Reimagining Biodiversity Governance: The North Sea as a Living Marine Democracy

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Figure 1. Embassy of the North Sea Immersive experience, viewable at governtheplanet.org.

A speculative future grounded in today's experiments in bioregional governance, acoustic sensing, and rights-of-nature movements. The piece treats the sea as a political body whose rhythms, migrations, and soundscapes shape collective decisions. Its contribution to the Compendium is atmospheric rather than didactic: it opens the imagination toward more-than-human politics without abandoning the texture of actual practice.

By 2045, the governance of the North Sea has been fundamentally reimagined.

Once treated as a transit zone and a commodity to be divided, the sea is now recognised as a living, relational system entangled with human and more-than-human communities. Governance has shifted from national sovereignty to bioregional cooperation, shaped by ecological continuities rather than borders or ownership claims. Technocratic control has given way to plural, biodiverse democracy: decision-making draws on situated knowledges, cultural memory, and multispecies relationships and representation. The sea is no longer an object of management, but a political subject with standing, agency, and voice. Governance follows ecological rhythms such as fish migrations and seabed restoration, guided by long-term responsibility shared across species and generations.

This isn't utopia. It's a vision grounded in many plausible futures.

It draws on real-world examples and emerges from the collective labour of artists, ecologists, lawyers, scientists, urbanists, fishers, and policymakers who treated imagination as a political act. It traces shifts in law, culture, and institutions and the new forms of care, belonging, and responsibility they enabled, transforming not only governance, but life itself for humans, species, and ecosystems. It ask:

What could happen if we listened to the sea and governed with, not over it?

Bioregional Authority and Interspecies Representation

Political authority in the North Sea flows through the Interspecies North Sea Council, a transboundary governance body with legal standing, composed of representatives from more-than-human communities. Council seats are held by coastal municipalities, marine cooperatives, indigenous assemblies, and youth forums, as well as migratory fish schools, kelp forests, acoustic zones, and sediment communities. Representation is not symbolic but material: fish representation is grounded in spawning data, migration patterns, fisher observations with AI used cautiously as a tool to detect multispecies rhythms, not as a substitute but alongside local, embodied knowledge. Authority resides with those the closest, most sustained relationships to each entity, and decisions are no longer made in distant courtrooms alone, but within the ecologies they concern. The Council draws on legal precedents from across the globe. Inspired by the Whanganui River in Aotearoa—where rulings are made on the riverbank—governance here unfolds in place: in fishing harbours, wetland shelters, reef observatories linked to the North Sea. The sea is a co-constituent of political life, and governance happens with it.

More-than-Human Law and Civic Stewardship

Across the North Sea region, experimental legal and civic models are common. In Amsterdam, eel guardians[2] manage aquatic passageways using smart infrastructure aligned with migratory patterns. In Helgoland, seabird advisors[3] contribute nesting data to marine planning.

Judicial processes have evolved significantly. While the global movement to recognise the rights and agency of more-than-human entities had been gaining ground for decades, a turning point for the

Figure 2. The Embassy of the North Sea[1].

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1   This speculative element draws from the real-world work of the Embassy of the North Sea, a symbolic and interdisciplinary initiative founded in The Hague in 2018. While not a formal diplomatic institution, the Embassy serves as a platform for exploring how more-than-human life—such as herring, algae, and porpoises—might be politically represented. Through collaborations with artists, scientists, and legal thinkers, the Embassy challenges anthropocentric governance and investigates the possibility of recognising the North Sea as an autonomous legal and political entity. The images included here reference the Embassy's use of diplomatic language and symbolism to reimagine civic and ecological relationships with the sea.

2   This example draws on *A Voice for the Eel,* a project by the Embassy of the North Sea that brought together artists, scientists, and sociologists to explore the life of the European eel (Anguilla anguilla) in and around Amsterdam. The project investigates how infrastructure, policy, and human activity shape the eel's environment, with the aim of generating new forms of cohabitation and proposals for better representation of the eel in urban planning and governance.

3   This example draws on the long-standing ornithological research conducted on Helgoland, where the Institute of Avian Research "Vogelwarte Helgoland" operates a permanent island station. Researchers there have studied bird migration and seabird ecology for over a century, contributing extensive data on migratory patterns and the impacts of offshore wind energy development. See Exo, K.-M., O. Hüppop, and S. Garthe. "Birds and Offshore Wind Farms: A Hot Topic in Marine Ecology." *Wader Study Group Bulletin* 100 (2003): 50–53; Hüppop, O., and K. Hüppop. "Bird Migration on Helgoland: The Yield from 100 Years of Research." *Journal of Ornithology* 152, suppl. 1 (2011): 25–40. https://doi.org/10.1007/s10336-011-0705-2.

4   The Embassy of the North Sea organised a Moot (or practice court) on 6 October 2022 in the Peace Palace in The Hague. This legal exercise was an opportunity to examine how non-human voices can be heard in a courtroom. During the experiment, the North Sea requested the Dutch government to grant it a declaration of right. The North Sea no longer wishes to be treated as an object bound by the decisions of others, but rather wants to relate to the Dutch state as an independent entity. Human and non-human witnesses were called to speak on behalf of various facets of the North Sea. They argued that the North Sea is ineffectively represented within existing laws and regulations. This practice court is inspired by worldwide developments relating to the Rights for Nature, which now counts some four hundred legal and political cases around the globe. To learn about this movement, read the Compendium Rights of Nature here: https://www.embassyofthenorthsea.com/product/rights-of-nature-case-studies-from-six-continents. The Spanish parliament, for example, recently passed a law that makes the highly polluted Spanish lagoon Mar Menor a legal entity—a first in Europe.

North Sea came on 6 October 2022, when coral soundscapes—one silent, one teeming with life—were heard as a legal testimony in a moot court at The Hague.[4] This moment widened the legal imagination, opening new questions about who holds standing in environmental governance.

In the North Sea, this shift redefined the grounds of legal participation. Today, courts routinely consider ecological memory and nonhuman testimony. As I write on Wednesday 3 May 2045, the Interspecies Council meets at the North Sea Pavilion in Scheveningen. Hydrophone archives echo alongside tide logs and oral histories. Councillors — eel stewards, seal guardians, coastal mayors — interpret live sonic data. Shrimp crackles suggest reef recovery. These soundscapes are not supporting data, but testimony. Ecosystems no longer speak only when humans are harmed—they speak with standing, and with continuous authority.

Over time, diverse approaches have emerged to engage more-than-human agency and representation—not by claiming to fully understand or speak for other species, but by creating space for their presence and signals to inform decisions. These practices recognise that we cannot fully know other ways of being, but by attempting to listen, we confront the epistemic boundaries of human governance and create space for new modes of attention, accountability, and relational knowledge to emerge.

Relational Geographies and Multispecies Time

The remapping of political authority is redrawing the geography of governance—from Exclusive Economic Zones (EEZs) to Relational Ecological Corridors (RECs)[5], where jurisdiction follows the movement and rhythms of ecosystems. Governance aligns with zones shaped by herring spawning grounds, eel migrations, sediment drift, seasonal upwellings, and acoustic coherence.

Offshore wind infrastructure, once driven by efficiency and scale, is now shaped through ecological cohabitation. Predictive models[6] integrate layered, site-specific data—including marine mammal presence, water conditions, and ecosystem dynamics—to guide turbine placement, maintenance, and operation in response to more-than-human life. Planning no longer follows generic risk templates but begins with the lived, sensory, and temporal patterns of local species and the specificities of each ecosystem. Energy governance is no longer imposed on marine environments, but emerges in dialogue with them.

Time has also shifted. Legal and planning frameworks no longer follow electoral calendars or fiscal quarters. Instead, they move with multispecies rhythms: cod spawning, kelp recovery, seabird nesting. Policy reviews include ecological memory—sonic, tactile, and migratory—documents carry interspecies consultation records[7] and time scales: intertidal, generational, geological.

Figure 3. Moot Court in the Peace Palace, The Hague.[4]

Ecological Literacy as a Civic Learning

These transformations rest on institutions that cultivate the capacity to hold them. The Dogger Bank School,[8] a network of civic and ecological campuses, trains both youth and elders alike in interspecies law, restorative ecological practice, and participatory governance. Students work with hydrophone archives, and draft policy briefs with seaweed cooperatives. Governance here is an art of attention, practiced collectively, among barnacles and mayors alike.

Post-Growth Economies and Interspecies Trusts

Financial systems in the North Sea bioregion no longer revolve around profit or GDP growth but interdependence and multispecies wellbeing.[9] Funding is drawn from industries with ecological debts, multi-state allocations, and cooperative levies pooled into a shared treasury governed by the Interspecies Council. If the North Sea sustains us, sustaining it is a collective obligation.

The North Sea Treasury, housed in Rotterdam's repurposed Europort, operates as a semi-autono-

Figure 4. Map from The Eel's Perspective – An Ecological Cartography of Amsterdam's Waters.[6]

Figure 5. Manifest for the Dogger Bank.

5   This framing draws from established scholarship in human geography that conceptualises space not as a fixed container, but as relationally produced through socio-ecological interactions. See: Massey, Doreen. *For Space*. London: SAGE Publications, 2005; and Whatmore, Sarah. *Hybrid Geographies: Natures Cultures Spaces*. London: SAGE Publications, 2002.

6   This future imaginary draws on emerging research at the intersection of data science, marine ecology, and energy systems — particularly models developed by Dr. Aziz Ezzat and colleagues that combine glider-detected whale acoustics, oceanographic data, and environmental forecasts to guide offshore wind siting and operation. This vision expands on that work, imagining how such tools could evolve beyond mitigation toward participatory, multispecies planning rooted in ecological rhythms and interdependence. For more on Dr. Ezzat's work, see Ji, J., A. Ezzat, P. Flikkema, S. D. Kraus, and C. A. Mayo. "Machine Learning for Modeling North Atlantic Right Whale Presence to Support Offshore Wind Energy Development in the U.S. Mid-Atlantic." *Nature Scientific Reports* (2024).

8   This speculation draws on real-world practices of interspecies governance. In 2023, Moral Imaginations and Policy Lab convened the UK government's first Interspecies Council, an experimental deliberative forum along the River Roding, where participants spoke and reasoned from the perspective of local nonhuman species to inform freshwater decision-making. In 2025, Moral Imaginations further advanced this work by submitting the first interspecies consultation feedback to the UK Department for Environment, Food and Rural Affairs (DEFRA) in response to its Land Use Consultation. These initiatives highlight how more-than-human perspectives could be further integrated into policy processes, challenging anthropocentric norms and expanding the ethical scope of governance.

8   The speculative Dogger Bank School draws inspiration from the real School of Dogger Bank, an interdisciplinary programme initiated by the Embassy of the North Sea and the Doggerland Foundation. Centred on the ecologically significant but politically marginal Dogger Bank, the initiative brings together artists, scientists, legal scholars and civic institutions from four North Sea nations to explore legal, cultural and ecological approaches to restoring and representing the Dogger Bank. Organised into five working groups—worldview and mythology, North Sea politics, landscape design, reef restoration, and legal representation—it combines research, imagination and action toward recognising the Dogger Bank as a shared bioregional domain with political standing.

9   This speculative imaginary draws on the present framework of wellbeing economics, which shifts the focus of economic systems from growth and output to the health of people, communities, and ecosystems. The approach has been adopted or explored by several countries, including but not limited to New Zealand, Iceland, Finland, and Scotland. Wales has institutionalized this through its Well-being of Future Generations (Wales) Act 2015, requiring public bodies to consider long-term impacts and integrate social, economic, environmental, and cultural well-being into decision-making. See: Trebeck, Katherine, and Jeremy Williams. The Economics of Arrival: Ideas for a Grown-Up Economy. Bristol: Policy Press, 2019.

mous public institution: embedded in transnational agreements yet empowered to act independently on socio-ecological terms. It manages post-growth instruments such as restoration bonds for former extraction zones—not tied to market returns but governed by ecological thresholds—and interspecies commonwealth trusts. A devolved budget model allows local marine councils and more-than-human representatives to allocate resources based on ecological indicators and situated needs.

Last month, April 2045, reef monitoring networks flagged early coral bleaching off the Jutland coast. Within hours, the Treasury's adaptive relief mechanism released emergency funding to the local marine council, triggering temporary fishing restrictions and support for affected livelihoods. The redistributive bank also funds long-term public roles, from coastal pollinator stewards to intertidal acousticians, now recognised as essential to regional wellbeing.

Old tools like biodiversity offsets, ecosystem service monetisation, and natural capital accounting—built on the premise that nature's value lies in its utility to humans—have been discarded. By reducing ecosystems to services that can be priced, traded, or replaced, they justified harm and commodified life. In their place are frameworks rooted in reciprocity and interdependence, supporting both ecosystems and communities. The economy no longer trades away harm. It cultivates care.

Cohabitation Replaces Ownership in Public Culture

These transformations are rooted in cultural change, but also in cultural remembering. Ocean literacy is now foundational—woven into art, education, media, and governance. Children grow up reading maps of kelp forests and migration corridors, not shipping lanes or national borders. In classrooms, textbooks speak of a longer arc—how, for a time, the sea was claimed and owned. Enclosed not just on maps, but through the erasure of lifeways, languages, and relations that once tethered communities to

more-than-human worlds. As students read of the North Sea's enclosure, many ask: "How could this way of being have ever been denied—and fall out of view for so many?"

As our relationship with the sea has deepened, so too has our language. Terms like 'natural resources' now feel obsolete; in their place, words like 'sea-kin,' 'co-inhabitants,' and 'commons' have become part of everyday vocabulary."

Governance is also lived as a shared cultural practice, through schools, seasonal rituals, and daily maintenance. Each spring in Bergen, for example, children walk the shoreline with mollusc farmers and musicians to perform the Sea Greetings: a ritual of song and offerings that honours the seabed's role in renewal. Rituals like the Sea Greetings in Bergen are often seen as new expressions of ecological awareness—but they echo practices long held by Indigenous communities, where seasonal rites affirmed not ownership, but belonging.

This shift isn't only in what we value, but in how we value it. The sea is not "out there." It is us and once people stopped seeing it as separate, they stopped deferring harm.

A Sea of Care: How Reworlding Transformed Ecosystems, Health, and Livelihoods

Nowhere is the North Sea's transformation more tangible than at the Dogger Bank. Once marred by seabed mining, oil extraction, and fragmented jurisdiction, it now flourishes as an interspecies commons—a living seascape shaped by mutual care across species.

Gravel reefs host returning communities of soft corals and tube worms, while sediment-stabilising vegetation supports nursery grounds for herring, cod, and rays.[10] Seabird flyways trace the sky, their nesting supported by repurposed gas platforms now serving as roosting towers.[11] Small cetaceans forage in quieter waters, aided by seasonal noise restrictions. Through careful protection and stewardship,

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10 Efforts to restore seabed life on the Dogger Bank have included pilot projects such as those led by the Doggerland Foundation, which aim to reintroduce complex habitats like horse mussel beds and stimulate natural benthic recovery after trawling exclusion.

11 See emerging research and pilot initiatives in the North Sea and globally that explore the ecological potential of repurposing decommissioned oil and gas infrastructure to enhance marine biodiversity — including uses such as seabird nesting platforms and habitats for coral and planktonic life. Such structures, when left in situ or ecologically adapted, can act as artificial reefs, supporting fish, invertebrates, and seabirds by increasing habitat complexity and connectivity. This is not merely speculative: in the Gulf of Mexico, the "Rigs-to-Reefs" programme has already converted over 530 platforms into reef habitats. See: Fowler, A. M., A.-M. Jørgensen, J. W. P. Coolen, D. O. B. Jones, J. C. Svendsen, R. Brabant, and S. Degraer. "The Ecology of Infrastructure Decommissioning in the North Sea: What We Need to Know and How to Achieve It." *ICES Journal of Marine Science* 77, no. 3 (2020): 1109–26. https://doi.org/10.1093/icesjms/fsz143; Bureau of Safety and Environmental Enforcement. *Rigs-to-Reefs.* Washington, DC: BSEE, 2018.
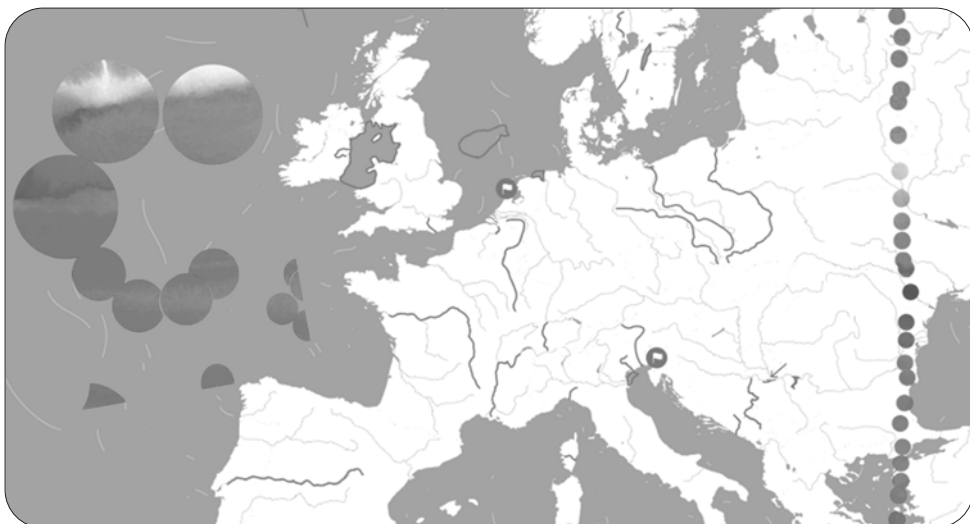
Figure 6. Confluence of European Water Bodies.

the Dogger Bank has become a vital passage for seabed species, migratory fish, and seabirds—a keystone habitat in the North Sea's ecological renewal.

This ecological resurgence is inseparable from its social parallel. Public health has improved: with cleaner waters, thriving ecosystems, and access to biodiverse blue spaces, rates of respiratory illness have dropped, while mental wellbeing has risen.

These transformations have also strengthened social cohesion. Trust in public institutions has been rebuilt through participatory governance, while coastal communities, once divided by borders, now recognise shared fates. Migration is no longer weaponised.

Livelihoods have also been transformed. Youth are trained in restoration, marine monitoring, and interspecies stewardship. In Esbjerg, seaweed cooperatives operate as public trusts, distributing harvests among households, bioregional kitchens, and coastal regeneration projects. These efforts have enhanced nutrition, expanded food sovereignty, created dignified green jobs, and kept wealth circulating locally in communities.

The ripple effects reach every domain. Urban design, architecture, energy, food, and tourism are now grounded in ecological accountability. Bottom trawling is unthinkable. Instead, design integrates multispecies needs: hotels buffer shores with mussel reefs; construction uses biogenic materials; regional cuisines honour seasonal kelp and minimal bycatch in circular, respectful foodways.

Ultimately, recognising the sea's agency did not diminish human justice, it deepened it. As anthropocentric law was unsettled, so too were the imperial hierarchies and logics of othering it upheld.

This was not a departure from human rights, but a return to the relational grounds—shared vulnerability, interdependence, and the refusal to divide liberation along lines of geography, race, class, gender, ability, or species. By attuning governance to more-than-human worlds, societies uncovered more just and lasting ways to care for human life.

Laying the Groundwork: Imagination as Political Tool

The transformation of the North Sea began decades earlier, not through legal reform or top-down policy, but through civic assemblies, art spaces, and public rituals that seeded its reimagination.

The Embassy of the North Sea played a catalytic role. Emerging in the late 2010s, it acted as a prefigurative body, echoing the suffragette salons and republican clubs that historically incubated democratic change. Through initiatives like A Voice for the Eel, The Dogger Bank Manifesto, and The School of the Dogger Bank, it helped create the conditions in which new governance imaginaries could take root and evolve. It showed that rewilding ecosystems begins with rewilding our institutions.

These efforts were never solitary. They were held within a wider confluence of actors: architects, legal scholars, social enterprises, scientists, farmers, educators, elder and youth movements. Networks like The Confluence of Water Bodies[12] and the Global Alliance for the Rights of Nature[13] helped translate local practices into transboundary visions, offering mutual support as well as political scaffolding.

Confluence of European Water Bodies

Yet, the path was fiercely contested. Offshore drilling, industrial fishing, agribusiness, and shipping corporations pushed back. They invoked "economic stability" and "energy security" to defend extraction, weaponised disinformation, and pressured governments to criminalise dissent. Protesters were surveilled and attacked. In some places, violence followed.

Yet resistance held.

As the post–Cold War order ruptured in the 2020s—with authoritarian resurgence, fractured multilateralism, and intensified competition over land, sea, and data—the façade of global progress collapsed. Rising inequality, democratic backsliding and environmental impacts exposed the failures of prevailing governance. Yet official responses leaned harder into market logic, techno-optimism, and securitised control. Borders hardened and militarisation escalated. Surveillance expanded. Climate change was reframed as a threat to be contained, not a justice issue to be addressed.

Amid this breakdown, a kind of clarity took hold. The backlash against environmental and social justice exposed their shared antagonists—extractivism, colonial capitalism, patriarchal sovereignty — and the deep rooted systems of harm that connected them. In response, post-growth, abolitionist, Indigenous, feminist, food sovereignty, and climate justice movements began to organise to reimagine the very foundations of governance itself.

Yet, even within and between allied groups tensions surfaced over legitimacy, representation, and translation. What did it mean to speak with the sea, rather than for it? Who could be entrusted to represent more-than-human interests? These challenges did not break coalitions; they deepened them. What

bound them was not a uniform strategy but an ethic: relational care across difference, rooted in the refusal to separate human and more-than-human liberation.

Change did not emerge surface-level reform, technocratic fixes or corporate partnerships. It required dismantling the economic and legal architectures that made harm profitable. Trade agreements were restructured around limits set by ecological relationships, not market demands; subsidies for destructive industries phased out; land and sea rights redistributed; monopolies broken up through commons-based governance.

The attention economy dominated by polarising algorithms was disarmed. Social media companies, once complicit in fuelling disinformation, commodifying outrage, and fragmenting collective action, were held accountable for their role in ecological and democratic breakdown. New digital commons emerged for deliberation, storytelling, and collective organising. Public imagination was reoriented toward civic, not commercial ends. This was not a greening of extraction, but a reorganisation of power and value at its roots.

Crucially, the work did not just focus on crises, but on alternatives. Visions like Landback, Degrowth, Commons, energy democracy, and the Rights of Nature found resonance across regions. Experimental governance pilots emerged from the ground up, some as isolated efforts, others as part of growing coalitions. Coastal food cooperatives replaced export-oriented aquaculture and multispecies climate mitigation plans started to be developed.

Rights of Nature further evolved. While early efforts often invoked "legal personhood" as a strategic bridge into human-centred systems, the movement shifted to further question the very foundations of western legal systems. It challenged the premise that rights must be conferred by humans or that beings must mirror human traits to be recognised.

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12 Confluence of European Water Bodies was created in response to the increasing water challenges and the need for water democracy around the world. It aims to deepen the understanding of "rights of nature" in Europe from a cultural perspective. This initiative is made up of more than 25 grassroots communities consisting of artists, activists, lawyers, and ecologists representing seas, lakes, rivers, lagoons, and glaciers from across Europe. The community seeks to promote new dialogues and relationships with water, with the ultimate goal of developing new strategies to effectively represent water in European cultural, legal and political arenas. The Confluence of European Water Bodies is founded by the Embassy of the North Sea, ILP Mar Menor and TBA21–Academy and supported by the Ca' Foscari University of Venice: NICHE (THE NEW INSTITUTE Center for Environmental Humanities), GARN (Global Alliance for the Rights of Nature), the Italian Buddhist Union, Creative Industries Fund NL, Venice Climate Change Pavilion and ZIN Doc.

13 The Global Alliance for the Rights of Nature (GARN) is an international network of organisations, communities, lawyers, and activists working to advance the universal adoption and implementation of legal systems that recognise, respect and enforce ecosystems and natural entities as rights-bearing beings.

14 This argument draws on the work of Rob Hopkins, whose books document how collective imagination can catalyse real-world transformation. Drawing on examples from around the world, Hopkins shows that acts of imaginative storytelling do more than diagnose crises — they invite communities to inhabit alternative futures and take steps toward them. These ideas have also been central to the Transition Network, a global movement Hopkins co-founded, which supports local, citizen-led responses to climate change and social disruption, grounded in community resilience, re-localisation, and shared visioning. See Hopkins, Rob. *From What Is to What If: Unleashing the Power of Imagination to Create the Future We Want.* White River Junction, VT: Chelsea Green Publishing, 2019; Hopkins, Rob. *How to Fall in Love with the Future: A Time Traveller's Guide to Changing the World.* White River Junction, VT: Chelsea Green Publishing, 2025.

Over time, new approaches emerged grounded in entangled relationships—reshaping how recognition and justice were enacted.

These initiatives collectively changed how the North Sea was seen, governed, and valued. They began to shift the broader political landscape, with political windows opening for democratic reform, environmental justice, and post-growth policy. What once felt naive or ridiculous became necessary and mainstream. What began in imagination catalysed structural transformation.

Imagination was not escapism. It was a lever. It invited people to dream of different futures and created the hope, agency and desire to act towards them.[14] By the time the North Sea became a political actor, the groundwork had already been laid. It had been dreamed into reality and fought into presence.

alternatives are already alive and building coalitions to translate these insights across contexts.

For us, imagination is not naïve: it is collaborative, outward-looking, and strategic. Through research, co-design, exhibitions, strategic advising, and policy engagement, we support the development and implementation of alternatives that open space for more just, caring, and connected ways of living.