RESEARCH BRIEF

Exploring the Celtic Interconnector through social, cultural, political and historical perspectives

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MaREI Energy · Climate · Marine

STEPS

WHAT DID WE DO?

Cross-border electricity interconnections in the energy transition bring new challenges in aligning local energy solutions with effective national and international energy strategies. However, conversations surrounding interconnectors focus primarily on technical and economic aspects. While these discussions are crucial, they often overlook significant political, social, cultural, and historical dimensions of grid interconnectors.

In this research, we analyse how interconnection is influenced by social, cultural, and historical contexts, challenging the traditional view that energy interconnections are merely physical transmission lines or electricity transactions devoid of context. As an illustrative example, the Celtic Interconnector project—an Irish French initiative supported by the European Commission—provides insight into interconnection as a historically and geographically rich exchange, reflecting connections between people and places, both past and present.

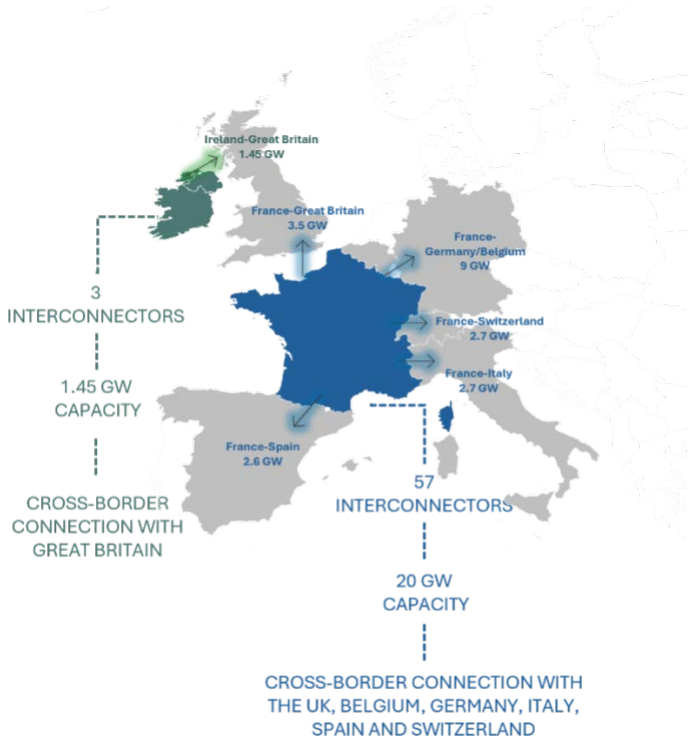

Figure 1 Map outlining current cross-border electricity interconnections in Ireland and France

The Celtic Interconnector is a high-voltage electricity link with a capacity of 700MW, extending across the Celtic Sea between Cork in Ireland and Brittany in France. Once the building work is complete, it will enhance France's overall electricity interconnectivity, as the country already exports significant amounts of electricity through interconnectors to six neighbouring countries. Likewise, the Celtic Interconnector will directly connect Ireland and its nearest EU neighbour, France.

Historically, Ireland has had low levels of interconnection, linked only to Great Britain (as illustrated in Figure 1).

HOW DID WE DO IT?

Our approach was to explore new directions in interconnector research, to enrich the dialogue surrounding cross-border grid interconnectivity via two multidisciplinary workshops conducted in Paris and Cork in 2024, centred on the Celtic Interconnector project. Issues of capacity, grid flexibility, and trade- and market-based solutions dominate the research space, while the media often echoes this narrow perspective. The workshops by contrast adopted an open-space approach, drawing on principles of observation, co-creation, dialogue, contextual learning and multidisciplinary exchange. More than thirty participants from various fields—including sociology,

[1] Irish links refer to HVDC interconnection from the All-Island system to Great Britain

HOW DID WE DO IT?

history, literature, engineering, geography, anthropology and various non-academic stakeholders—contributed their valuable perspectives. As figure 2 illustrates there is added value from a thematic perspective that adds to existing technical oriented literature and media coverage of interconnectors across Europe.

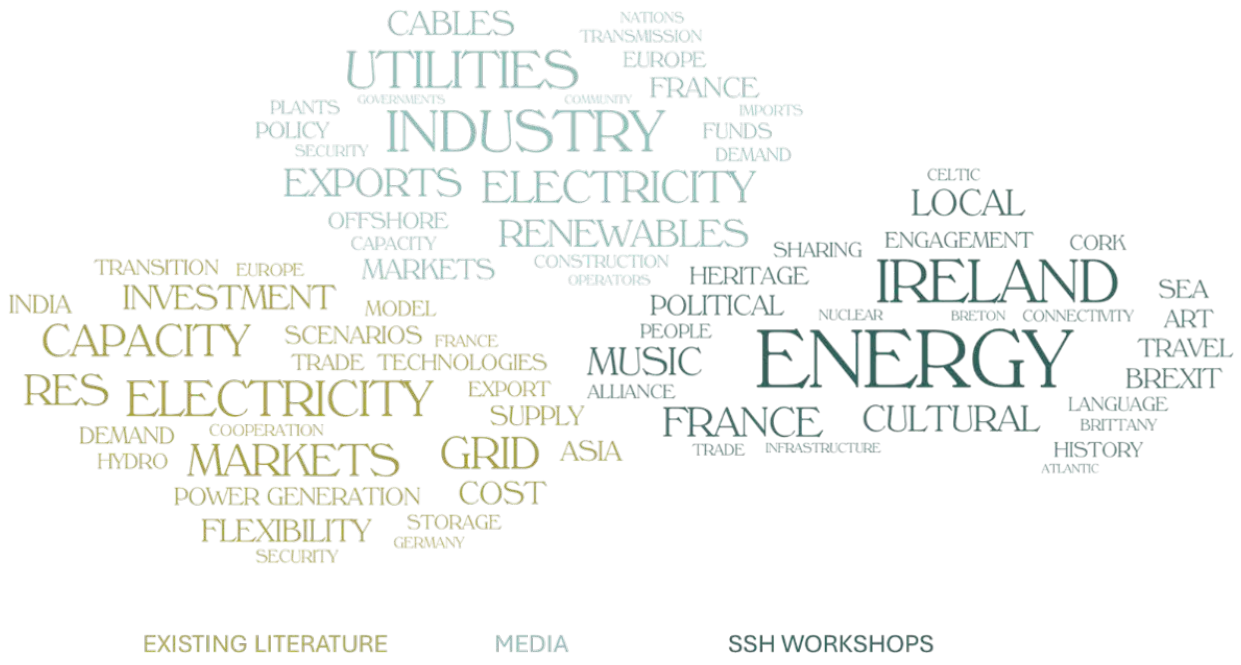

Figure 2 Word cloud illustrating thematic differences within the existing literature, the media and the SSH Workshops

WHAT DID WE FIND?

In the evolving energy landscape, technical experts and policymakers have a broad consensus that interconnectors are vital in fostering a system prioritising renewable energy sources. These interconnectors facilitate the transfer of electricity over long distances, playing a pivotal role in harmonising generation and demand. Doing so helps address the variability of renewable energy resources, such as solar and wind, which fluctuate based on weather conditions. Building new electricity grid infrastructure becomes more essential as the electricity generation landscape shifts to accommodate more renewable sources. We found however that exploring fundamental questions surrounding energy transitions remains crucial, even if they are often overlooked: What drives these changes? How do different stakeholders experience them? And how do they intertwine with other societal and technological transformations? This exploration is essential for understanding the broader implications of transitioning to a renewable energy future.

The collaborative workshops opened opportunities for knowledge creation. We considered new horizons for debate, including the value of interconnector metaphors and their role in shaping and mobilising new understandings of complex cross-border energy systems, deepening contemporary practices and energy regimes informed by cultural history, and opportunities for new public engagement strategies for navigating the ongoing electricity grid system change.

INTERCONNECTOR METAPHORS:

Metaphorical language, particularly through analogies, can enhance our understanding of energy interconnector infrastructure. Common metaphors such as "energy highways," "energy super grid," "bridge links", and “border thinking” help convey the complexities of electricity interconnectors in relatable ways. These metaphors draw on familiar concepts, enabling us to process and envision intricate ideas, though they often emphasize certain aspects while downplaying others. Research indicates that the language used in grid consultations significantly impacts public engagement and perceptions of cost-benefit analyses, but this is often overlooked. Industry professionals and media frequently employ the "energy highways" analogy, highlighting regional cooperation and long-distance electricity transport, yet this metaphor may not fully engage local communities or convey benefits effectively.

CELTIC INTERCONNECTIONS- CULTURE, HERITAGE AND OTHER BONDS:

The delivery of a subsea cable connecting Cork and Brittany exemplifies how European Union infrastructure can enhance regional identities and pre-existing interregional connections through shared heritage. Partially funded by the Connecting Europe Facility (CEF), this interconnector promotes transnational connectivity in energy, transport, and digital services, fostering political integration and socio-cultural development. We discussed the significance of naming the cable the 'Celtic' Interconnector, symbolising both regions' shared heritage and cultural identities. This name honours historical and cultural ties between both areas. Ongoing academic collaborations and cultural exchanges strengthen these connections, but real effort is needed to engage both communities. Recognising Celtic connections as a living bond of histories, cultural expressions, trade relationships, and environmental stewardship is essential. The layering of the Celtic Interconnector Infrastructure onto this complex legacy of cultural and historical interrelationships supports the idea that the Celtic interconnector is of special significance. Yet, real work is needed to build on this as both sides have a lot of community interest in finding ways to build on this engagement. Presumed Celtic connections alone cannot do this work.

DEEPENING PUBLIC ENGAGEMENT:

Exploring alternatives to current techno-economic frameworks is essential for enhancing public engagement with interconnector infrastructure and energy policies. A more inclusive approach can foster meaningful dialogue with communities about these issues. One key theme discussed was the relationship between interconnectors and marine environments, particularly their potential to promote biodiversity. This counters the perception of interconnectors as simply energy conduits. The concept of "sea blindness" highlights the historical neglect of coastal and maritime heritage in early twentieth-century Ireland as attention shifted to land. Engaging with local fishermen and sea-dependent communities is vital to ensure their voices are included in energy discussions. The workshops also addressed the historical resistance to nuclear power in Brittany, emphasizing how public sentiments shape energy strategies and decarbonization goals. As energy consumers face an increasingly diverse energy mix, understanding their expectations and the stability of market prices are crucial. Furthermore, while Ireland seeks greater energy security, a successful interconnector could lead to oversupply issues and cost implications for consumers. Innovative solutions like peer-to-peer energy markets could empower communities to manage surplus energy sustainably. With general awareness of interconnectors being low, improving communication strategies is crucial, especially amidst rising energy costs and geopolitical tensions. Engaging the arts as partners in promoting awareness could be a valuable approach

CONCLUSION

The exploration of cross-border electricity interconnectors, mainly through the lens of the Celtic Interconnector project, highlights the multifaceted relationship between historical, cultural, and social dimensions alongside essential technical and economic considerations. This multidisciplinary perspective underscores that energy interconnections are not merely physical infrastructures; they carry significant narratives and contexts that reflect the connections among communities and their environments. By expanding the discourse to incorporate insights from the Social Sciences and Humanities, we promote a more nuanced understanding of interconnectors, which can enhance public engagement and encourage diverse viewpoints. Ultimately, acknowledging the complex nature of these interconnected systems can pave the way for more inclusive and informed discussions about the future of energy transmission and its broader implications for society. This is increasingly needed in the context of a 'democratic recession' whereby spaces for citizen engagement with decision-making are becoming more polarised and divisive.

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