the dominance of economic reasoning in decision-making. Also consistent across the two methodologies was a narrative of seeking balance between values which are sometimes at odds with one another—whether that is balance between public and private interest or nature protection and energy opportunities. Discussing what exactly that balance might resemble was where workshop participants expressed most liveliness—and also, unfortunately, where the time constraints of the workshop limited the

ability to arrive at a full picture. However, insights from transformative participatory processes as applied in Engbersen et al. (2024) and Heaslip & Fahy (2018) suggest this is aligned with expectations— the negotiation necessary to define a desired, balanced state among tangled webs of competing interests is an ongoing, long-term endeavor, one which, this research argues, could be of great use to the Westfjords as they look to the future.

4.3 Synthesized Energy System Insights: Barriers to Energy Resilience

To get a fuller portrait of participant narrative of systems shaping energy in the Westfjords, this next section focuses on analysis of both the interview and workshop, supported by direct quotations from interviews illustrating key themes. The overall portrait that emerges is one of a system in which several reinforcing dynamics maintain a status quo in which a vulnerable grid challenges local resilience and limits vitality, driven by concrete structural challenges such as physical landscapes and a lack of large end users, as well as more malleable socio-political factors such as local literacy and involvement in decision-making. Figure 15 visualizes this system as an extended causal loop diagram, with the different elements weighted by and labeled with the number of times they appear in the discourse across interviews and workshops, and directional arrows marking the nature of each element's influence on the other.

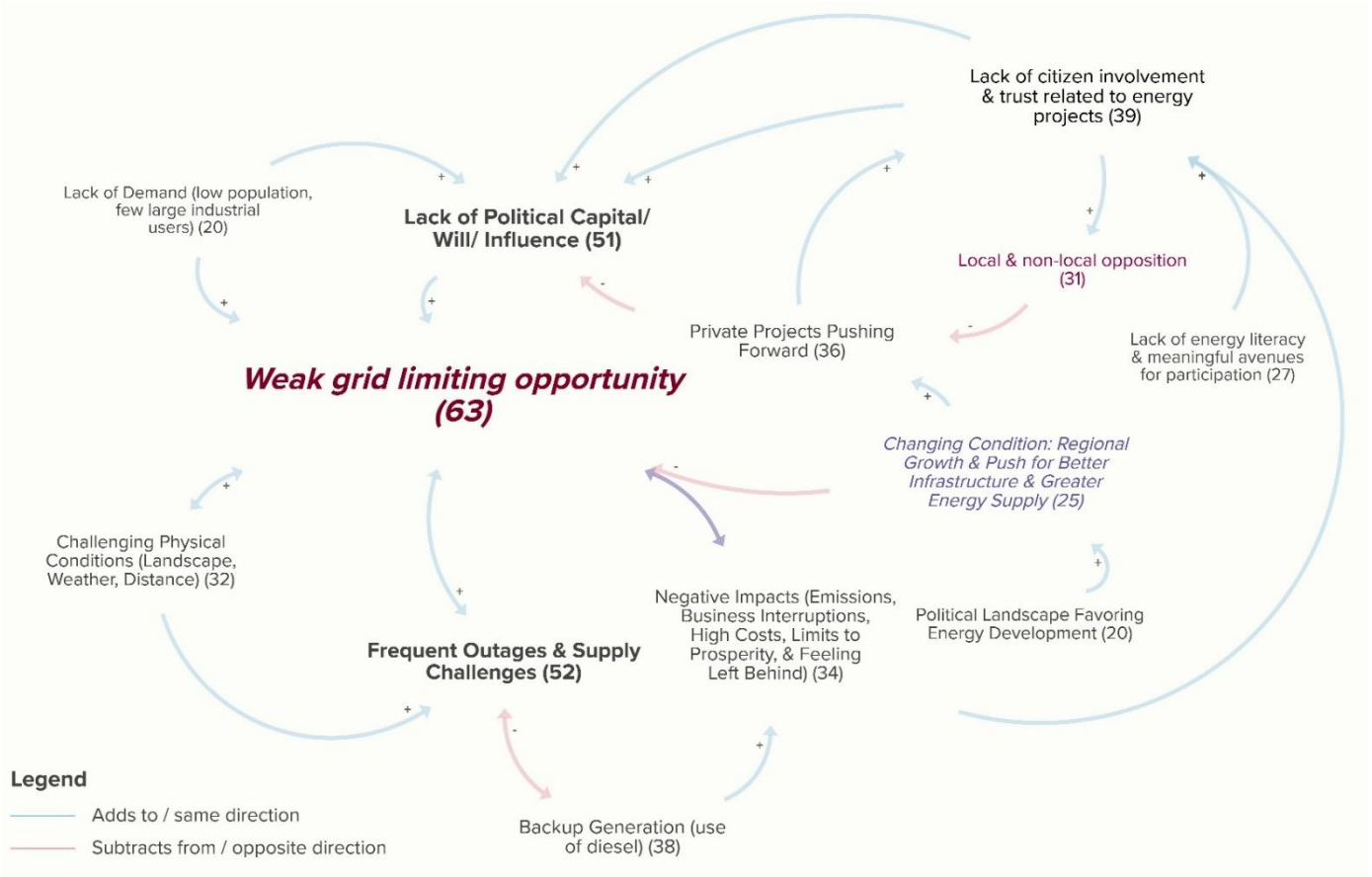

Figure 15. Causal Loop Diagram of the energy system in the Westfjords with components sized proportionally to how frequently participants observed them

My analysis follows these loops, beginning with a discussion of the key underlying conditions and barriers shaping vulnerabilities, and continuing to lay out the resulting challenges and their consequences for Westfjords communities, before concluding with their implications for future changes seeking greater resilience, highlighting community participation as a pivotal variable where interventions could begin to drive transformative change.

4.3.1 Reinforcing Loops and Barriers to Resilience:

One of the key sets of reinforcing loops driving a lack of energy resilience in the Westfjords consists of key barriers, as depicted in Figure 16, which highlights one subsection of Figure 15's full causal loop diagram. Interviewee perspectives suggest that a lack of citizen literacy and involvement in decision-making, as well as more concrete factors from challenging physical conditions to a lack of demand, result in a lack of political capital, will, or influence, which drives passive acceptance of (or the incompleteness or stalled nature of attempted solutions to) energy insecurity.

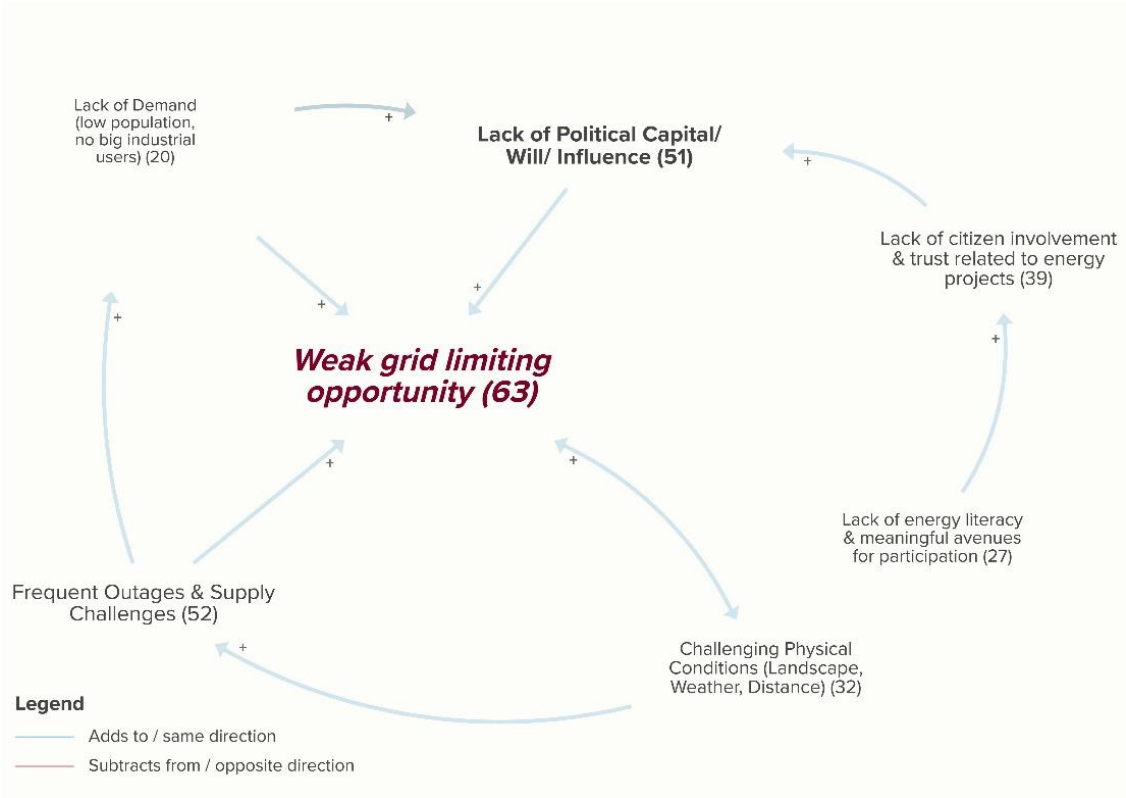

Figure 16. Partial Causal Loop Diagram of the Westfjords Energy System, highlighting only the barriers creating a reinforcing loop maintaining the weak grid

The barriers represented in the looping diagram, though, were far from the only ones mentioned—other barriers, some of which have less direct linkages to observed outcomes, are represented in Figure 17, along with representative quotes.

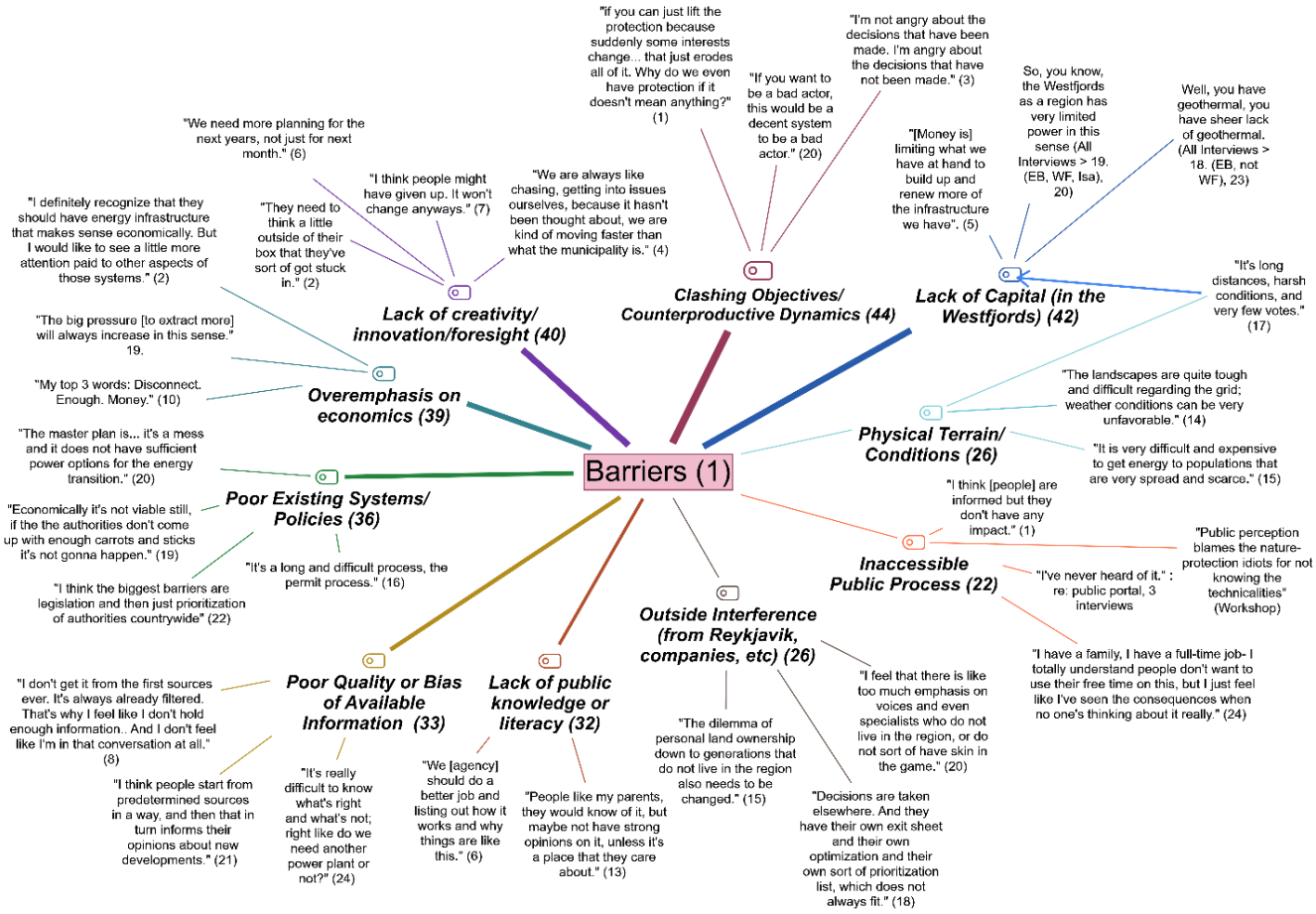

Figure 17. MaxQDA Map, diagramming major barriers to energy resilience, as indicated by the number of mentions coded, with representative example quotations from interviews

4.3.2 Challenging Physical Conditions & Westfjords Exceptionalism

When reflecting on the energy situation in the region and noting it as an outlier in Iceland, many respondents looked to the Westfjords' unique position as a key force rendering it acutely vulnerable. As one interviewee sums it up, the region faces: "long distances, harsh conditions and very few, when you vote for parliament, very few votes" (A.17). Another interviewee notes that the region's unique dynamic is not just driven by its exceptional landscape, but also by the limitations of its social geography and community capital, asking: "Where else in the world is a region of 7,000 people expected to come up with some extensive system?" (B.5). The sentiment that the Westfjords are 20 years behind the rest of the country extended to many different aspects of infrastructure and was an especially strong narrative among those interviewees who have lived in other parts of Iceland. Many interviewees connected this trend to the difficulties facing Orkubú as a smaller utility with less resources—notably, this was not necessarily an unfavorable perception of Orkubú, but more an acknowledgement of its limitations and the uphill battle it faces (A.1, B.5, A.8, B.13, B.15).

Also highlighted were the challenging dynamics of trying to create infrastructure in a landscape where the targeted routes go through the property of so many different landowners—many dozens at the least, all of whom, of course, have their own concerns, priorities, and demands. In one case recounter by a participant, a single 100km stretch of line had to get approvals from the landowners of over 70 parcels of land, some of which actually had multiple owners (B.3). As one interviewee stated, "the most difficult problem in all that process is negotiating with the landowner. The actual building and laying of the line is the smallest, actually, it's the easiest factor" (B.12).

However, while some paint the Westfjords as very different than rest of Iceland, facing far bigger challenges, one interviewee challenged this notion, seeing the region instead as simply in need of a different approach: "The Westfjords are *not* different and or a standalone region. The population needs more cooperation within and out of its own region and admitting that there are many locals that know from doing and can have a stand, not only the handful of people who always seem to rule others out and keep every village isolated. Solutions are not only solved in Ísafjörður" (B.15).

One interviewee also noted that the Westfjords' challenges render the region uniquely able to see the energy system and its challenges clearly due to their close proximity to its vulnerability, ad that this can be hard to communicate to those without the same lived experience:

> "The people in West Fjords, it's that part of the country that they understand the system the best. Sometimes I'm talking to someone in my capital office and I'm just like, we're not seeing the same thing. We don't see the same reality. You have to try to step in their shoes—if it was me that lived here with this grid and I'm trying to start a company and I can't do it because it's not possible to get the connection. If I want to try to connect my grower house or something, it's a long process, it's expensive. Is my kid going to have the option to move back here? Are there going to be any jobs?" (B.5).

This gap between policy-setters and local realities can have a real impact on both the quality of decisions made, and on the trust and buy-in on proposed solutions from those most affected.

4.3.3 Lack of Public Literacy and Biased Information

While many interviewees expressed a belief that compared to other places in Iceland, residents of the Westfjords had the best working knowledge and awareness of their energy system, due to feeling its impacts, there was also a consistent acknowledgement that the public operates with information that is at best incomplete. This trend is both seen as a barrier preventing the functioning of a coherent system driving the Westfjords toward a resilient just energy future and as a key challenge for creating a participatory system. Therefore, public knowledge and "energy citizenship" behavior (or lack thereof) is discussed in greater detail in section 4.6.1 but noted here as part of the broader context.

4.3.4 Cost, Capital, and Lack of Incentive for Innovation

Within the framework of the Westfjords' energy system, the cheap nature of Icelandic energy functions as a double edged sword—although among the highest in Iceland, prices are still remarkably low by any global standard, and, as experts noted, in many cases, would actually need to rise further for the construction of new projects (particularly small and medium-sized plants) to make economic sense: "We have other options, for example, Tröllárvirkjun, which is in, has gotten into Rammaáætlun, and there it was categorized as to be built or used, but as the energy prices are still not feasible to build it. But if the energy price gets higher in some years, maybe it will be" (B.11).

In a similar chicken-and-egg conundrum, many interviewees also note that the lack of large users and the small amount of power on the grid would need to change, with these projects needed to be brought online in order for then grid improvements to make economic sense (B.19, B.11). As one interviewee puts it, without big users, "the business case of strengthening the grid is kind of not there. It's hard to justify billions of ISK investment just to charge our Teslas or turn on our coffee machines" (B.16).

This economic environment also contributes to an energy landscape which lacks much incentive for the innovative solutions. As one expert notes, "the reason it's really hard to make those projects go beyond a sort of a napkin idea is that the price of energies in Iceland is so low-which is great-, that it's hard to compete. And the electricity on the grid is so clean and renewable" (B.16). Many point to the Faroe Islands as a similar environment geographically and demographically, where great strides have been made toward using tidal energy—however, this only made sense because they would otherwise be reliant on extremely expensive imported fossil fuels (Barney et al., 2022).

Speaking about those who are enthusiastic about the high potential for wave, tidal, or other innovative energy approaches in the region, this expert admits: "and they're absolutely right. But then again, if you have a million dollars, everybody would rather spend it on like conventional wind parks or conventional hydro" (B.16). This clarifies the reality that visionary systems or innovations will not come to pass just out of a local desire to do things differently—they have to fill a need or fit the context. As another interviewee puts it, "This is what people don't realize, because they just think in general, well, why innovation is good in itself. But if you can get cheaper somewhere else, nobody will pay the difference" (B.18).

The inertia toward the comfortable, functional standard protocol also shows up, interviewees note, in a tendency to orient energy planning around conventional approaches centering large-scale hydro projects and anticipating the discovery of geothermal energy:

> "A lot of farmers are making smaller dams, just 400 kilowatts. My opinion is that the Orkubú should have started with those. I mean, if you have ten 400-kilowatt dams, you have four megawatts. If we had done that in the last 10 or 15 years, it would be a lot. Not perfect, but better and good. Instead, we are always thinking, we need something big, 10 megawatts or whatever. Or, okay, we will find hot water for heating. Yeah, we

found something now, but is that enough? It's too late. We should have started earlier doing a small power plant" (B.6).

Other interviewees echoed this sentiment, saying that while these recent discoveries are exciting, but that it comes after much time and expense and risk, arguing these resources could have been better spent on concrete improvements and smaller-scale innovations (B.3, B.6, B.7, B.18, B.12). As it stands, local innovation is driven by farmers or entrepreneurs who see opportunities to meet their own needs, and though decision-makers and utilities are reasonably supportive, they are certainly not the ones out in front (B.3, A.4, B.6, A.17, B.22).

4.3.5 Policy Dysfunction:

Interviewees had overwhelmingly critical perceptions of the existing energy policy frameworks in Iceland, and a pervasive frustration with what they viewed as counterproductive dynamics, stalled progress, and a lack of clarity, forward-thinking, and momentum. In some cases, this dysfunction, above and beyond any concrete barriers, was what participants felt most held the Westfjords back from improving its local energy supply and overall energy resilience (B.3, A.4, B.12, A.17, B.20, B.22). As one interviewee said, "There's plenty of opportunity for development of energy infrastructure, but there needs to be wholesale changes in how planning permission is sought and approved, how projects are proposed and executed, and who gets a say in these things for any of these opportunities to actually be exploited" (B.3).

Several interviewees, when expressing criticisms of how infrastructure is built and decisions are made, gave the example of two tunnels recently constructed in the Westfjords, where the opportunity was taken to run electrical cables through the tunnels along with the road, with the intent of replacing the over-mountain lines, but where those lines continued to sit unconnected for inexplicable reasons (B.2, A.17; B.7). In fact, these cables were eventually connected, but while this anecdote may no longer be materially true, its prevalence in the local dialogue reflects a true and pervasive perception of dysfunction and delay (Starfsmenn Landsnets et al., 2020).

One business leader, in a sentiment echoed by others in innovation and leadership spaces, expressed a desire for more forward-looking planning from governmental spaces, so that "we are not always like chasing, getting into issues ourselves, because it hasn't been thought about, so, we are kind of moving faster than what the municipality is" (A.4).

One concrete example of the "chasing" scramble participants described was the case of a larger industrial user in the Westfjords siting a factory in an area that would have insufficient power, then striking a deal with the utility to pay for part of the cable to provide the electricity—then very much working out the terms of the deal as they went, acting as a sort of "guinea pig" (Gunnarsson, 2024; LEX Lögmannsstofa, 2025). The parties involved indicated this approach functioned appropriately in this case, despite some disagreement over how much it was appropriate for the business in question to have to pay for the creation of common infrastructure. However, in a broader sense, many saw this ad-hoc approach as a serious risk factor disincentivizing new businesses or the expansion of existing businesses in places in the Westfjords where existing power infrastructure is insufficient (A.1, B.3, A.4, B.7, B.12, B.20).

4.3.6 Roles and Relationships of System Actors: Lack of Cohesion

Among more general concerns about the preparedness and functionality of existing policy were specific concerns about the levels of cooperation present and the clarity of respective roles of different actors within the system. As an illustrative example, with one interviewee observing that during a meeting they were part of as an observer, when Orkubú shared its plans to bury a planned cable into the ground, "Landsnet, and Orkubú, they somehow do not agree. They are very polite at Landsnet, but I can hear that they are not super, super satisfied with it" (A.17). This ambiguity around the tradeoffs of burying cables was a recurring theme discussed by interviewees with energy backgrounds, since burying cables is often proposed as a solution to decreasing the amount of grid failure and outages driven by weather or collision incidents. However, not only is burying lines a resource-intensive process, it also impacts the level of resistance present in the lines, leading to transmission losses and other challenges from a grid operation perspective (Hreinsson, 2016). Buried cables, as one interviewee noted, are also far less easy to repair (B.12, Naderian et al., 2017). Evaluating the appropriateness of burying cables in the Westfjords is not the focus of this thesis—however, it is telling that there is an evident lack of ability or willingness to standardize best practices around new cable infrastructure across agencies. Gaps in the cohesion of infrastructure approaches can serve to deepen public confusion on how the system functions, as well as drive enhanced skepticism and mistrust between experts presenting conflicting perspectives and laypeople trying to derive informed opinions on preferred pathways forward.

4.3.7 Institutions, Economic Profit & Common Benefit

Another frequent concern with policies and institutions governing energy in Iceland was the question of the role they ought to play in facing coming challenges, and whether this role can or should shift over time. As one interviewee asks: "What are their responsibilities to, say, something like the energy transition— Is there a responsibility to maximize profitability, which is their current sort of mission statement from the government, or is there a responsibility to guarantee access for people and businesses and be transparent, you know, a more democratic, publicly owned company?" (B.20). This question, implicitly posed in may interviews and throughout the workshop discussion, strongly echoes concerns and debates surrounding the Kárahnjúkar project and backlash against the perceived profit-guided decisions of those in power (H. Guðmundsdóttir et al., 2018; Johnstone & Buhmann, 2023).

Concern over the outsized role of economic profit in guiding decision-making also manifested when interviewees contrasted the Westfjords' aging infrastructure with other equally remote regions where upgrades were prompted by industrial demand. This need for a "business case" in order to render grid investments viable was a point of frustration for many interviewees, with one articulating the blockage this attitude poses toward taking steps which are appropriate and perhaps even required by the responsibilities of governments toward their people, as one interviewee stated: "Even though [upgrading the grid is] socially proper, it's not always financially profitable. Even though it will benefit the society here, it won't benefit the— maybe it will break even, but it will never pay, for the investors" (B.11).

Ambiguity around the roles and function of the national and regional public authorities in practice, combined with relatively recent new attempts by private actors to enter the power market in the Westfjords is troubling to several interviewees, especially considering Iceland's legacy of public power: "They're gonna make a bunch of money from destroying our nature but they're always dependent on our common energy distribution system. You can't get rich unless you use our public investments. Since we've spent our common tax money to do that, we should get the profit and not them" (A.24).

This trend toward privatization and enhanced competition aligned with a more market-style system is linked to the impacts of Iceland adopting the EU's Third Energy Package (Greene & Carlson, 2025; Hallgrímsson, 2024). This was a connection mentioned by several participants— notably, even interviewees without an energy background observed some of these consequences, even if they did not name the particular policy responsible. In addition to participants flagging privatization as a contributor to wavering public support for large new projects, another participant noted an emergent risk, since, in order to viably manage a competitive EU-style system: "You need to have a strong enough energy regulator, which we don't currently have, so they can make sure that everybody plays by the rules. So if you want to be a bad actor, this would be a decent system to be a bad actor" (B.20).

4.3.8 Negative Perceptions of Rammaáætlun:

Much criticism, especially among participants with energy backgrounds, targeted Rammaáætlun: "The master plan is... it's a mess and it does not have sufficient power options for the energy transition" (B.2). Participants expressed criticism from both sides of the spectrum. Some participants who held pro-build attitudes, mostly those steeped in energy work, saw the framework as overly slow, complex, and difficult to navigate for developers (B.3, B.5, A.8, B.11, B.16, B.20). However, those who prioritized a balanced approach and focused on project impact also expressed concerns about whether the required impact assessments were taken seriously into consideration, citing the example of Garpsdalur, where the project was placed in the Utilisation category before the impact assessment was completed, which one participant interpreted as meaning that though they continue to actively evaluate the site for potential impacts on birds and wildlife, "even they knew there was no point. The whole thing was a waste of time" (A.1, B.3, B.14, A.23). Another aspect which troubled five participants was the possibility that the framework's decisions might be revisited in ways that might weaken nature protection, and undermined trust in its authority:

> "This was an agreement in order to protect nature. And now if we don't respect the decisions that have been made there, then... like do any other decisions there count as well? It's kind of dismantling that trust that we have in this plan. If you can just lift the protection because suddenly some interests change... that just erodes all of it. Why do we even have protection if it doesn't mean anything?" (A.1).

Another participant from a completely different background and political perspective mirrored this sentiment when speaking about the possibility of changing the designation for Vatnsdalsvirkjun: "It would upset the whole system of Rammaáætlun, because if you

can reclaim something that was in the protection category later, what's the legitimacy, what's the point in protecting it at all?" (B.19).

4.3.9 Nature Protection, Visual Impacts, and The Role of the Outsider

Strong values around nature protection, coupled with intrinsically wild and stunning landscapes and population trends, have contributed to the Westfjords' growing identity as a destination for hikers, bikers, and those seeking an experience of "pristine" nature, especially for those accessing the Hornstrandir peninsula, and the economic opportunities linked to this identity (Karlsdóttir, 2024). However, the prioritization of nature protection is also often perceived as a barrier to new energy infrastructure projects, with some framing energy utilization and tourism based on natural resources as contested development pathways (Sætórsdóttir & Hall, 2019). Beneath these broader ideological tensions, on the ground, when conservation-focused groups perceived adverse impacts on nature associated with new energy infrastructure projects, their interventions, both through public outcry and through legal challenges, may lead to complication, delay, and conflict (S. B. Guðmundsdóttir, 2023; Tverijonaite et al., 2025).

Although some interviewees did express concern over the impacts of proposed projects on the natural environment (a perspective which was slightly more prevalent during the workshop), there were also several participants who were critical over how much of this discourse on nature protection in opposition to energy tends to stem from outside voices rather than from within the Westfjords:

> "The majority of the protests about environmental damage come from people who don't live in the Westfjords, who live in the capital and think nothing should ever be built anywhere outside of the capital region. It's something repeated over many years and in many different sources. So there's likely some truth to it: a lot of people have this vision of the Westfjords being a place where nobody lives and nobody should ever do anything because it's ruining the untapped nature. And that, of course, is not true" (A.4).

Speaking about those from Reykjavik who they have observed commenting negatively on planned projects in the Westfjords, one interviewee stated: "First, you probably have never been there, you don't know exactly what you're talking about. And second, you might want to come around in winter and experience what it means" (B.5). This sense of disconnect between attitudes which treat more energy infrastructure as optional and the reality which many from the Westfjords experience was a clear point of tension for many interviewees, especially those originally from the region. But regardless of where those opposed to projects hail from, some other participants offered the argument that current developments are already doing their best to balance nature protection with energy utilization due to choosing sites which can minimize impact and adopting approaches to conserve as much of the existing hydrological system as possible. The key example given for this dynamic is often Hvalárvirkjun, which, in one interviewee's words, "has the lowest amount of impact. Yes, there are some beautiful waterfalls below Hvalárvirkjun that will be no longer flowing. But the project includes a proposal to allow that water to continue flowing when the power is not needed. So the waterfalls can basically be turned on and off. So that's not the end of the world. And that area specifically is so devoid of

any real plant life, breeding birds…As far as finding an area where you could have no environmental impact, it's impossible. But this is really close" (B.3). Put another way by another participant: "The environmental impact is very, very limited. But it definitely impacts waterfalls and how they look, how they appear to people, just to people. That has been sort of the main driver of why we should not do it—because some people want to see them if they come" (B.16). This is a notable reframe from typical conservationist attitudes, which tend to see the conservation of untouched viewscapes as a service to nature rather than to humans.

Of course, many other interviewees who align with more environmentalist backgrounds would likely challenge these characterizations minimizing a fairly major project's impact which would include the construction of long stretches of roads. However, while conservationist perspectives in news articles and lawsuits often convey strong sense of uncompromising insistence on total protection, even the most environmentalist-oriented participants felt more complicated about the matter in the Westfjords. One interviewee pointed out how important they knew new hydropower would be for causes in their community close to their heart, like decreasing reliance on diesel and encouraging businesses to thrive, coming at the cost of "just another waterfall". But they also named how difficult it was to identify with any camp wholeheartedly, and named the potentially slippery slope that leads to the ongoing justification of more extraction:

> "I'm misaligned with everyone who is a player in this in some part, because I agree with the people who are pushing for more power, but not all the ways that they're doing it. And then I agree with the environmental protection organizations wanting to protect the environment, but the environmental impact they're having is that everything is delayed, causing more fossil fuels to be burned. And I know in terms of sustainability, it's important to preserve nature. But I kind of think it's more important to not burn millions of fuels instead of sacrificing one waterfall. But that's also always the argument: It's just one more waterfall, one more waterfall. So, it's complicated" (A.1).

Another interviewee identified how, over time, these patterns of decision-making can result in protected areas being gradually carved away and weakened: "There are always slices cut off, of the land you want to protect or of the habitat of the birds or whatever. It's always a secondary consideration in progress. Constantly it's a new compromise" (A.17).

Despite its complicated implications, this notion of compromise or balance between competing values was consistently uplifted by participants. Even those who identified as unabashedly pro-business or pro- energy development did so with the caveat that of course all utilization should be done in a way that minimized its adverse impacts on nature (A.7, A.10, B.12, B.15, B.16). Many tended to feel like the existing protections in place were sufficient to prevent any truly unreasonable adverse effects on nature from coming to pass. Their stance highlighted the necessity of increasing development within the existing boundaries that safeguard common heritage. As one interviewee said, "We have a really strict framework, so when the government says we really need to push forward within the framework, it's saying: we're driving in a car and we need to go a little bit faster, but we have all the seats belt, we have all the lights, all the airbags, all the everything. It's not like they're just throwing caution to the wind and just driving into the sunset. They're still going really, really cautious" (B.16). However, for many, their level

of trust in moving faster to push projects forward, relies on their level of trust in those airbags and seat belts—the framework governing energy utilization decisions in Iceland, which, as previously established, for many, feels at best, opaque or inscrutable, and at worst, illegitimate.

4.4 Challenges & Consequences: Characterizing the Status Quo

The resulting situation in the Westfjords, as revealed by interviews and workshops, and represented in Figure 18, is characterized by a weak and poorly-connected grid experiencing frequent outages, reliant on diesel generators, and limiting the economic vitality of the region and its prospects for development. However, the fundamental nature of the problem remains a point of contention, and, as earlier analysis reminds us, one understood differently across different backgrounds and levels of expertise, indicating a continuing need to bridge this gap.

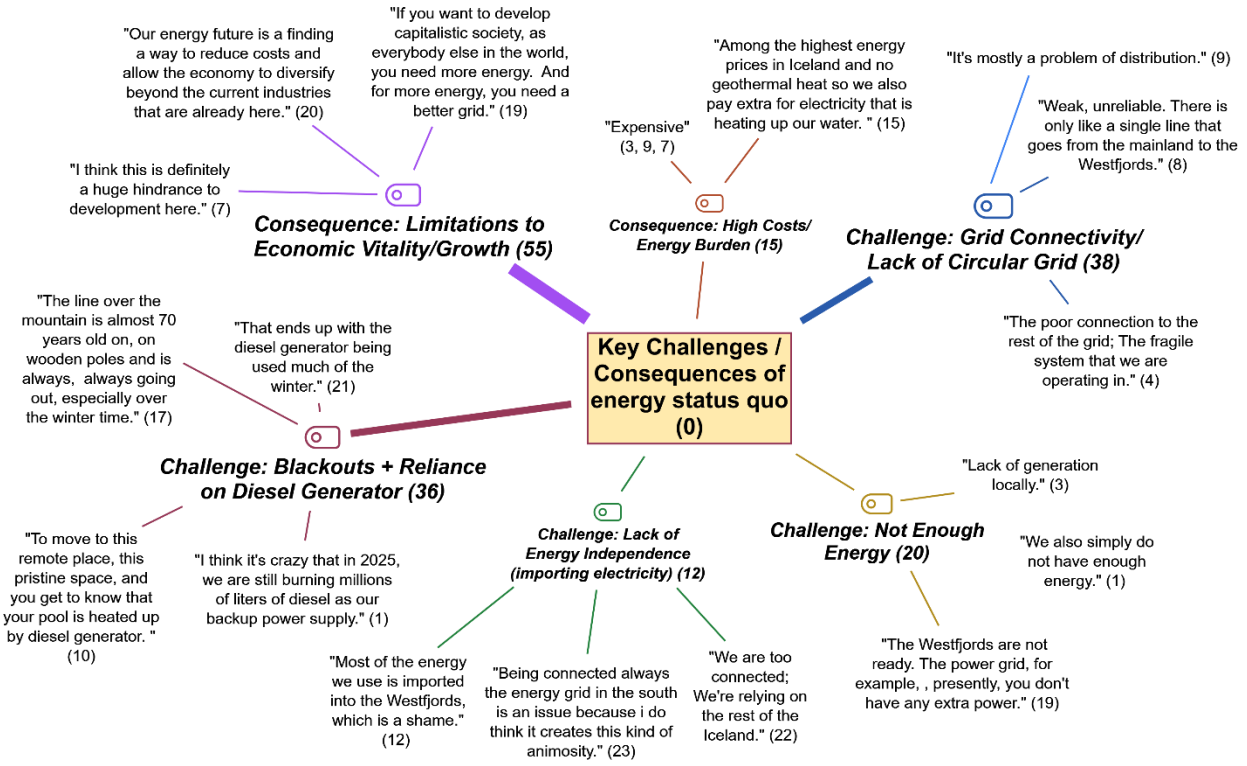

Figure 18. MaxMaps diagram of key codes characterizing the consequences of the energy status quo, with accompanying quotes.

4.4.1 Weak Grid Connectivity and Stability

Overwhelmingly, interviewees were aligned in their concern for the region's 40+ year old transmission system, strung on wooden poles over harsh mountain passes, which is, in one interviewee's words: "not getting any younger" (A.10). This sentiment was expressed in 23 out of 24 interviews and by all eighteen workshop participants, who also ranked this as the highest priority problem facing the Westfjords. This focus on the precarity of grid infrastructure extended across both technical experts and residents of highly-impacted communities, and as

one resident of a town in a particularly weak spot on the grid remarked, “We are talking a lot about it here in this area because, we are kind of scared how the future will be because of it. We just look out the window and see the 40- or 50-year-old lines carrying our power to here. And we just say: when is it going to break down?” (B.12).

Where divergences arise is about which path forward will best address this issue. Experts identified that the ultimate goal is to develop what is referred to in power grid engineering as an N-1 grid connection—a system which ensures that when one part of the system fails—a line is damaged or take offline for maintenance—the system can continue to operate(Chalil Madathil et al., 2018; Read, 2019). The Westfjords currently lacks this, and as one person familiar with the technical situation put it:

> “It can be solved in two ways, either it's building a new Vesturlína— the single power line that goes from Geiradalur all the way to Mjólká— making that double, and making it double means building a new one, and then building another new one, because the old one is 40 years old on wooden poles, and it's not reliable. The other solution would be to build a hydropower plant located on a good spot in the distribution system, connected with a good connection to Mjólká for us to have this N-1 connection” (B.15).

Many interviewees, both with and without energy backgrounds specifically identified as problematic the lack of a circular grid connection—meaning not just a doubled line running the same transmission route, but a grid system linking the Westfjords in a loop, providing greater resilience and more options for islanding and distributing backup power in the event of outages at various points in the system (A.1, B.3, A.4, B.9, B.12, B.13, A.14, A.17, B.22, A.24). This speaks to a high level of literacy regarding the distribution system’s shortcomings.

However, while some participants pushed for an approach focused solely on strengthening the grid through creating a circular connection or other means, many technical experts mentioned the important role of new generation in the region as a strategic support for the grid as a whole. Among many without technical backgrounds, there was notable uncertainty about if and how new generation would address problems of grid stability, especially in cases where there is no prominent infrastructure strengthening or additional connection to accompany it, as one interviewee put it in reference to Hvalárvirkjun: “I don't understand how, if we only have one line to the Westfjords, more electricity in the Westfjords is going to fix the problem” (A.24). Even among technical stakeholders, there was a sense of frustration with an existing approach to grid planning that leans too heavily on anticipating new generation, as one expert stated: “I also sometimes wonder in the Westfjords, people in power and just the public in general, if they have become too reliant on pushing for new power plants in the region and seeing that as the solution to this problem” (B.9). This is a prime example of how varying problem definitions directly shape desired solutions—an arena in which iterative dialogue and collaborative learning through participatory processes can shift dynamics toward more generative outcomes.

4.4.2 Not Enough Energy?

The notion of energy scarcity in the region is pervasive enough that some interviewees responded simply with "lack of energy" when asked what first came to mind in terms of energy in the Westfjords, or otherwise foregrounding this as a serious concern or even framing it as a crisis (B.3, A.4, B.5, B.6, A.17, B.20, B.22). However, this was not a universal perspective, with many other interviewees feeling either uncertain whether this was a truly valid issue (A.1, A.8, A.10, A.23, A.24, workshop group 3), or, regardless of their position on its validity, perceiving grid instability as a much larger threat to the Westfjords' well-being and prosperity (B.2, B.7, B.11, B.12, A.14, B.19, A.21, workshop groups 1 & 2).

Although notably the Westfjords lacks the same opportunities for massive-scale power production that other jurisdictions in Iceland have, many see the landscape of the Westfjords as rich in opportunities and potential sources of energy, particularly on smaller scales: "We are so rich in waterfalls. Is it true that we don't have options elsewhere; is [Hvalárvirkjun] actually such a only solution? For me, I see waterfalls everywhere, like counting sheep. So why wouldn't we just use each little waterfall?" (B.7). Other interviewees echoed the untapped potential for smaller-scale in-stream hydro, or for other more innovative approaches (B.11, A.4, A.14).

The lack of generation in the Westfjords, regardless of value judgements, does carry with it technical challenges: as one expert put it, "since the grid is so weak there and we have so little generation that's giving us strength in the system, we have this issue of voltage flickers that destroys equipment" (A.10). Adding local generation in the Westfjords, in any size or form, is desirable for the sake of a more stable grid, even outside of goals around economic development which may require a greater supply of megawatts (Hrafnkelsdóttir, 2025; Johannesson et al., 2025; Read, 2019). However, many interviewees who were supportive of additional energy being built also emphasized that this, on its own, will not resolve the fundamental issues: "Don't get me wrong. It will improve. It will improve the situation a lot. But I don't think it will be the miracle situation such that, in the bad weather conditions that we have—I don't think we will be able to stop relying on the diesel generators and, and backup power. Transmission will still be a challenge, even though we get new energy" (B.12).

This tension surrounding the characterization of energy supply echoes ongoing national dialogues, which one interviewee noted as a contributor to local attitudes: "There's been a lot of debate about if there is actually an energy crisis in Iceland, which, from my perspective, has been damaging to the technical reality of the system, which is that there is an energy crisis in Iceland, and we could be looking at a power crisis in the future, especially for the energy transition" (B.20). Even for those that did view this as a crisis, many felt it would be an oversimplification to frame the problem solely as energy scarcity, given the contributing dynamics of heavy industry usage. One interviewee described some of his peers' positions as*:* "There is more than enough energy for Icelanders for domestic use; the reason that we have an energy problem at all is because we sold all of this energy to aluminium smelters. And why don't we, instead of ruining more nature, just take that power back? Which is a concept I don't entirely disagree with, but it doesn't consider some of the wider implications" (B.3).

Those wider implications noted by this interviewee and others include nuances of the ETS scheme, the fact that aluminium would otherwise be smelted elsewhere, likely powered by fossil fuels and therefore arguably generating more cumulative environmental harm, and the anticipated increased demand in energy which a full transition of Iceland's transportation systems would require (Ásgeirsdóttir, 2023; Guðlaugsson et al., 2020; H. Guðmundsdóttir et al., 2018; Kristjansdottir & Busch, 2019). Overall, participants' perspectives on whether the region was producing "enough" energy hinged on the deeper societal question: enough energy for what, or for which vision of the future?

Energy Imported from the "Mainland": Problematic or Pragmatic?

Despite expectations that in remote, tight-knit communities, ideas of energy independence and sovereignty function tend to key motivating factors for system transformation, this seemed to be less the case in the Westfjords (Schelly et al., 2021). Although local identities and a desire to prioritize local benefits and the well-being of the region were prevalent, a desire for energy sovereignty or independence as a good in and of itself was not a guiding force for participants. Many expressed a preference for more local generation and sentiments of not wanting to be quite so reliant on fragile importation of energy, but expressed no opposition to and, in fact robust support for, enhanced connections to outside regions. For some, in fact, there was a strong sense of sense of desiring to use existing energy that is abundant in other parts of the country rather than feeling the need to fight the uphill battled required to build more hydropower plants in a challenging region (B.5, B.15, A.24, Workshop Group 2). Where it was present, desire for more local generation was driven less by a desire for independence, and more by the desire to be prepared for and insulated from the risks of large disruptions. Specifically, participants point out that most large electricity producers in Iceland from which power is imported are located in areas facing risks of volcanic eruptions and earthquakes, neither of which are factors in the Westfjords. Similarly, some interviewees pointed out the risks of relying solely on a few large far-off sources in an age of growing climate instability impacting the hydrology on which large dams depend, raising the question of what may happen if once-critical hydropower plants become no longer dependable (A.1, B.3, B.9, A.10, Workshop Group 3).

4.4.3 Attitudes Toward Specific Projects:

When asked about specific projects they were aware of, participants named Vatnsdalsvirkjun, Hvalárvirkjun, and Garpsdalur (see project details in section 2.3), and expressed mixed sentiments informed by varying levels of awareness of their status and prospective impact.

Garpsdalur:

Perceptions of wind power in general, and Garpsdalur as a specific project, were mixed, with strong and notable uncertainty present in most participants. Wind in Iceland is a relatively unsettled question, from regulatory, social license, and grid operations perspectives, and differs in this way, as several interviewees noted, from other countries in Europe, where attitudes are much more friendly toward this form of renewable energy (A.1, A.8, B.9, B.16, B.22). One participant recalled observing windmills elsewhere, and thinking: "this is not so bad, maybe. I just saw them as these majestic giants making green energy. But then, of course, I think the

downside is mostly for bird life, and we have to judge the windfarm more on the effects on the environment rather than our social feelings" (B.9). The main negative sentiments toward wind farms were moderate in intensity, and focused on what participants felt was the questionable validity or suitability of existing policies or environmental reviews (A.4, B.19, B.20) or concerns over harm to local bird life (B.2, B.7, B.9). However, many participants were open to wind projects, especially those on smaller scales, and some in fact said they had heard positive things about the project from residents of the area (A.1, B.2, A.8, B.15, B.22). However, one participant summed up a common attitude as follows: "I don't see that we need wind when we have plenty of hydro around" (B.3).

Technical experts noted that, given the dynamics of the existing grind, the intermittent megawattage from a wind farm would need to be linked to a reliable influx of steady power (from, to take the most likely example, Hvalárvirkjun) in order to be viable, meaning the fates of these projects are closely linked, and forward motion on one would create a "reinforcing loop between the two" (B.19). Other participants mentioned the importance of diversifying Iceland's grid mix and exciting prospects of using the energy generated from wind, in times when it is plentiful, to power pumped hydro storage (a process through which excess energy is used to move water into uphill reservoirs to enable its release during times of scarcity), thereby increasing the capacity and resilience of existing hydropower stations (B.2, B.15, B.16, B.20).

Vatnsdalsvirkjun:

When it came to the potential 20 MW hydropower project considered for within the borders of the Vatnsfjordur Nature Reserve – many interviewees were aware that this project was unlikely to move forward, given its protected status and the opposition of the municipality. This is especially true in light of a recent report from the University of Akureyri's Research Center which found that, since there were other feasible ways of addressing energy insecurity in the Westfjords, and it did not offer sufficiently strong or urgent societal benefits to justify overturning the area's protected status (Johannesson et al., 2025). However, some interviewees still saw it as desirable due to its closer location to key transmission connection points, a position shared by local unions and by Orkubú Vestfjarða, which has pressed for the protected status to be overturned given its highly strategic position (B.12, B.19, Orkubú Vestfjarða, 2024). Among the two explicitly supportive participants, one floated the solution of adding land elsewhere to the reserve to compensate for the area carved out for damming, saying "[the proposed site is] totally in the outskirts of the Nature Reserve. And, I have said, just add to the Nature Reserve some other space, you know. You can make it even bigger" (A.17). However, far more interviewees (5 in total of the 9 who mentioned it by name) expressed opposition to this project, calling the possibility of building in such an explicitly protected zone "baffling" or "shocking", especially given that the municipality is opposed to it. Three participants expressed conflicted feelings about the project, commonly pointing out how unlikely it is to come to fruition, given that shifting this protection would need an enormous investment politically that would outweigh the only 20 MW return in energy utilized. These remarks often connected the prospect of overturning protection due to changing interests to undermining trust in the frameworks that guide decision-making (see section 4.5.2).

Hvalárvirkjun:

As mentioned in section 2.3 (p.24), false starts and conflicting perspectives have followed this since its inception. Participants in this research were similarly divided, with some perspectives aligning with one interviewee, who views the project as a sort of savior: "[it]will improve road quality up Strandir Coast. So it's great for the residents, and it kind of solves all of the energy needs for the Westfjords for the immediate next probably 30 to 50 years in one go without building 17 other wind farms all over the place" (B.3). However, this position was directly challenged by another interviewee who expressed frustration with the argument claiming local benefits will fix the local situation: "it's really unfair how people have been lured to think Hvalárvirkjunn will give a better roads and better jobs to a place that's so rural and has faced so many challenges with people moving away and aging and everything. But that's always how rich people come to the countryside and lure people with money and jobs. Same with Garpsdalur, people lured with a sports hall for kids so someone can make lots of money for 20 years and then just like leave" (A.24). This participant, whose family has roots in Strandir area and who remains closely connected to Árneshreppur, also noted an elderly family member's surprise when national attention spiked, and people expressed interest in hiking there for the first time in local memory, noting that it's not a particularly attractive or pleasant area to recreate in, and despite their own tendency toward nature protectionism, they objected to outsiders parachuting in to try and intervene in the decision-making process.

Many participants expressed similarly conflicted perspectives, and emphasized how much depends on how the project is connected to the broader grid, as expressed by one participant involved in the stakeholder engagement for the line transmission planning: "We might just not feed into the grid of the Westfjords, but directly link it to the national grid. And then in the end, we have the same issue, but have ruined part of the nature and didn't really get anything out of it" (B.7). One interviewee talked about how his experience as a lineman servicing poles in harsh conditions informs his skepticism about claims that this project will ensure energy stability, given that the planned transmission lines run over the mountainous, harsh, highlands:

> "I've been on the outside of electric poles like a flag, in extremely bad weather. Because I have that experience, that made me question this, but I've not gotten the feeling that it has been questioned much by other people in the Westfjords except for the power workers. But I've been on the highlands of the Westfjords and I know what the weather is like. So I'm not convinced about the increased stability coming from Hvalárvirkjun until I see some convincing arguments" (B.12).

This contention over connection routes was also a key topic in the advisory meetings held by Landsnet, and the subject of much debate and research, including a 2019 study by Read, conducted by in collaboration with Landsnet, which provided an analysis of reliability improvements, project costs, technical suitability, and the social costs and benefits of various option for connection points. This research noted that despite the expensive nature of building transmission in the region, the option with the greatest social cost (by a factor of at least two) was to do nothing and leave the existing vulnerable system in place (Read, 2019, p. 70). This study recommended, as seen in Figure 19, either option D (an overhead line connection to

Ísafjörður), or option B, a higher-voltage overhead line connection to Mjólká. This study recommended these options in favor of Options A and C , which would connect through substation in Kollafjörður or Geiradalur, due to their limited capacity to address reliability issues for the remainder of the system to the north and west (which is, of course, most of the population of the Westfjords), given the frequency of outage disruptions in the section of line between Kollafjörður and Mjólká (Read, 2019). However, the lines ultimately proposed in 2025, "Hvalárlína 1 og Miðdalslína 1", closely resemble Read's Option A, connecting through a new substation at Miðdalur and then through Kollafjörður (Skipulagsstofnun, 2025). Although staff have indicated plans to eventually build a line connecting Miðdals to Ísafjörður, these plans do not appear as part of diagrams found in the ten-year system plan (Blámi, 2025; Einarsdottir, 2024; Landsnet, 2025).

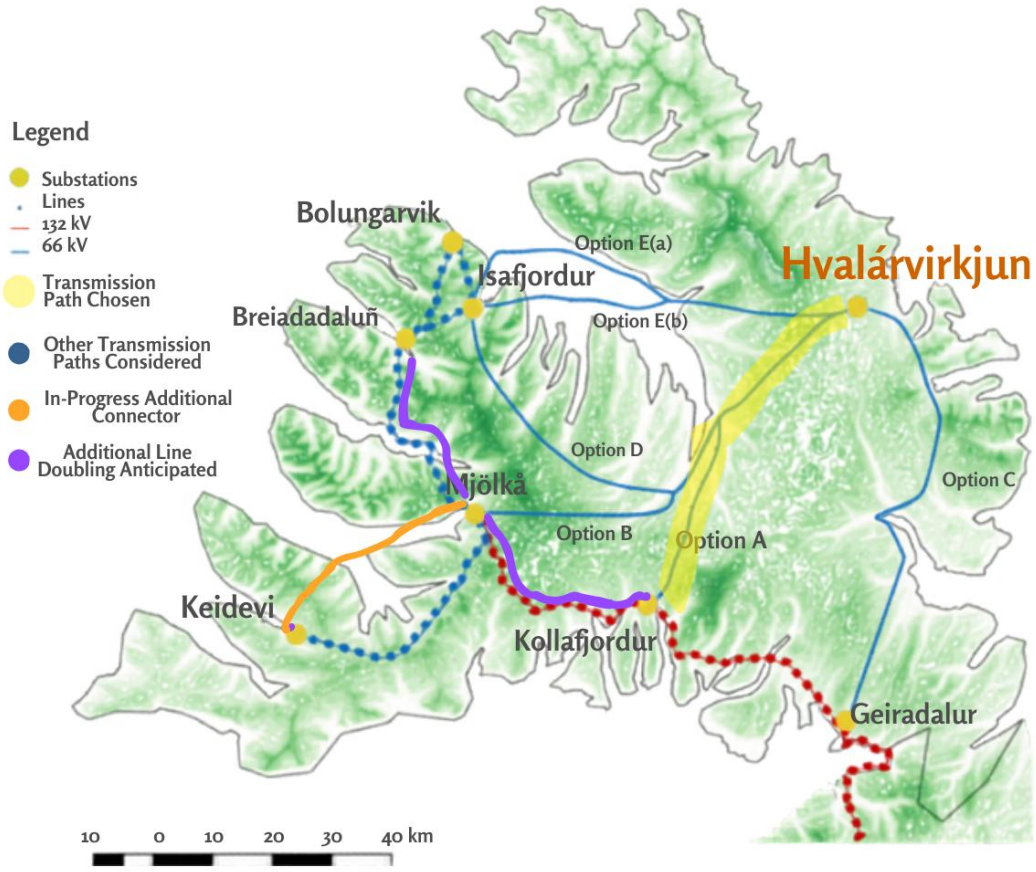

Figure 19. Figure adapted from Read (2019) with additions and highlights reflecting Landsnet's intentions for the transmission lines to connect Hvalárvirkjun, highlighting other planned doubling of lines or closed loop additions through 2034 (reflecting data from Skipulagsstofnun (2025), Blámi's Orkukort (2025), and Figure 12-11 (p.72 of Landsnet's Kerfisáætlun ("System Plan") 2025-2034 (2025).

4.4.4 Limitations to Economic Vitality

Regardless of their perception of the drivers of the problem, participants overwhelmingly observed that the key consequence of the energy status quo in the Westfjords is a fragile system limiting the region's vitality, both in the present tense, and particularly looking toward the future. This aligns with the well-established principle that stable, affordable energy is of paramount importance for robust community development (Agyeman et al., 20B.12; Callaghan & Colton, 2008; Riva et al., 2018).

Although discussions of how a lack of energy resilience limits community vitality was not only confined to discussions of large users, many interesting dynamics emerged in discussions of the potential operations of large industries in the Westfjords. Many participants observed a sort of chicken-and-the-egg dynamic at play, in which most industrial users do not choose to operate in the Westfjords, due to its unstable grid; and due to this lack of industrial users, there is insufficient demand to justify stabilizing the business case for strengthening the local grid. This sets the region apart from the rest of Iceland, one participant notes: "Other parts of the country have large, heavy industry, which requires very high levels of energy security, and the societies nearby these industries piggyback off of the security and off the reinforcing of the infrastructure"—while in the Westfjords, this has not been possible (B.20). This sense that the only justifiable case for grid upgrades must be one of economic necessity in support of corporate needs was frustrating to many participants, including those working within the governing authorities themselves, as one interviewee noted: "Our whole system is built around profitable projects, and I worry about systems like that. You don't see a lot of increased usage [in the Westfjords] now, so you're not going to see, okay, this [grid update] is profitable. But I think this is key for the area to grow" (B.5).

Of course, energy stability and cost are not the only location factors for which the Westfjords is at a disadvantage—road quality, long transit distances, workforce availability, and other dynamics also play a role (Keeling, 2020; Kokorsch & Benediktsson, 2018). While some participants who were enthusiastic about new power generation in the region believed that projects like Hvalárvirkjun might cause the region to reconsider its longstanding policy of not seeking to draw in large factories, "which of course was easy to say at the time because we had nowhere near enough electricity to do it" (A.17). However, other interviewees found that unlikely, seeing it as oversimplistic to claim that if energy issues were addressed, the Westfjords would suddenly become a booming industrial hub, and called into question the degree to which energy supply issues are truly creating barriers for businesses currently operating.

For example, several participants remarked on how industrial operators framed their lack of access to energy as a crisis without full transparency or nuance around the structure of the agreements. One interview said, of one particular industrial fishery user, who needed a high volume of energy for one processing task which operates for twenty to thirty days each year, on a variable schedule: "They bought the surplus energy, that was actually not deliverable unless you had a good water year. That's the non-guaranteed purchasing category that Landsvirkjun has to sell it on a very cheap price. There's no guarantee you'll get it. So when they didn't get it, all of a sudden that was used in the discourse as an outcry for our energy

crisis" (B.19). Another resident without an energy background also commented on this, saying: "a company that gets non-guaranteed electricity goes out and says there's an energy deficiency in the Westfjords because they don't get unlimited super cheap electricity that's leftover for them— but they don't say the whole story, they just say they don't get enough electricity and that they're running on diesel" (A.24). These interviewees pointed out how this contributes to lack of clarity around the actual supply situation in the Westfjords, especially considering the complex nature of rate structures and lack of nuanced coverage in news media or online.

However, whether they can fairly be claimed to amount to a crisis or not, the current state of the grid does undeniably are concrete impacts on companies in the Westfjords, from operations and maintenance to the job security of their workforce. One participant, speaking about the business he operates, shared that they had to shut down operations for at least twelve days per year for planned line maintenance, but that there were at least seven annual outages that came with no warning, which he described as: "Really bad for us because they, every time it happens, we have to emergency shut everything down. And always, some electrical equipment, whether it's a motor or some device, is hurt somehow. So, it always brings us some extra maintenance". (A.17). Another interviewee, speaking about the town where he lives, said that during an outage, when relying on diesel generators, "they are not big enough to give power to the fish factory. So the workers just need to stop and go home. So they are really concerned about it as this: If, it will be a hard winter, are we going to go to work or not?" (A.23).

This environment of uncertainty undermines the confidence of leaders and entrepreneurs in the Westfjords as a place to invest resources and build long-term projects (Kristjansdottir & Busch, 2019; Robinson et al., 2023; Upham et al., 2022). It is particularly limiting, as a later section will discuss, for endeavors toward an energy transition which hinge on the electrification of existing infrastructure, and which will greatly increase the demand on an already-struggling system (Hrafnkelsdóttir, 2025; Popescu, 2025). A lack of understanding around this dynamic can inhibit progress toward resilience-building solutions—and the nature of the discourse suggests that this is a problem more participatory processes are well positioned to solve.

4.4.5 Cost Burdens: Less Acute Than Anticipated

As established at the outset of this research, the concrete reality is that residents of the Westfjords pay higher electricity prices as a result of the demands of transmission and distribution and the greater expenses associated with heating water and homes electrically. As one interviewee states: "I mean, we suffer is a big word, but we suffer twice. So: among the highest energy prices in Iceland and no geothermal heat" (B.5). However, although participants acknowledged and were aware that this was the case, it was typically not a dominant theme or a priority—likely because, as previously discussed, even prices which are sky-high for Iceland are still manageably low, particularly as a proportion of household income (Monyei et al., 2024). As one interviewee points out: "In general, nobody has a problem of paying the electricity bills. Maybe you have cases rurally where it's actually biting a bit, but we're still far from any EU standards for energy poverty, and those cases where it would be an issue, where

you have to heat up by electricity, which is much more expensive than geothermal, the state has already compensated that" (A.17). When high costs were mentioned, they were typically mentioned in connection with a sense of unfairness in terms of overall opportunity in the Westfjords, rather than as a specific urgent issue in and of themselves. In fact, some participants went as far as to say that the cost of electricity is actually too low to accurately reflect the social cost of its use (A.10, Workshop Group 3).

4.4.6 Frequent Blackouts & Reliance on Diesel

Frequent power outages are a long-felt consequence of the fragile system in the region, and, as mentioned in section 4.6.2, they are a challenge which more generation on its own won't solve, but which requires a combination of a strengthened grid and ongoing access to backup power. A participant familiar with the situation described the 2018 construction of the large generator in Bolungarvík as "a quick fix. That decision was made after two or three terrible years of really difficult winters and a lot of power outages" clarifying the structure was designed to allow for the future substitution of battery energy storage, but that this is not being considered for the near future due to cost" (B.11). This and other diesel generators which have been implemented in recent years have had a dual effect—both reducing the impact of outages on the daily lives of residents, and adding expensive, polluting fuels to an otherwise-renewable grid.

Some participants with roots in the Westfjords reflected with gratitude on the generators, remembering how previous generations suffered through rotating outages designed to keep bare minimum operations for homes and businesses functioning, driving severe interruptions and harsh conditions, and nearly all participants recognized the unavoidable need for backup power in the severe, unpredictable environment of the region. However, many expressed dismay at the extent of the region's reliance on these fossil fuel-burning generators, perceiving adverse local impacts (18 interviewees, all Workshop Groups). One participant stated, "it's crazy that in 2025, we are still burning millions of liters of diesel as our backup power supply. Something has to be done about that immediately. The station is right next to the kindergarten. If it's a still day with no wind, you'll have the literal fossil fuel pollution coming straight into the garden. That should be the absolute last resort, not something that happens many times per year" (A.1).

Another participant highlighted the disconnect between the strong sustainability ethic in the region and this continued reliance on diesel, saying, "It's a very suppressed truth that nobody talks about. It's really funny when we encourage all the sustainable ideas for companies and individuals. But then we have this generator that runs all freezing winter. And I'm like, what is actual pollution damage that we're doing at the end of the day? For me, it's kind of a shadow part of our energy situation in the West" (B.7). Several participants expressed a desire to know when the town was running off diesel in order to modify their energy usage choices—for example, minimizing their use of fossil-fuel generated electricity by not running appliances—a sentiment closely linked to an overall desire to create more conscientious consumerism and energy citizenship behaviors among residents of the Westfjords (A.1, B.7, A.10, B.19, B.22, Workshop Groups 2 & 3).

4.4.7 "Nothing Gets Done": Overarching Inability to Move Forward

Much frustration revolved around participants' sense that the Westfjords finds itself stuck in a status quo of stalled projects and slow and (according to some) non-systemic grid upgrades, without no real avenues for driving change open to citizens, as depicted in the reinforcing loops in Figure 20. As one interviewee put it, "the main thing is not the decisions being made but the indecision. Years and years of nothing happening, in terms of listening to the community, developing the economy and countering the societal impacts that lack of energy is having on businesses and regular people and their homes" (A.1). Another expressed similar sentiments, saying: "There is so much posturing and gesturing and saying things are in the plans and making plans to make plans for things and nothing ever gets done. A lack of conclusive final decision making by local and national governments is very, very frustrating. I'm not angry about the decisions that have been made. I'm angry about the decisions that have not been made" (B.3).

Despite many efforts from leaders, community advocates, programs, and collaborations, what most participants see, is a region that remains stuck in a looping dynamic, where local conflict and pushback driven by lack of literacy, consultation, and local capital, and policy difficulties stall projects, stalled projects stall grid investments, stalled grid investments maintain a worsening situation, and all community participation and conversation is kept aside from real impact on decisions.

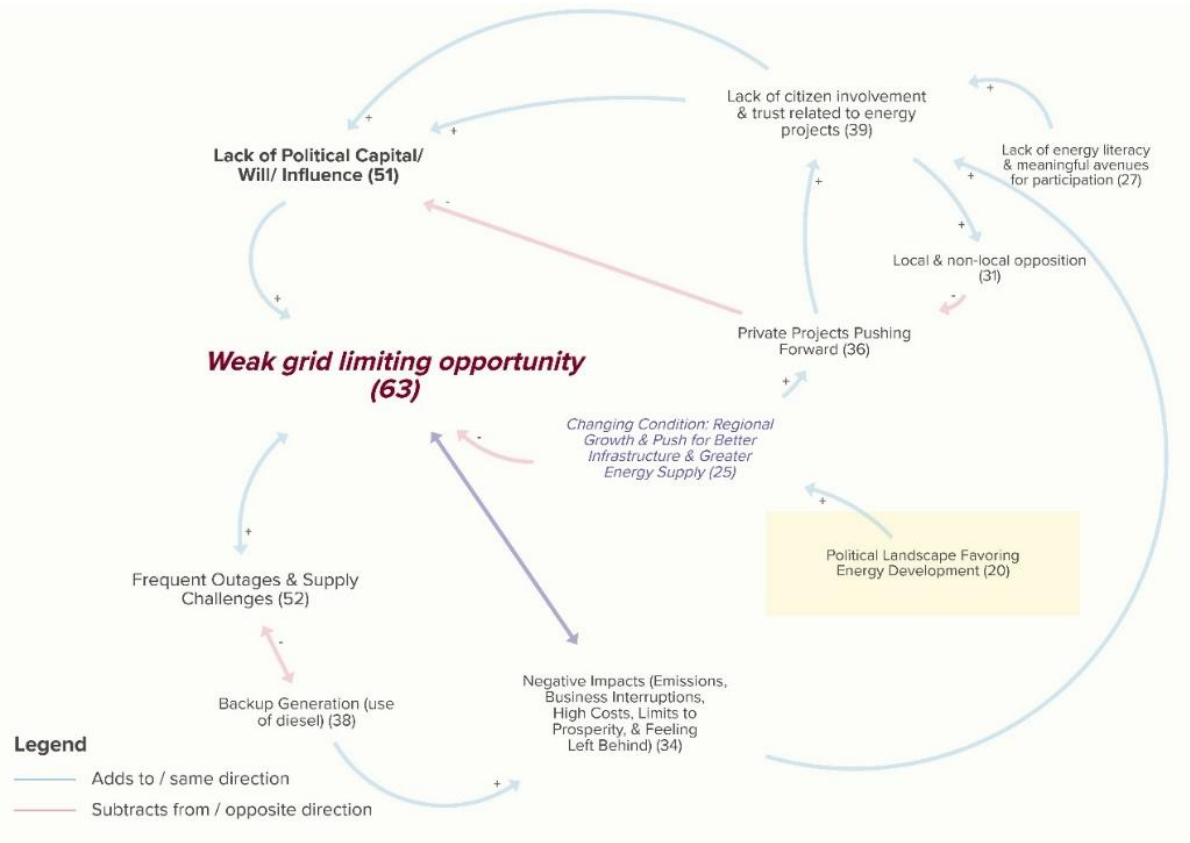

Figure 20. Partial Causal Loop Diagram showing a Reinforcing Loop worsening the energy status quo in the Westfjords.

4.5 Desired Future Action:

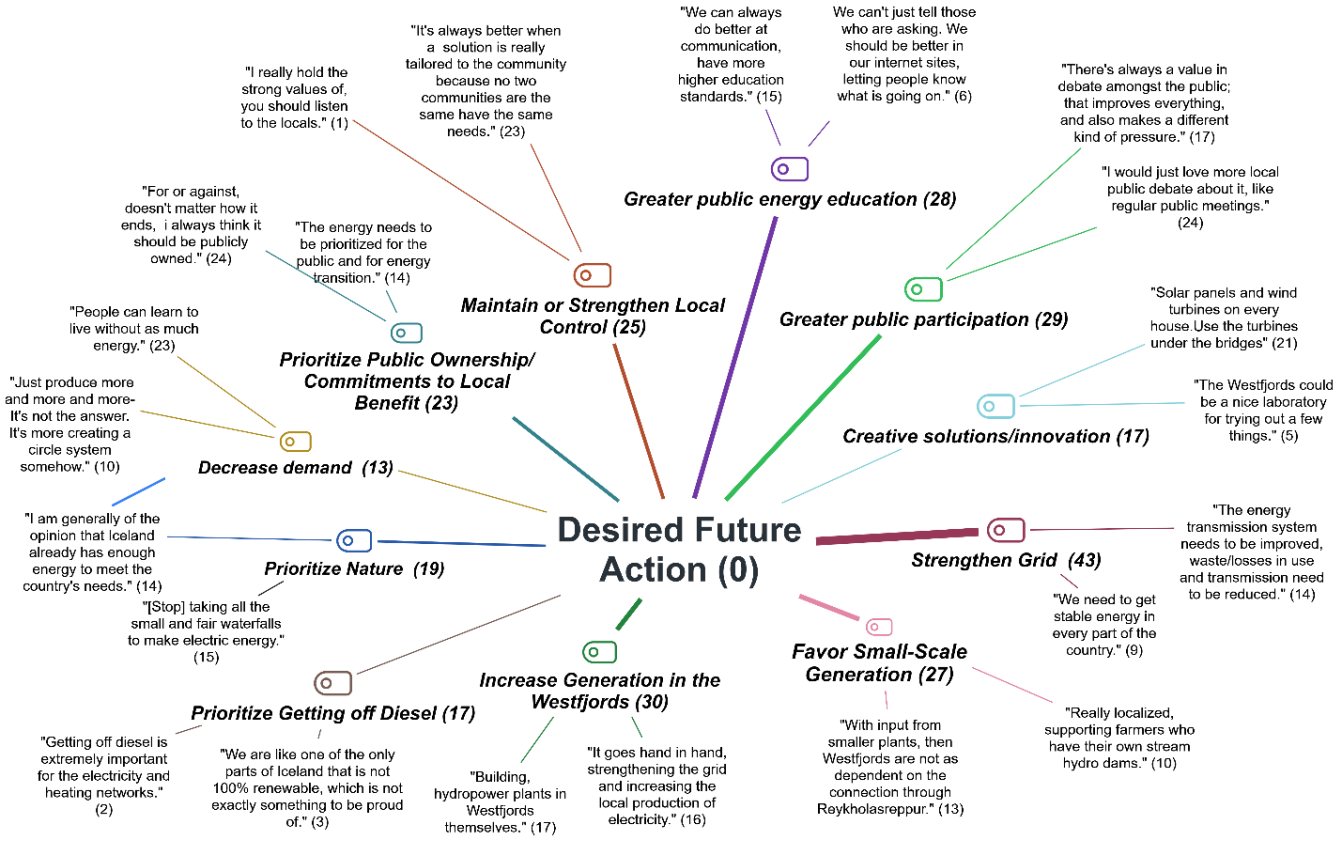

Figure 21. MaxQDA Map, diagramming major coded desired future actions to achieve energy resilience with example quotations.

When asked to describe their vision for a desirable energy future for the Westfjords, as noted in Figure 21, many participants focused primarily on ensuring local needs were met, and balancing energy utilization with sustainability. As one participant noted, the ultimate goal was "to keep up energy security to keep the high living standards but still hold on to the character of the region" (B.15). Another, noting that the question invited her to set aside limitations on what felt realistic, laid out the future she envisioned: "It's enough for everyone. We don't have to use any backup engine anywhere. We don't have to touch any national parks. It would be so invisible that you don't even notice how all those waterfalls are used. And even all the moss is not completely destroyed in the construction" (A.8).

In the closing discussion, participants noted at the workshop that better infrastructure and a balanced approach is more important than self-sufficiency or lowered costs, though also observed that in a well-functioning system, these things would build upon one another and go hand in hand, not creating a situation where the region had to choose one or the other. This approach to energy system criteria which seeks synergies rather than managing tradeoffs reflects a dialogue eager to move beyond reactionary support or opposition toward more holistic, collaborative planning (Polatidis & Haralambopoulos, 2004; Trutnevyte et al., 2011).

4.5.1 Small-Scale Generation: Local Support, Environmental Concerns

Many who focused on increasing generation in the region for the sake of grid stability, not as an economic input, expressed skepticism that any large project, on its own, would solve the problem; as one interviewee said: “We're not going to make a power plant in the north and just say, oh, that's enough. We need a lot of small power plants all around Westfjords to make the system reliable so if we lose the power line from the north to south, we have power plants in the south to keep the request satisfied” (B.22). Many other interviewees also expressed a preference for small-scale generation, either instead of or as a supplement to larger projects (B.2, B.6, A.8, A.10, B.12, B.13, B.15, B.16, B.19, B.22, A.23, Workshop Group 2).

In addition to associating this preference with a more resilient grid in terms of multiple connection points, people also perceived smaller, more localized systems as more resilient to system shocks, aligned with literature on energy security and microgrid approaches (Chalil Madathil et al., 2018; Hrafnkelsdóttir, 2025; Wolsink, 2020). System shocks anticipated by residents included impacts on hydrological systems due to climate change, deglaciation, and more, with concern over Iceland’s complete dependence on building more and more large hydropower dams: “It's always a short-term solution, a band-aid thing. But what happens when we're done with the glaciers bringing this water forward, we get changed weather patterns, drier mountains. What are we gonna do with this huge infrastructure? We can't take them back, it's a huge, huge decision” (A.10). Citing the dry conditions Iceland experienced in 2022 and the resulting difficulties in hydropower plants across the nation, and anticipating this dynamic driving more issues I coming years, another interviewee reflected: “If you put all your eggs in one basket, eventually nature is going to drop that basket and you're going to have problems” (B.2). This fear has particular relevance for Mjólká, the power plant which the Westfjords currently heavily relies on, which has had varying years in terms of its reservoir capacity and reliability, and as one interviewee says: “The worst-case scenario is: what are we going to do if Mjólká just stops? We are not in a good place then. But if we have a lot of small power plants all around the West Fjords, then we are in a really good place” (B.22).

However, this support for more resilient, distributed systems, was tempered by an awareness that smaller but more numerous plants may be harder to maintain, and that a smaller size may not automatically mean smaller impact on the region’s natural environment (A.1, A.10, B.11, B.15, B.19). Many participants grappled with the respective merits of concentrating impact in a few places for large plants and not, as one interviewee says, “taking all the small and fair waterfalls that are to be found in most fjord-valleys to make electric energy” (B.15). Another interviewee reflects on a fear that demand for power becomes so influential that all possible opportunities are exploited, saying, “that would be the worst scenario, if you have both the big power stations and all the small power stations as well, then you have damaged the whole thing, in some sense, some things microscopically and others hugely” (B.19). This relates back to questions surrounding local attitudes about nature protection and the ultimate goal or spirit behind it— whether it is about minimizing large, disruptive, terraforming projects, or about leaving as much of the Westfjords as possible uninterrupted by additional human infrastructure,

and whether this is for the sake of ecosystems, visual impacts, or a different conservation ethic entirely (Cook et al., 2024; S. B. Guðmundsdóttir, 2023).

4.5.2 Size-And-Technology Agnostic Support for Local Generation

However, one's worst-case scenario is another's dream: as one interviewee states outright: "I'm the person that, I support every power plant we can make. I'm not saying we should go and destroy the nature; we can always work with the nature, minimize everything, but we need the energy" (A.17). Some interviewees view the lack of supply in the Westfjords as such an acute problem that they advocate support for nearly every possible way to increase the utilization of the region's potential (B.12, A.17, B.22).

When it comes to which technologies or projects should be the vehicle for that increased utilization, another interviewee framed their perspective as: "I would say I'm technology agnostic. Whether that is wind power or a new geothermal or pumped hydro or something like that, that's wonderful. What needs to happen is that the economic conditions need to signal where investment is necessary" (B.20). This approach of letting markets and demand guide technology choice reflects the reality that the ideal transition is seldom designed according to either engineering or ethical principles, but hangs in the balance of larger forces (Bridge et al., 2013; Bridge & Gailing, 2020; Heaslip & Fahy, 2018).

For others, their support or preference is not determined by scale or energy type, but by benefit structure, and whether its outcome will result in improved conditions in the region: one interviewee stated they'd be opposed to any energy production not directly benefiting the Westfjords, or any project which is not "cutting energy costs by a significant fraction. So as soon as they said, we don't do it for the locals, we do it for the national grid, to make a private company even richer, but the prices will stay the same. First and foremost, it should be benefiting the people here" (B.5). Others expressed this same conditionality of support, grounded in a sense that there should be a direct, concrete improvement in local lived experience, especially if the project proposed comes with major tradeoffs for nature protection (B.5, B.9, B.12, A.14, B.15, B.16, B.20, B.22, A.23, all workshop groups).

4.5.3 Challenging Assumed Abundance and Decreasing Demand

In contrast to those who viewed the solution to the region's challenges as solely to do with some combination of grid improvements and increased local generation, some participants also expressed a desire to see a change in local behaviors of consumption, and in some cases, even broader policies. Many participants acknowledged that a historic abundance of clean, affordable energy has led Icelanders to be less apt to conserve electricity or make much effort to minimize their usage, identifying room for improvement in both the technologies in use and the culture surrounding power (A.1, B.3, A.8, A.10, B.12). Some linked this to goals around the mitigation of climate change, and Iceland's responsibilities in this realm; as one participant noted: "In Iceland, we're very lucky because we have renewable energy in abundance, and we can, without very much sacrifice, get rid mostly of fossil fuels. That's what should have already been done, and so it's really far too slow. We could do with less" (A.17). This notion of Iceland's

ability to transition, which, for much of the rest of the world, will require cuttingly deep transformation, with relatively little sacrifice, for this participant (alongside thought leaders and theorists) carries with it a certain obligation to do so—which, given the emissions associated with Icelandic society despite its relatively clean grid mix, many have mixed sentiments on whether progress so far is sufficient (Guðmundsdóttir & Córdova, 2023; Clarke et al., 2017).

Another participant, who had deep concerns around the momentum toward exploitation of more and more energy in Iceland, saw a need for people to "wake up" to the reality that the nation is currently wasteful of its energy, saying "We should just be more conservative with it, be more smart about it, so we don't just produce more and more and more. That's not the answer. It's more creating a system, a circle system somehow" (A.10). This mirrors sentiments from theorists and activists who feel that the national-level push to "win the race" of clean energy generation has detrimental impacts on a holistic, ecological approach to sustainability and sufficiency (Guðmundsdóttir & Córdova, 2023; Dablander et al., 2025)

Notably, this notion of circularity and sustainability is arguably more present, possible, and observable, in rural remote contexts, where limitations are felt more acutely and a reduction of waste is incentivized—creating a reality where many communities are closer than they might think to beginning to more fully approach a circular, sufficiency-minded regime(Dablander et al., 2025; Sætórsdóttir & Hall, 2019; Steingrimsson et al., 2025). A few other interviewees on the technical side of the spectrum took a less principles-based and more pragmatic approach to the question of decreasing demand, remarking on how more efficient designs and demand-response improvements can decrease the amount of strain on the grid and draw down costs long-term (B.13, B.16, B.20, B.22).

4.5.4 Innovation and Alternative Trajectories

Other outside of the box solutions or desired pathways forward included a suggestion to explore modular nuclear as a more localized solution which avoids the "costs" of other pathways to developing more energy in Iceland minimizing the extent to which we are terraforming, saying hydropower is considered environmentally friendly, but "look at the costs; It's square kilometers of lagoons from environments that didn't used to be underwater. And I mean, it's probably not the underworld, but… We are changing the environment by laying roads, yes, because we have to get from place to place. But if we can stop changing the environment to provide power also, that would be a big step forward" (B.12). This vision of a different set of energy relationships with the landscape and society echoes arguments for more localized, innovative grids echoes rhetoric from other rural and remote "energy communities" (Nguyen & Batel, 2021; von Wirth et al., 2018; Wolsink, 2020).

Other proposals from participants that are aligned with this way of thinking include calls to make greater use of more seasonal and intermittent energy sources in suitable systems—solar and wind systems to feed summer tourism demand, and under-bridge tidal range systems capturing existing kinetic energy to heat water or charge batteries (B.7, B.11, B.12, B.19, B.22). The harsh conditions and plentiful space that function as barriers in other instances actually make the Westfjords well-suited as a testing ground for new technologies (similar to how

Canada's Bay of Fundy has become a popular site to test tidal and wave technologies under the most extreme conditions the Atlantic has to offer (Keefe & Kozak, 2011). As one interviewee put it, "The Westfjords could be a nice laboratory for trying out things. This might be then excellent for transferring the skills and knowledge to similar regions outside of Iceland" (B.7).

One interviewee framed the region's failure to do this so far as a waste of its potential, asking: "Why are we not putting wind or solar on all our houses? We have so many bridges, why we're not using turbines under them—It's just stupid" (A.23). This frustration for this interviewee and likeminded other stems from a disconnect between the perceived abundance of harnessable energy in the environment, and the few steps to do so in ways outside of conventional norms. When asked what is preventing ideas like these from becoming reality—the barriers identified were economic, not a cultural conservatism. If presented with a proven use case, for example, for electric boats, with a beneficial bottom line, the expectation is that adoption would be timely and enthusiastic (Corcoran et al., 2025; Rivedal et al., 2021).

Of course, to get beyond, as another interviewee called it, a "back of a napkin" idea, innovations like this hinge on a shift of approach, a forward-looking lens, and substantial investments in order to become a real possibility, as one interviewee asks: "Are the infrastructures strong enough to embrace a new energy system? We are talking now about the ships taking electricity, not oil. But are we planning to make that happen? Do we know that we have enough power lines, are they strong enough for that? No one is thinking about that. Everybody is just talking about it" (B.6). Other interviewees and members of various agencies and organizations in the Westfjords, who are themselves actively working on these issues, would disagree with this participant's characterization of the situation (Karlsdóttir, 2024; Wang & Chambers, 2023). However, the fact that this is a fairly common perception does indicate that the public, and even others within the field of energy, are often not aware of this ongoing work. This is another opportunity for enhanced energy literacy, cross-sector communication, and participatory dialogue to transform local attitudes.

Overall, this desire for more vision— a future in which the Westfjords is a hub for innovation of remote energy solutions— aligns with the scenario that workshop participants placed in the less likely but more desirable part of the cone of future (see Figure 14). One participant expressed a desire to see the region "really thinking outside of the box creatively, being a front runner in remote energy solutions. I think the Westfjords could, if there was a will, do that, and ideally that's what I think would make the community thrive, maybe being a bit more brave" (A.23). This trajectory of bravery, departing from the "default future" of within-the-box thinking, would require concerted effort, community willpower, and alignment around a new vision for the region—not likely to arise out of atomized, separate, or expertise or economic-driven siloes (Fisher & Calkins, 2020; Hanke et al., 2026; Soutar, 2018).

4.5.5 Need for New Generation: Necessary Shifts, Structures of Ownership & Questions of Distribution of Benefits

Among interviewees who saw more energy in the Westfjords as integral to addressing its challenges, there was a strong frustration with the stalled or blockaded nature of the major projects being considered, and a sense that this is at a misalignment with the current government's priorities. As one participant remarked, "Our agencies should really pick up the vibes that there is a new sheriff in town; in a way this is the will of the people. Now, someone would get the feeling that I'm urging us to just bring out the bulldozers, but I'm definitely not; I'm just saying the government is saying that we want to do this, so it's not in the hand of the [planning and environmental] agencies to pursue another political agenda" (B.16). This national-level shift may be slow to impact situations on the ground, in part, because its mandate is perceived as unstable or fleeting, especially given recent alterations to ministries and regulations (Bjarnadóttir et al., 2025; Guðlaugsson et al., 2020; Önnudóttir et al., 2021). The politics of energy planning in Iceland, especially when it comes to how they intersect with nature protection, continue to reflect fissures from the fallout surrounding Kárahnjúkar and other high-profile battles framed as being between environmentalists and those favoring growth (H. Guðmundsdóttir et al., 2018; S. B. Guðmundsdóttir, 2023).

The need to bridge a gap between theoretical best practices and local perceptions continues to be a strong theme: another emerging pattern is the disconnect between the ongoing long-term planning processes, where ten-year and even longer-view plans are routinely set forth by various agencies (not always aligned with one another), and the situation on the ground, in which a participant embedded within the system on the technical end remarked: "Well, I don't know if I'm allowed to say this or not, but we need more planning for the next years, not just for next month" (B.6). This further demonstrates a dynamic analyzed earlier, in which expert planning and discussion rarely permeates public awareness, and, when it does, is seen as seldom leading to real action. Some embedded within the system called for incremental changes, like the streamlining of permitting and the reform of documents like Rammaáætlun, while others with an outsiders' perspective saw a necessity for broader policy changes more fundamental to current energy politics in Iceland to truly create resilience.

As noted in previous sections, for many interviewees, the perceived central need for change was often not around the total amount of energy in the system, but about how it reaches communities (transmission and distribution) and who has access to it under what conditions (policies and rate structures). There was broad acknowledgement even among the most pro-business interviewees that the current structure of electricity rates mostly benefits large companies and not households. One participant, who self-identified as right-leaning, said that although he supported private landowners leading the way on smaller projects such as wind, in-stream hydro and tidal, he didn't support any broad privatization of the energy system, using the analogy of keeping the milk cow rather than slaughtering it: "The government could sell off the system to privateers, spend the money, then the system would be gone and it wouldn't pay dividends anymore because they've sold it. The government built the energy system to be publicly owned, and I'm of the opinion that the people in the country should enjoy it. The

companies should pay their market value for the energy. But the homes should be getting their fair share of the cake" (B.12). Several other interviewees also raised issue with the fact that, despite the reality that households use 5% or less of the power in Iceland, that they are paying the highest prices, pushing back against approaches that turn energy from a public service into a profit mechanism. (H. Guðmundsdóttir et al., 2018). As one interviewee said, "Energy is a basic need for everyone, for all households and all workplaces. Since the state creates it, it should just be as cheap as possible for people. I don't think energy should be made to profit from it, because then it also risks overproduction and overconsumption" (A.24).

The question of how energy is governed and priced, and who it is produced for mirrors conversations closely entwined with Iceland's social history; as one interviewee puts it: "this concept of economic nationalism and control of our resources is really close to the nation's identity. Who owns the fish? Who owns the river? Who's allowed to utilize these resources? And how are they shared?" (B.20). Themes around a drive for public ownership for any proposed power plant development in the Westfjords indicate an Icelandic distrust of private investment—some interviewees linked this back to the nation's colonial history as well as perceptions of poor profit-sharing for fisheries, aluminium smelting, and more (Duhs, 2021; H. Guðmundsdóttir et al., 2018). As appetites for increased energy utilization grow, questions around the distribution of its benefits and the role of the public in shaping its trajectory become ever more pivotal.

4.5.6 Unlocking Energy Transitions: Industry & Prosperity

While some articulate a decrease in consumption and waste as the key action for mitigating climate change and creating energy resilience in Iceland, others see the continuation of the energy transition, especially for transportation, as the key to meaningful progress toward these goals (Upham et al., 2022). However, some of these key transition possibilities will only be "unlocked" with access to a stronger grid, as well as, in some cases, a greater supply of energy. In particular, marine decarbonization and efforts to "green" Iceland's blue economy through shoreside powering of cruise ships, switching to domestically-produced hydrogen or alternative fuels, and electrifying fishing vessels all have been enthusiastically pitched as part of a thriving Westfjords future—but they all require on an energy system that does not currently exist.

In many ways, the Westfjords is uniquely well-suited for some of these projects, and they would generate substantial socio-economic benefits locally as well as help reverse trends of disenfranchisement and decline left in the wake of the quota system's reshaping of rural coastal Iceland (Benediktsson & Karlsdóttir, 2011; Víðisson, 2020). One participant summarized it as follows: "When people say, oh, we could sell energy to the cruise ships, we could have the greening of the fishing fleet— which would be absolutely fantastic here, proximity to the fishing grounds is just fantastic, half a day out and you have the boat full of cod, and this would be exactly the distance that qualifies for small boats to utilize green energy— That is easier said than done, because there's absolutely no quantity" (A.14). Technical experts point out that the relevant system weakness here is not primarily instability (since shoreside demand would be seasonal and dodge most winter outages), but truly a question of insufficient supply.

While many emphasize the importance of building energy resilience in the Westfjords in service of the energy transition, innovations toward decarbonization are not the only opportunities pitched for the Westfjords which energy insecurity currently blockades. Many participants mentioned a slew of others, from data centers to land-based fish farms, and more—as one put it, "opportunities five, ten, fifteen years in the future which will only materialize if we have the access to local energy" (B.16). One participant who sought to prepare the Westfjords to seize these opportunities grappled with others' hesitancies around what they viewed as "bad" industries and their aversion to profit motives associated with energy exploitation, saying:

> "We [Iceland] have built one of the best communities in the world in terms of longevity, peace, GDP per capita, wages, women's rights, just to name a few; and we built it on utilizing our resources; without them, we're just an unhabitable nasty rock. And I guess it probably happens to every nation who makes it, who has this abundance of everything: We start to be picky. I'm not saying it's a bad thing, but that we forget how we came to this place, and then we start to think, do we need these windmills? Do we need these hydros? Do we need salmon farming pens? And that could be right, but we did not go from being one of the poorest countries in Europe to being one of the richest nations in the world per capita by *not* utilizing something. We came to be what we are because we utilized fish stocks, fjords, waterfalls. I'm not saying we should just go nuts, build every hydro, fill every fjord with pens. But we should be knowledgeable on how we came to be as prosperous as we are" (B.16).

This frustrated reaction to local tendencies to resist resource exploitation and infrastructure development was echoed by another interviewee, who noted: "This generation, we have all the technological advancements; communications and power; so, we don't appreciate that we have to maintain those systems and renew those systems. I think we are closer to refusing those advancements rather than welcoming them as our ancestors did. I think on the whole, the people could lean more towards accepting those things, instead of getting whole projects stranded on a bunch of technicalities" (B.19).

The question persists, then: which advancements and systems should the Westfjords embrace? Which vision of the future, grounded in which definition of the problem, will the region move toward, and with what level of foresight and intention? Although some of these questions around which pathways are possible and desirable can be clarified through scientific and mathematical reasoning, the larger questions underlying these choices are a matter of discourse, local imaginaries, and long-term processes of grappling with the values which will shape local futures—and although true consensus will inevitably remain elusive, I posit, based on these findings, that participatory approaches will be a key tool for the Westfjords to move from its current state of disconnect and disengagement closer to generative alignment.

4.6 The Role of Participation – Barriers & Possibilities

Participants reflecting on the role of citizens in decision-making around energy in Iceland often laid out a narrative of how this has changed over time, from the formation of Landsnet and its early operations, during which time decisions were made at somewhat of a remove from a public sphere, until the inflection point of the controversy over Karanjukar, when "Everybody in the country had opinion on this; that has been the main method for the last decades, trying to understand and be aware of opinion from everyone. We could discuss if we are going too far in this direction, because if you really put up against some plant, you can stop it for decades, find some technicality in the legal framework, stop it again and again. So maybe we have to repair something in our framework (B.13). This discomfort with the capacity for legal interventions by individuals or organizations to stall projects was identified by several participants, and is also discussed by in the literature surrounding Icelandic mega-projects and their impact on development in the years since (B.2, B.7, B.12, B.13, Johnstone & Buhmann, 2023).

If this participation-by-way of litigation, where opposition is communicated through stalling projects over technicalities is not seen as functional or desirable, what might be the alternative? Energy citizenship and participatory methods, which can carry local attitudes surrounding energy beyond NIMBYism or granting a grudging social license to operate to shape a deeper cultural alignment around a vision for the future (Gladwin & Ellis, 2023; Heaslip & Fahy, 2018; Laakso et al., 2023; Maonaigh et al., 2025b). Through first understanding the dynamics of existing avenues for participation, and identifying the gaps which pose barriers to more meaningful approaches, this section will end with recommendations for future steps to build a system where participants do not just activate against ongoing projects, but are equipped with the information, trust, and efficacy necessary to become truly engaged energy citizens (Krzywoszynska et al., 2016).

4.6.1 Information Access and Quality of Discourse

Relatively low levels of literacy around the technical realities of the electrical grid are far from unique to Iceland and the Westfjords—where, as one participant points out, most people would find it difficult to explain how the current gets from power plants to bedside lamps (Gladwin & Ellis, 2023). However, this is a case in which there is also a lack of incentive to pay close, granular attention to the dynamics of energy consumption: "We are not very good consumers because we are well off as a nation, so we just pay the price. So people typically have a poor understanding of energy systems and how they function, and how decisions are taken" (B.18). This can be particularly true for the farther-out corners, the abnormal divergences, and the "shadow side" of these systems, as another participant called it, meaning that for many people, it can be a "surprise to move to this remote place, this pristine space, and you get to know that your pool is heated up by diesel generator" (A.10). This interviewee noted that before moving to the Westfjords from elsewhere in Iceland, they did not know about the region's challenges, and that living here had improved their overall energy knowledge. Most interviewees with a

point of comparison (either professionally or from having lived elsewhere), similarly held a belief that those in the Westfjords were relatively more aware and educated on energy issues, even if their technical knowledge is still not robust: “Probably not [a good understanding] of the system. But I think people in the Westfjords are more aware of the necessity of improving it, because they have much more often experienced power shut down” (A.17). In the Westfjords, the efforts of Blámi, as discussed earlier, through projects like the Orkukort, and community outreach by Orkubú Vestfjarða, as well as the robust connections between residents and local governments, also intentionally contribute to efforts to create an involved, informed citizenry—however, their task is steep and progress inherently gradual.

Despite these perceived higher-than-average level of awareness and involvement, the long timelines, many projects, and layers of different agencies, government responsibilities and private enterprise, and the highly technical nature of problems leads to confusion even among professionals in the field. All participants who did not have a background in energy, except one, consistently expressed uncertainty, internal conflict, or self-doubt when weighing in on issues—in a broader sense, this also emerged among prospective interviewees as surprise that they would be considered for participation in this research, given their lack of feeling that they have something to offer due to lack of specialized knowledge on the subject. As one such person put it, even those who actively seek out information feel a sense of futility: “there's no way that you can actually inform yourself properly unless you're retired […] the general public is not able to get the necessary information to take any enlightened choices, and they cannot rely on the discourse” (B.19).

This framing raises several questions: What would be the ‘necessary information’ to take an enlightened choice? Additionally, the difficulty of correcting an unreliable discourse is a recurring theme, with many participants identifying that many are stuck in reinforcing cycles that do not challenge their perspectives, with a tendency to articulate positions or pick sides, but not support or substantiate their reasoning: “when I talk to people about it, they can't really argue for why.[…] it's just been a common agreement based on lack of knowledge” (A.24). This was particularly frequently mentioned in relation to the question of whether there is a need for more energy or not, with industries saying yes, conservationists saying no—there’s a certain amount of trust in the dominant discourse: “with national politicians constantly talking about energy deficiency, a regular Jon Jonsson does not go around and seek— they don't double check” (A.24); still, as another participant observes: “it's honestly quite hard for just a regular civilian to know which one is true” (A.1).

Even setting aside questions of bias, the task of identifying strategies to condense dense technical information into easily digestible public educational tools is often seen as formidable. However, other participants point out that this is always the case, even with participatory approaches in other fields, or even the question of voting in elections: ‘yes, this can be a barrier. But projects that genuinely want community opinion could overcome this with a bit of investment, right? It doesn't take that much” (A.24). The question then becomes whether projects genuinely want community opinion—and if so, whether their current behaviors reflect this value or not.

4.6.2 Inaccessible or Performative Existing Norms of Engagement: "Tick this Box"

With the notable exception of landowners, many participants felt that resident perspectives were insufficiently taken into account. This comes despite the mechanisms for public input which are already in place: specifically mentioned were a public authority advisory group, local public meetings, and the Skipulagsgátt comment portal. Of these methods, twelve interviewees described them as inaccessible, and six indicated a belief that they were performative or tokenistic in nature. Speaking about their participation as part of a council of stakeholders, one participant remarked that: "We had the feeling that the decisions were already made. They just want to have us saying like, yeah, this is a really brilliant idea, so they can say the locals have said it. It was very leading how they had it set up. They just want to have us— for some things you need to show that you did public participation, that you even have a very diverse stakeholder board. But I didn't really have the feeling that they would really value what we said about it. They had it pretty clear what they were doing" (B.7). Another participant involved in the same effort described it as a "done deal" and a "dog and pony show", echoing a belief that decisions would not have been altered, regardless of the contents of this group's conversations—a clear violation of criteria for meaningful stakeholder engagement (Copeland, 2024; Guðlaugsson et al., 2020; McGookin et al., 2021).

The advisory board, although it encompassed multiple stakeholder perspectives, was also composed only of those who had a formal role to qualify them for participation—a leadership position in a community group, staff role at an agency, or holding of relevant land. For the remainder of the population, options for participation are either ad-hoc community meetings, or submitting a comment to Skipulagsgátt. Regarding the public comment portal, some participants noted that although it is, in theory, open as a mechanism for participation, without effort to enhance public use of the tool, or effort to publicize its availability, it felt like it existed only to "tick this box and nothing more" (A.8). Some did not even know that it existed, and no one expressed that they had made use of it as a private citizen, at least on energy issues, indicating that the portal, as a tool for increasing the accessibility of participation, has not yet achieved its stated goals (A.1, B.2, B.7, A.8, A.10, A.23, A.24).

Even for legitimate public input avenues where opinions would be fairly considered, such as community meetings on projects, residents face steep barriers in terms of the time requirement and effort threshold necessary to take part. Barriers are even steeper for non-native speakers of Icelandic, as one community member mentioned: "[at a meeting] I would understand maybe 30%, likely 10%. Spending two hours for this, I don't feel like I use my time well, so I don't get [information] from the first sources ever. It's always already filtered. I don't feel like I'm in that conversation at all" (A.8). Even for those not facing a language barrier, despite the fact that the information may be out there, in public reports and documents, it takes a significant amount of interest and capacity to access it in any meaningful way (B.13), and as one participant says, despite their passion for these issues: **"**I have a family and a full time job and I'm like should I use my free time on that as well?" (A.22).

For community members who do overcome barriers to access existing avenues for participation, to what extent is there perspective taken seriously? As one participant in a workshop wrote down, “public perception blames the nature-protection idiots for not knowing the technicalities, but when it’s someone from the field [electrical engineer] and a man saying it, it’s got more oomph to it”, highlighting a dynamic in which stakeholders with technical expertise can dismiss local concerns as a lack of understanding (Baard, 2021; H. Guðmundsdóttir et al., 2018)

However, it may be that even technical experts are not fully able to take part. Another participant recalls participating in a public meeting in which a person working for a relevant agency, when asking a question about the claims being made around increased stability from a new project in the region, got a “nasty look from the boss […] almost like it wasn't something that he should have asked”, and was told this wasn’t a factor of concern (B.12). Several participants mentioned similar such events, and despite their anecdotal nature, the dynamic they indicate aligns with theoretical observations about the pressure to fall in line with particular narratives or imaginaries in Iceland, constraining the scope of public debate in Iceland (Bjarnadóttir et al., 2025; S.B. Guðmundsdóttir, 2023) The result is that, often missing from the table, are foreigners, busy working people, and those who doubt their own capacity and legitimacy to understand and weigh in. Additionally, as one interviewee pointed out, there are other impacted parties that cannot submit public comments or attend town halls, as she states: “For me, it's the value of the nature more, like, where is nature's voice at the table? It's hard to get a fair audience” (A.10).

Despite these barriers, even within the current system’s constraints, there is a clear appetite for opportunities to engage on energy– one participant recalling how, during an event hosted in the region by the ministry focused on transportation, many of the questions instead took up energy issues. Similarly, despite anticipation of potential difficulty recruiting research participants, - I received roughly double this number of interested responses, which did not result in interviews either due to scheduling difficulties, response attrition, or the need to cap the data set to keep analysis reasonable within the set timeline. Many participants without energy backgrounds expressed that this was the first time they had been asked for their opinions about these matters in any formal way, despite speaking about them often with friends, peers, and family members, indicating that these conversations are ongoing in community spaces, but not yet harnessed to inform public policymaking(Laakso et al., 2023). While experts didn’t see social license as the main barrier- with the occasional exception of landlord cooperation—they did express a strong belief that a more energy-literate public could improve matters (eight interviews, Guðlaugsson et al., 2020), as one interviewee said: “I don't necessarily think it is the people in the Westfjords or their views on it that are limiting, but I think it's good for the community to understand the importance of these projects getting built so that they move on as quickly as possible and are not limiting what can be done in the Westfjords” (B.5).

4.6.3 Risks and Considerations:

When discussing possibilities for a future of more public participation in decision-making processes, there was considerable discussion of the ways in which, either intentionally or unintentionally, a participatory system could be "rigged". since, even for matters considered to be objective facts, there are still facilitators, framers, and communicators, all of whom are informed by their own biases and interests. One participant mentioned a desire for more democratic processes around energy – but pointed out some of the inherent risks: "In theory, I'm always supportive of giving people a seat at the table; I would like to see that much more, like Swiss models of involving people in formal decision making. But that comes with a lot of questions about transparency and who informs the people and how. Is it really neutrally made decisions or can people be influenced?" (B.5).

Particularly among those who challenged the need for more energy development and growth, the role of profit and the ways it advantages energy institutions to frame the problem in this way was seen as a factor undermining credibility of the information: "when there's profit behind people's motives, it's really hard for people to navigate" (A.23). Even if it isn't through a financial stake, most of the people delivering information are still likely deeply invested somehow in the outcomes, since the municipal leaders and policymakers not exactly neutral, as one person notes: "Those who are answering the questions—their political life can't be dependent on the answers; it can't be someone who is desperate to get better infrastructure to Árneshreppur or someone who is going to profit from it" (A.24). Even discourse not biased due to personal stake in outcomes can be biased or constrained due to the close-knit web of community ties, one interviewee notes: "[it's] that Icelandic thing of, you know, I don't want to be highly critical of my neighbor or my cousin or my wife's third cousin removed. So I feel like people often aren't going to be overly critical, and that some use that to their own benefit" (B.2).

Some interviewees also expressed cynicism or hesitation about decision-making processes that hinge too heavily on local opinions or public forums or comments, with concerns that the most extreme or aggressive voices will disproportionately dominate conversations—or that when decisions are made that don't ultimately please all participants, that this will only worsen conflict and damage trust in institutions, as one participant shares: "I have a feeling most people more want to comment, I don't want that transmission line going there, if they have a thought at all" (B.2). This aligns with the dynamics outlined in Larsen & Buhmann (2024) and the difficulty in conveying that participation ensures the "right to have one's say, not one's way"—however, participants acknowledge that averting public input opportunities will not avoid this dynamic, and may actually serve to entrench opposition further (Andrésdottir, 2014; Minadakis & Vega-Araújo, 2024; Saviolidis et al., 2025).

These constraints limiting transparency, the polarized quality of the discourse, and the mismatched nature of how different actors define the problem, can lead to difficulty in conversations about the energy system's future. Several interviewees articulate that there is no ongoing dialogue between the two different camps previously identified—the business-minded build-everythings and the protectionist build-nothings—and that those who would seek a visionary third path resembling an energy-communities approach fail to be taken seriously,

since their aims are viewed by many as unrealistic under current conditions (A.1, A.17, B.19, A.21, Gjorgievski et al., 2021). Others identify the role broader socio-political worldviews play in constraining possibilities and guiding decision-making, linking local future-making to global conversations about degrowth and capitalism: “In the global picture, we have to come to a growth stop, or at least very limited growth, and accept that, and it goes hand in hand with more equal distribution of wealth, it's very well possible, but of course capitalism doesn't work that way” (B.19). Unrealistic expectations, as well as insufficient ambition, participants felt (and theory supports), are far more likely to characterize the conversation when citizens weigh in in isolation from one another, and their assumptions go unchallenged by generative debate. Participatory methods offer a way to grapple with paths forward in a way that makes residents feel heard while also staying grounded in the limitations of current realities.

Exploring this possibility is especially urgent given that a majority of participants felt that the status quo—an approach to community engagement that either is or is felt by participants to be performative or tokenistic, which then results in unpopular projects being blockaded in court to extensive delays and expenses—is not functioning adequately. As one participant puts it:

> “The concept of democratic participation in energy systems is excellent; probably solves a lot of historical problems with people being very upset about the environmental impact. But the implementation has just been to check a box, and people's opinions are not being really taken into account. And then the legal system is being used to blockade a lot of things that perhaps our system needs or else we fall off the cliff” (B.20).

4.6.4 Vision for a Truly Participatory System:

When meaningful, timely, and approached with consistency and intention, participation can fulfill a goal expressed by many participants and temper the urge to shut down opposing viewpoints from separate siloes of discipline or politics: as one participant stated simple, “it is better that people talk and try to understand rather than just sitting and criticizing each from their desk” (B.13). An approach that successfully cultivates this style of engagement will avert the damaging outcomes of one-time contentious town halls, public comment portals flooded with angry comments, or informational Q&As once all decisions have already been made. Instead, it will require a scaffolded, multilayered, gradual approach—as suggested by interviewees (A.1, A.8, B.12, A.23, A.24), and backed by theoretical frameworks that emphasize the importance of regular touch points to build literacy, trust, and force of habit (Fiander et al., 2024; Forester, 2012; Laakso et al., 2023; Szulecki, 2018; Van Veelen, 2018) This seems to be well within the perceived realm of possibility—however, in order to accomplish this in a resource-constrained environment, it will have to first be accepted as a worthy priority rather than as an optional plus for optics. Even when the perspectives of those in the periphery do not ultimately decide the pathway toward the future, their participation lends force and credibility to often-ignored perspectives, and can ease resentments and nudge solutions more in alignment with the community’s true wants, not just its wants as filtered through lenses of expertise and legitimacy (Larsen & Buhmann, 2024).

4.7 Summary

From the deep roots of energy insecurity in the Westfjords' harsh physical landscape and daunting lack of capital to the felt costs of economic limitations and heavy reliance on diesel generators to desires for increased generation and more robust infrastructure, these findings reveal nuanced, robust understandings of how the region's energy system operates. This was true both for those with backgrounds in the field as well as for those who lacked any formal knowledge, whose perspective was shaped by their lived reality in the towns and villages of the region, leading businesses, managing households, and considering the future ahead. These insights were shaped directly by the methodologies and guiding theories established in preceding chapters. Although there are still notable gaps and areas of misalignment in community narratives, particularly when it comes to the question of supply, these findings indicate that the residents of the Westfjords are a rich well of informed perspectives that could be invaluable for shaping its trajectory forward. However, these findings also reveal that under present conditions, participants struggle to see their own contributions shaping outcomes in any meaningful way. This chapter also reveals the strong sentiments of frustration that permeate the narrative, indicating that the status quo—both in terms of physical infrastructure and in terms of existing policies and frameworks—is not seen as acceptable in the present, or, perhaps most pivotally, prepared for meeting the challenges of the coming future. These insights directly shape the policy recommendations set forth in the following chapter, and present a case for a shift in approach, as the region approaches decisive moments for its infrastructure future, in the hopes that these decisions might engender legitimacy, support, and synergy, rather than skepticism, opposition, and stuckness.

5 Conclusion:

The contradictions embedded in the pursuit of a resilient energy future for the Westfjords are many, particularly when investigating a participatory approach. The existing situation is marked by murky information, dysfunction, and stark challenges: yet citizens are nonetheless engaged, curious, and informed, grappling thoughtfully with the tradeoffs of different potential paths forward. Notably, although passionate principles often shone through, the discourse was never hijacked by the knee-jerk not-in-my-backyard style of opposition that the stalled projects and high-profile debates present in the region may lead outsiders to expect. Despite difficult dynamics in which different understandings of the fundamental nature of the problem shape different desired future actions, participants expressed nuanced views that did not fall neatly into separate camps, or align with binary identities of support or opposition. Unapologetic pro-build capitalists call for higher energy prices for companies and lower burdens for homes, and self-identified nature protectionists advocate for projects that transform local watersheds in service of the more urgent need to draw down use of fossil fuels. Participants report changing their minds and perspectives throughout their time living in different places, holding different roles, and experiencing different energy realities, grappling consistently with sincerely held and often competing values.

Although the desired ultimate outcomes described across groups differed, all perspectives seemed to contain a deep desire for social benefit at their core, despite diverging understandings of what this good life for the Westfjords looks like in practice. Perhaps most importantly, there is a consensus around what the primary step forward ought to be: a more robust grid, prepared to carry the Westfjords in to an uncertain array of futures, and ensuring its communities can determine that future for themselves

This research aimed to investigate: What insights might a participatory approach to energy issues generate into key concepts for energy resilience in the Westfjords? To serve this goal, interviews reaching across geographies, sectors, and labels of expertise revealed a robust view of how stakeholders in the Westfjords viewed both their current situation and pathways into the future, complemented by a participatory workshop, sparking ideas for continuing conversation. Fundamental insights which emerged included:

- Diesel generator reliance and the impacts of power outages on businesses and economic development prospects are not seen as an acceptable status quo;
- New power generation possibilities in the Westfjords are evaluated not just by their scale, technology type, or site, but by their ownership structure, benefits distribution, and impact on local realities, shaped by choices around transmission and distribution;
- Experts and locals alike are critical of existing policies and frameworks; their legitimacy is seen as tenuous and their impact as dysfunctional, and a focus on economic and technological evaluation criteria seem, to many, to fail to generate outcomes in the best interest of the people of the Westfjords.

- Although efforts to improve grid resilience and innovate to prepare for the energy transition are ongoing, public awareness of these efforts is slim, leading to frustration and perceptions that forward motion will never materialize
- Key gaps in perceptions of the problem, both between experts and non-experts, and between those with different ideological approaches to energy utilization, must be bridged in order to move toward alignment on which future pathways are desired.

These insights laid the groundwork for beginning to inquire: What are the possibilities for participation in energy planning to build a sense of buy-in among stakeholders not normally involved in decision-making processes, and improve both planning outcomes and public energy literacy? Although this is, from the outset, acknowledged to be a question to be perpetually asked and never answered, conversations so far suggest that in order for a participatory process to succeed, there must also be thoughtful and trusted energy literacy building to level-set ahead of conversations, and ensure energy dialogues are accessible to non-experts, as well as a meaningful dedication to acting on public input, so that participants believe their time is well-spent, and that procedures are not just formalities, ticking a box, and that engagement occurs when decisions are still genuinely malleable, not already set in place.

Building literacy in highly-technical systems and ensuring access to unbiased information are necessary and daunting components of this work, and even if these aims are accomplished, productive conversations on controversial issues are not automatic. They require iteration, collaboration, a dedication to ongoing learning through practice, and a willingness to accept contradictions and non-linear outcomes, both on the part of facilitators and participants. The discourse is fluid and unsettled—providing a rich opportunity and strong appetite for continued, more robust conversation. The recommendations below are rooted in the outcomes of this research, and represent the vision of the questions at its core—though the conclusions here cannot truly be considered their answers, considering the limitations of its scope and the fundamentally long-term, non-linear nature of the social transformations involved.

Too often, the urgency surrounding crisis—on a planetary scale, the climate crisis, and on a regional scale, the Westfjords' worsening vulnerability—drives forward transitions and decisions where local perspectives are footnotes at best. This is, at least in part, because meaningful engagement with participatory approaches requires time and resources; which often, leaders in difficult positions argue, these communities and our planet cannot afford. However, the case of Iceland and the Westfjords may reveal a cautionary truth: What our communities and planet truly cannot afford are the cycles of distrust, delay, and disintegrating progress that can be set off by failing to take participatory approach that incorporate local values, narratives, and visions for the future, rather than just engineering and economics. From Kárahnjúkar to Hvalárvirkjun and beyond, the consequences for failing to adequately reckon with—and communicate—why, how, and for whom energy is being generated will be with us for decades; decades during which communities could have been making progress toward an energy transition no longer characterized by conflict, but powered by a shared vision of a resilient future.

5.1 Policy Recommendations

Acknowledging that many of the changes called for by the findings of this thesis are transformative and far-reaching in nature, this section focuses on offering both short-term concrete actionable steps, and longer-term goals with varying levels of required investment, guided by the belief that even small iterative changes toward a more participatory approach can offer improved outcomes.

Concrete Actionable Steps:

- Enhance communication between energy authorities and the public—in both cadence and tone, ensuring that updates and information are frequent, timely, and presented in plain language. Although it would not be feasible to expect all communications to also be available in English, given resource constraints, official should make every effort to provide at least a strong summary of key points in English is provided, to facilitate greater participation from residents who speak Icelandic as a second language and may struggle with technical content.
- If public comment will be accepted through Skipulagsgátt, ensure that this is well-publicized through both official and informal channels, with guidance on who is eligible to submit and how to do so. Prioritize clear communication to set reasonable expectations about how public comments will be incorporated into decision-making.
- Implement an opt-out (rather than opt-in) system for notifying Westfjords residents when their homes are running off diesel backup, allowing residents to modify their energy consumption choices, and providing guidance on the best ways to do so, to minimize the cost and pollution burdens of outages.

Longer-Term Goals:

- Establish a regular cadence of public meetings or "town halls" focused on energy resilience, building a culture of and comfort around dialogue on these issues, strengthening connections between residents and system experts, and enhancing linkages between often disparate efforts by different agencies, as well as public awareness of ongoing research, planning, and action.

- Invest in long-term, non-project-specific initiatives to build greater energy literacy among residents of the Westfjords, to build collective capacity for problem-solving and meaningful engagement. Possible avenues for accomplishing this goal include incorporating visits from subject matter experts into secondary school curriculum, hosting regular dynamic, well-publicized events with entities like Blámi to introduce ongoing research projects, and utilizing community spaces for creative tactics that enhance knowledge and interest (i.e. the example in Appendix D, a proposal for an "energy library" exhibit, combining art, storytelling, and technology to spark public dialogue about possible energy futures).

5.2 Questions for Further Research

Questions that emerged from these findings which merit further academic study include:

- How do levels of support among Icelanders vary between private and publicly owned energy projects? What is the role of economic history and resource nationalism in shaping these attitudes?
- What has been the efficacy of Skipulagsgátt as a public input mechanism, given its intended purpose? How has it been utilized by the public, and what opportunities exist for revisions or improvements to the system?
- What level of trust, perceived legitimacy, and understanding do Icelanders attach to Rammaáætlun? What are the achievements and shortcomings of this framework, and how might it function or require modification moving into the future?
- How do levels of literacy in energy systems and levels of engagement in the Westfjords compare with other remote coastal cases where energy transitions are underway?
- How might a modified futures thinking framework/approach to the "cone of futures", as visualized in Figure 23, attend more deeply to the linkages to the region's past, cultural histories, and imaginaries, in order to build a stronger foundation for actioning the future? (Theunissen, 2024).

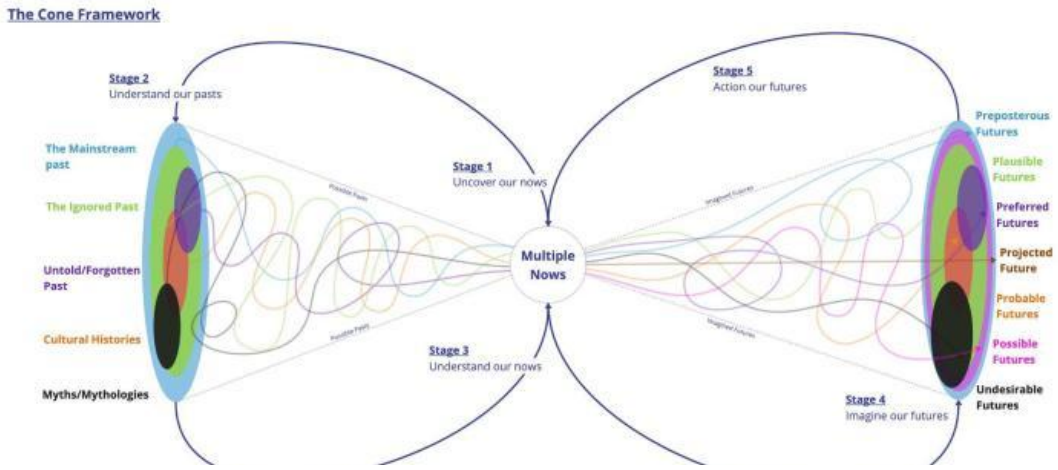

Figure 22. Theunissen's modification of previous futures cones by Christopholopoulos, Gall et al, Voros, Bezold, and Hancock (Theunissen, 2024).

- Which institutions and funding structures are best-suited to facilitate transparent, robust, participatory methods of community engagement around energy in the Westfjords, and what is the feasibility of this being incorporated as a priority into planning approaches moving forward?
- Lastly, and most ambitiously, what possibilities exist for a long-term analysis of energy citizenship behaviors among residents of the Westfjords (or other rural remote parts of Iceland's grid), examining both baseline practices and attitudes, as well as tracking change over time (after Laakso et al., 2023)?

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Appendix A: Ethics Clearance

Háskólasetur Vestfjarða
University Centre of the Westfjords

Research ethics training and clearance

University Centre of the Westfjords
Suðurgata 12
400 Ísafjörður, Iceland +354 450 3040
info@uw.is

This letter certifies that **Brianna Marie Cunliffe** has completed the following training modules of: (X) Basic ethics in research

(X) Human subjects research
(X) Animal subjects research

Furthermore, the Masters Program Committee has determined that the proposed masters research entitled "Participatory Energy Planning for Resilient Coastal Westfjords Futures" meets the ethics and research integrity standards of the University Centre of the Westfjords. Throughout the course of their research, the student has the continued responsibility to adhere to basic ethical principles for the responsible conduct of research and discipline-specific professional standards.

University Centre of the Westfjords ethics training certification and research ethics clearance is valid for one year past the date of issue unless otherwise noted.

Effective Date: 15 June 2025

Expiration Date: 15 June 2026

Reference number: 2025-178-75

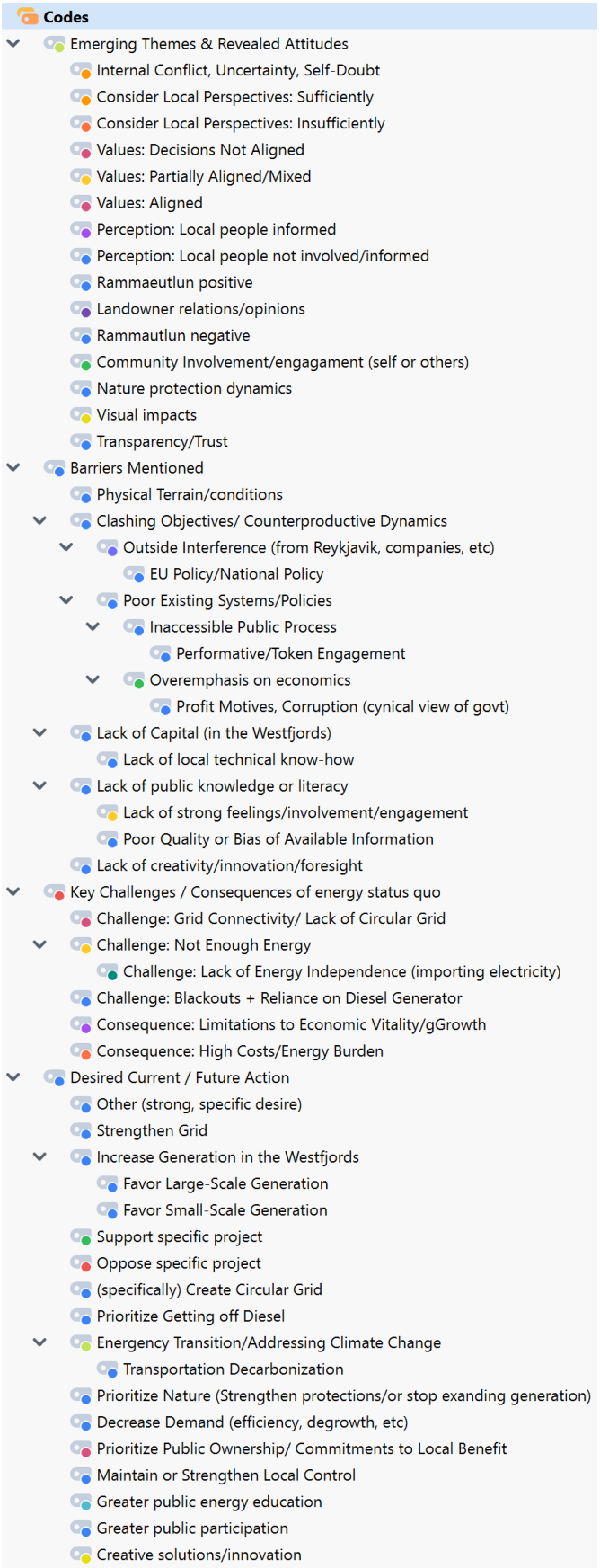
Prior to making substantive changes to the scope of research, research tools, or methods, the student is required to contact the Masters Program Committee to determine whether or not additional review is required.

Catherine P. Chambers, Ph.D.
Research Manager

Appendix B: Target Stakeholders

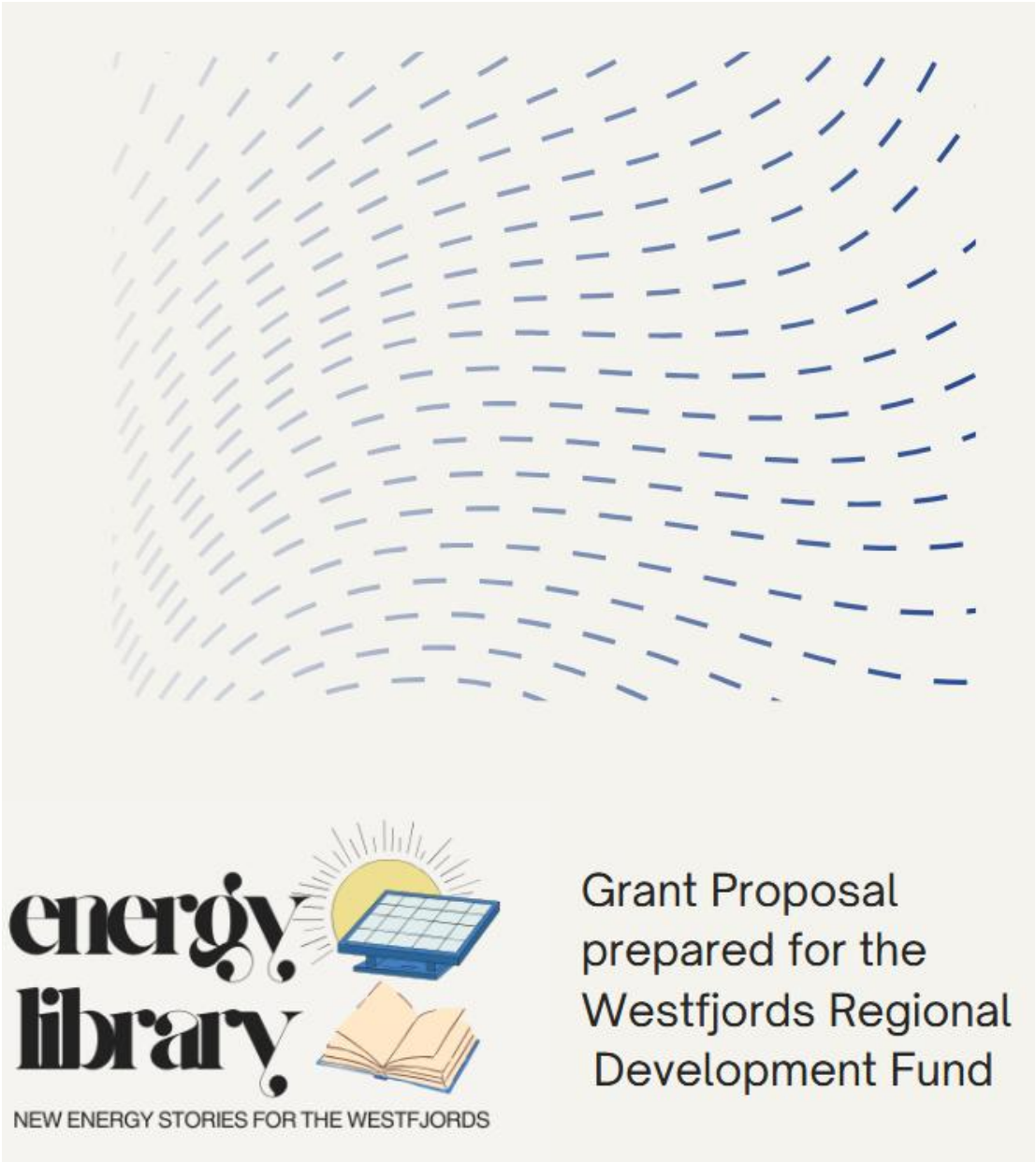
Stakeholder Group	Stakeholder Category	Target for:
Ísafjarðarbær, Bolungarvik, and other municipal government staff	Government/ Decision-Makers	Interview and Workshop
Orkubú Vestfjarða	Energy Producers	Interview and Workshop
Landsvirkin	Distribution + Transmission	Interview
Landsnet	Distribution + Transmission	Interview
Icelandic Ministry of the Energy Environment and Climate	Government/ Decision-Makers	Interview
Vestfjarðastofa	Professional/Academic Interest	Interview and Workshop
Blámi	Government/ Decision-Makers/ Professional/Academic Interest	Interview and Workshop
Environmental Advocacy Organizations (i.e. Young Environmentalists)	Community Groups	Interview and Workshop
Environmental Impact Assessment Professionals	Professional/Academic Interest	Interview and Workshop
University Research Project Leaders	Professional/Academic Interest	Workshop
Byggðastofnun	Professional/Academic Interest	Interview
Advisory Group members for infrastructure projects	Energy Producers / Community Groups	Interview and Workshop
Airport & Transportation Authorities	Industrial/Large End Users	Interview
Groandi	Community Groups	Interview and Workshop
Kerecis, Arctic Fish & Similar Large Economic Drivers	Industrial/Large End Users	Interview and Workshop
Local Businesses & Entrepreneurs	Local (Small End User)	Interview and Workshop
School Representatives	Community Groups	Interview
Welfare Department & Social Services Representatives	Local (Small End User)	Interview
SAR (Isa + Bolu)	Community Groups	Interview and Workshop
Tourism Office & Tour Operators	Community Groups / Local Small End Users	Interview and Workshop
Individuals (mix of long + short term residents, with representative geographical distribution)	Local (Small End User)	Interview and Workshop

Appendix C: MaxQDA Codebook



Appendix D: Hypothetical Proposal for a Representative Community Energy Literacy-Building Project:

Access the [Energy Library Grant Proposal] at this link or by clicking on the following title page:




Háskólasetur
Vestfjarða
University Centre
of the Westfjords