

ARCTIC FUTURES SYMPOSIUM

*Sustainable Economic
Development in a
Changing Arctic
Landscape*

ARCTIC FUTURES SYMPOSIUM 2025

SUMMARY REPORT



December 2-3 2025

#ArcticFutures

16th Edition

Founder &
Organiser



INTERNATIONAL
POLAR FOUNDATION

Core Partners

Canada



PERMANENT REPRESENTATION
OF DENMARK TO THE
EUROPEAN UNION



MISSION OF THE FAROES
TO THE EUROPEAN UNION



Ministry for Foreign
Affairs of Finland

East & North
FINLAND

HAALAKERSUSUT
GOVERNMENT OF GREENLAND



Mission of Iceland
to the European Union



Norwegian Embassy



Mission of Norway
to the European Union



Québec

NORTH SWEDEN
SOUTHERN NILE

Contributors



Arctic
Mayors'
Forum



INTER = ACT



KIRUNA
EUROPEAN CAPITAL
OF CULTURE 2029

Sponsors



EUROPEAN CAPITAL
OF CULTURE



Oulu2026
European Capital
of Culture



Tuesday, December 2nd (Day 1)

Welcome

- **Nicolas Van Hoecke** (Managing Director, International Polar Foundation)
- **Piet Steel** (Vice-President, Belgian Polar Secretariat; Director, IPF Board; Former Belgian Ambassador to Vietnam)
- **Patrick Renault** (Belgian Ambassador to the Arctic and Antarctic)

IPF Managing Director **Nicolas Van Hoecke** opened the 16th Arctic Futures Symposium. Mr Van Hoecke emphasised the importance of long-standing international cooperation and highlighted the role of the International Polar Foundation in fostering dialogue between policymakers, researchers, economic actors, and Arctic stakeholders. He also conveyed a warm welcome from the Founder and President of the International Polar Foundation, **Alain Hubert**, who at the time of the symposium on mission in Antarctica, reaffirmed the Foundation's core mission of supporting polar science and evidence-based decision-making.

In his welcoming remarks, Former Ambassador **Piet Steel** underlined that global interest in the Arctic continues to grow in parallel with shifting geopolitical dynamics and rapidly accelerating climate change. He stressed that maintaining open dialogue and structured cooperation is essential to ensure stability, security, and resilience in the region. Particular attention was drawn to the need to support Arctic communities, to strengthen sustainable economic development, and to recognise the value of culture, research, and innovation as key pillars for the Arctic's long-term future.

Concluding the opening session, Ambassador **Patrick Renault** reaffirmed Belgium's long-standing engagement in both the Arctic and Antarctic and highlighted climate change as the defining challenge shaping the polar regions today. The Ambassador emphasised respect for international law, multilateral cooperation, and the central role of local and Indigenous populations in shaping Arctic policies. He stressed that sustainable Arctic governance must remain science-driven, inclusive, and rooted in international collaboration to address changes occurring faster in the polar regions than anywhere else on the planet.

Opening Keynotes

- **Costas Kadis** (European Commissioner for Fisheries and Oceans, European Commission (DG MARE))
- **Minninguaq Kleist** (Permanent Secretary, Ministry of Foreign Affairs of Greenland)
- **Claude Véron-Réville** (EU Special Envoy for Arctic Matters)
- **Sara Olsvig** (Chair, Inuit Circumpolar Council)

The first keynote speaker of the symposium was **Costas Kadis**, European Commissioner for Fisheries and Oceans, who addressed the symposium via recorded message. Commissioner Kadis reaffirmed the EU's commitment to the Arctic's social and economic well-being and framed EU's engagement around three pillars: keeping the Arctic safe and stable, strengthening international cooperation, and fostering sustainable and inclusive development. He highlighted the EU's emphasis on free, prior and informed consent, pointed to concrete support for Arctic municipalities, youth and indigenous engagement, and outlined a strengthened ocean agenda through the European Ocean Pact, cooperation with Iceland, and continued implementation of key frameworks such as the Central Arctic Ocean Fisheries Agreement, alongside a forthcoming review of the EU Arctic policy.

The second keynote was delivered by **Minninguaq Kleist**, Permanent Secretary at Greenland's Ministry of Foreign Affairs, speaking on behalf of the Minister of Foreign Affairs, Vivian Modzfeldt, who could not attend. He stressed that Arctic change is a lived reality for the people of Greenland and that cooperation must be designed under frameworks determined by Arctic peoples, grounded in the rule of law and delivering direct local benefit. Presenting Greenland's leading role under the Kingdom of Denmark's Arctic Council chairship, he outlined five connected priorities: indigenous peoples and communities, sustainable economic development and energy transition, oceans, climate change, and biodiversity. He argued that rapid transformation requires accelerating practical cooperation on connectivity, energy and raw materials. As a concrete example, he referenced the EU–Greenland week that had taken place in Brussels a few weeks before and the advancement of a major submarine cable investment to strengthen Greenland's resilience and wider digital connectivity.

Claude Véron-Réville, EU Special Envoy for Arctic Matters, then offered a strategic framing for the EU's policy update, stressing that revising the Arctic policy responds to new challenges and opportunities without abandoning long-standing priorities. Drawing on the notions of “myth”, “distance” and “geopolitics,” she cautioned against reducing the Arctic to a single strategic theatre, arguing instead for a broader understanding of security that includes societal resilience, meaning: reliable data and services, safe navigation, emergency response capacity, connectivity, and dependable energy. Ms Véron-Réville emphasised that the EU is prepared to support these needs through instruments linked to transport and connectivity, raw-material value chains, and green transition partnerships, while insisting that two guiding principles must remain central throughout the policy review: sustainability and inclusiveness, including the meaningful involvement of Indigenous peoples.

The final keynote was delivered by **Sara Olsvig**, Chair of the Inuit Circumpolar Council. Through her recorded message, Ms Olsvig focused on the accelerating impacts of climate change on Inuit livelihoods and the need for a human-rights-based approach to define what “sustainable” development means in practice. Referencing recent global climate

negotiations, she conveyed deep concern over insufficient ambition and stressed that Arctic communities already face severe consequences, including displacement and mounting infrastructure risks tied to melting permafrost and declining sea ice. Ms Olsvig called for stronger human rights safeguards and accountability across transition value chains, warning that extractive and strategic projects (also under emerging EU frameworks) must fully uphold indigenous rights, especially free, prior and informed consent. Concluding, she defended the Arctic Council as a crucial platform for cooperation in a fragmented geopolitical environment and urged continued efforts to bridge Arctic Council knowledge into global climate processes, while raising the bar for human rights as a core principle in Arctic development.

Panel 1: Sustainable Economic Development Priorities of the Kingdom of Denmark Arctic Council Chairship

- **Moderator**
 - **Patti Bruns** (Secretary General, Arctic Mayors Forum)
- **Speakers**
 - **Kenneth Høegh** (Chair of the Senior Arctic Officials (Arctic Council), Kingdom of Denmark)
 - **Claude Véron-Réville** (EU Special Envoy for Arctic Matters)
 - **Hans Ellefsen** (Associate Professor and Vice-Dean, Faculty of History and Social Sciences, University of the Faroe Islands)
 - **Camilla Aviaja Olsen** (Chair, Arctic Council Sustainable Development Working Group)
 - **Edward Alexander** (Co-Chair, Gwich'in Council International; Head of Delegation to the Senior Arctic Officials, Conservation of Arctic Flora and Fauna and Emergency Prevention, Preparedness, and Response working groups)

Moderated by **Patti Bruns**, the panel explored what it means in practice for sustainable economic development in the Arctic to be shaped by Arctic peoples and for Arctic peoples. The discussion emphasised that economic change in the region is unfolding simultaneously across environmental, social, demographic, technological, and geopolitical dimensions, requiring a holistic and community-driven approach rather than isolated sectoral solutions.

Kenneth Høegh framed sustainable development as a core priority of the Kingdom of Denmark's Arctic Council Chairship, stressing that Arctic challenges cannot be addressed in silos. He highlighted youth, indigenous peoples, and local ownership as decisive factors for long-term resilience, arguing that development must move beyond extractive models historically imposed from outside the region. "Indigenous peoples and local inhabitants should not be spectators to economic development," he noted, underscoring the need for Arctic residents to act as owners, managers, and beneficiaries across value chains, particularly in fisheries, marine resources, and emerging green industries.

Offering an indigenous perspective, **Edward Alexander** powerfully reframed the debate by challenging prevailing economic assumptions. Drawing on the lived experience of Gwich'in communities, he stressed that sustainability is inseparable from the health of the land and ecosystems that have supported Arctic peoples for millennia. He cautioned against "myths" that portray the Arctic primarily as an economic opportunity, warning that permafrost thaw, biodiversity loss, and pollution pose existential risks not only locally but globally. As he put it, "Modern society is built on a frozen foundation," highlighting the Arctic's role as a stabilising pillar for the entire planet.

Camilla Aviaja Olsen focused on the practical realities within the Arctic Council's Sustainable Development Working Group (SDWG). She stressed that sustainability and economic development are interpreted differently across states and communities, making agreement both challenging and essential. The SDWG's response has been to prioritise

concrete, people-centred projects that integrate economy, health, culture, and livelihoods, such as initiatives on Arctic food systems, blue economy competence, and indigenous-led knowledge exchange, ensuring tangible benefits for communities rather than abstract policy outcomes.

Offering a Faroese perspective, **Hans Ellefsen** highlighted the importance of community control over natural resources, particularly in fisheries. He argued that retaining resource rent within local societies is key to funding education, innovation, and social services, while still allowing for responsible foreign investment. His contribution underscored a shared Arctic concern: ensuring that value creation remains in the region and supports long-term societal cohesion.

Representing the EU dimension, **Claude Véron-Réville** emphasised that the Arctic is “where the local meets the global,” calling for a shift towards development models driven from the local and regional level. She highlighted the EU’s role as an enabler, through research, innovation, transport, and digital connectivity, rather than a prescriptive actor. Digital infrastructure in particular was presented as a matter of survival in the Arctic, enabling economic diversification, service delivery, education, cultural exchange, and societal resilience.

Across the discussion, three key findings emerged clearly: First, sustainable economic development must be locally led, inclusive, and grounded in indigenous rights and knowledge systems; second, blue economy and connectivity initiatives must retain value within Arctic communities rather than externalise benefits; and third, resilience in the Arctic depends as much on social cohesion, culture, and youth engagement as on economic growth. Collectively, the panel underscored that the future of Arctic development lies not in accelerating extraction, but in strengthening communities as decision-makers in a rapidly changing Arctic landscape.

Presentation of the Laurence Trân Arctic Futures Award

The Laurence Trân Arctic Futures Award was presented by **Nicolas Van Hoecke**, Managing Director of the International Polar Foundation; **Piet Steel**, representing the Trân family; **Mads Qvist Frederiksen**, Executive Director of the Arctic Economic Council; and **Patti Bruns**, Secretary-General of the Arctic Mayors Forum. Established in 2022 as an initiative of the International Polar Foundation and financed by the Trân family, the award supports young Arctic entrepreneurs in scaling innovative and sustainable business ideas by combining financial support with access to an extensive Arctic and international network.

The 2025 Laurence Trân Arctic Futures Award was given to [**Marine Spark X**](#), a Norwegian startup founded by graduates of UiT – The Arctic University of Norway. The award was accepted on behalf of the company by CEO **Johan Armstrong Støver** and Chief Strategy Officer **Gustav Vestlie**. Marine Spark X was recognised for its innovative approach to restoring Arctic marine ecosystems by harvesting invasive sea urchins and transforming them into nutrient-rich fish feed products. By reducing sea urchin overgrazing, the company contributes to the regeneration of kelp forests, which are vital marine habitats and significant carbon sinks.

In addition, the jury awarded two honourable mentions. [**Air Vitalize**](#) (Alaska) was recognised for its low-power, filterless clean-air technology designed to combat severe air pollution in Arctic regions affected by temperature inversions. [**Willit**](#) (Finland) received an honourable mention for its digital platform connecting local hunters, fishers, gatherers and food producers with restaurants, individuals, and regional markets, thereby strengthening local Arctic food systems.

The selection committee, composed of experts from municipalities, the private sector, and research institutions across the Arctic, evaluated applications based on sustainability, Arctic relevance, and growth potential. Beyond recognising individual winners, the Laurence Trân Arctic Futures Award continues to serve as a platform for building long-term connections within the Arctic entrepreneurial ecosystem, reinforcing collaboration and innovation across the region.

Panel 2: Arctic Investments Scenarios towards 2040

- **Moderator**
 - **Andreas Raspotnik** (Director, High North Centre, Nord University; Senior Researcher, Fridtjof Nansen Institute)
- **Speakers**
 - **Andrey Mineev** (Researcher, Nord University Business School)
 - **Mads Qvist Frederiksen** (Director, Arctic Economic Council)
 - **Kalle Kankaanpää** (Ambassador for Arctic Affairs and Senior Arctic Official, Ministry for Foreign Affairs of Finland)
 - **Carina Sammeli** (Mayor of Luleå, Sweden)
 - **Erika Tizya-Tramm** (Manager of Community Partnerships with Northern Energy Innovation, Yukon University; Vuntut Gwitch'in First Nation)
 - **Larisa Lorinczi** (Policy Officer, European Commission (DG RTD))
 - **Gustav Vestlie** (Chief Strategy Officer, Marine Spark X)

Moderated by **Andreas Raspotnik**, the second panel examined possible trajectories for Arctic investments towards 2040 against a backdrop of geopolitical uncertainty, accelerating climate change, and shifting global capital flows. The discussion was anchored by the scenario workshop that took place one day before the symposium. **Andrey Mineev presented** the findings from the workshop. He outlined four contrasting futures, ranging from the “end of Arctic exceptionalism” to an aspirational “Arctic utopia,” highlighting how geopolitics, climate action, and knowledge gaps could shape both the scale and nature of investments in the region.

From a business and investor perspective, **Mads Qvist Frederiksen** stressed that sustainable development in the Arctic is inseparable from access to capital. While acknowledging growing reluctance among global financial institutions to invest in the Arctic, he argued that predictable regulatory frameworks and long-term political stability remain decisive for unlocking investment. Drawing on concrete examples, he demonstrated how locally rooted innovation, combined with public seed funding and international private capital, can generate global value while retaining jobs and benefits in Arctic communities. As he underlined, “You don’t invest without knowing what the world looks like in 25 years,” making policy coherence and long-term vision essential investment enablers.

Addressing Arctic investments from a state perspective, Ambassador **Kalle Kankaanpää** reflected on Finland’s experience in an increasingly securitised Arctic. He highlighted the growing relevance of dual-use infrastructure, serving both civilian and security purposes, as a pragmatic response to geopolitical uncertainty. Investments in transport corridors, energy systems, and critical minerals were framed not only as economic necessities, but also as foundations for resilience, preparedness, and regional connectivity in northern Europe.

Bringing the discussion to the local level, **Carina Sammeli** offered a candid assessment of investment realities for Arctic cities. She emphasised that without sustained economic activity and infrastructure development, communities risk long-term decline. While

acknowledging higher costs linked to distance, climate, and sparse populations, she rejected overly pessimistic narratives and instead argued for leveraging Arctic-specific assets, such as renewable energy potential and logistics hubs to attract investment. “If we stop developing, we won’t be there in 50 years,” she warned, underscoring the existential importance of growth that remains locally anchored and socially accepted.

Erika Tizya-Tramm offered an indigenous Canadian perspective, challenging conventional investment models that prioritise extractive industries. She highlighted persistent misalignments between externally driven capital flows and community-defined visions of sustainability, stressing that meaningful investments must be informed locally and support circular, land-based economies. She noted that scale, remoteness, and risk perceptions continue to limit appropriate investment partners.

Offering an EU and scientific perspective, **Larisa Lorinczi** contextualised Arctic investments within broader research and innovation frameworks. She highlighted the EU’s role as a major funder of polar research and stressed that future investment strategies must be grounded in Earth system science, interdisciplinarity, and indigenous inclusion. At the same time, she cautioned that competitiveness and security agendas cannot be pursued in isolation from climate realities, describing climate change as “the defining challenge of our generation” that must underpin all future investment decisions.

Finally, representing young Arctic entrepreneurs, **Gustav Vestlie** illustrated how purpose-driven startups can align profitability with climate solutions. He argued that Arctic innovation benefits from combining public support with risk-willing private capital that understands regional realities. He argued that starting with sustainability embedded in the business model, rather than as an afterthought, is a key lesson for future Arctic ventures.

Overall, the panel highlighted that Arctic investment futures will be shaped by governance stability, local ownership, and alignment between climate responsibility and economic viability. Key findings underscored the need for predictable frameworks, inclusive partnerships with Arctic communities, and investment models that strengthen resilience rather than merely exploiting emerging opportunities. The discussion reaffirmed that the Arctic’s future as an investment destination depends on balancing global interests with local priorities, ensuring that capital serves communities and the long-term stability of the region.

Wednesday, December 3rd (Day 2)

Opening Keynotes

- **Jonas Andersson** (Chair for the Network of Northern Sparsely Populated Areas)
- **Johan Armstrong Støver** (CEO, Marine Spark X)

Jonas Andersson, Chair of the Network of Northern Sparsely Populated Areas (NSPA), stressed that the Arctic's opportunities, from carbon capture in boreal regions to critical minerals, food resilience, trade, and innovation, look very different across regions and therefore require place-based policies grounded in local and regional decision-making. While welcoming the EU's clear engagement on Arctic priorities (including climate, security, critical minerals, food security, and indigenous peoples), he warned against growing centralisation in policy and funding frameworks, describing consolidation as a major threat to a living and thriving Arctic, and calling for stronger involvement of Arctic regions to sustain population, livelihoods, and long-term development.

Johan Armstrong Støver, CEO of Marine Spark X and recipient of the 2025 Laurence Tr  n Arctic Futures Award, delivered a keynote from the perspective of a young Arctic entrepreneur, arguing that entrepreneurship is essential for population stability and economic resilience in Arctic communities. He highlighted the decisive role of "people and access," including support from UiT – The Arctic University of Norway and local industry in northern Norway, while pointing to persistent barriers such as connectivity, logistics, regulatory delays, and limited early-stage capital in the High North. He called on policymakers to create smoother pathways for pilot projects (including regulatory sandboxes and permits) and to strengthen cross-border collaboration through a connected Arctic innovation network, concluding that young Arctic founders do not need guaranteed success, but "a fighting chance" to build solutions with Arctic roots and global impact.

Panel 3: The Power of Culture in the Arctic's Future

- **Moderator**
 - **Henrik Sand Dagfinrud** (Programme Manager, Bodø 2024)
- **Speakers**
 - **Piia Rantala-Korhonen** (CEO, Oulu Culture Foundation)
 - **Sofia Lagerlöf Määttä** (Cultural Strategist, Kiruna 2029)
 - **Maria Svonni** (Artistic Leader, Konstfrämjandet Norrbotten and Verdde)
 - **Anatoli Bourmistrov** (Professor, Nord University Business School)
 - **Elena Kavanagh** (Expert on Indigenous Rights, School of Law, University College Cork; Advisor, Arctic Youth Network)

Moderated by **Henrik Sand Dagfinrud**, the panel positioned culture not as a “soft” add-on, but as a practical development tool for Arctic communities facing rapid transformation. Setting the tone with a clear call for implementation, the moderator paraphrased a key message from the network [Culture Next](#): the challenge is not lack of evidence about culture’s impact, but action and political will. Across the discussion, structured around past ([Bodø 2024](#)), present ([Oulu 2026](#)), and future ([Kiruna 2029](#)) European Capitals of Culture in the Arctic, panelists argued that modest cultural investment can generate disproportionate effects for small and mid-sized Arctic cities by creating meeting places, strengthening local identity, and improving a region’s ability to attract and retain people.

Reflecting on Bodø’s turn as a European Capital of Culture in 2024, Dagfinrud presented culture explicitly as place-making and resilience-building, born from a local “crisis” moment. The relocation of a major air force base and the loss of jobs triggered a broader civic effort to mobilize creativity, rebuild identity, and regenerate the city centre. A recurring thread, picked up later by **Anatoli Bourmistrov**, was the centrality of youth: Bodø’s programme earmarked funding governed by teenagers, prioritising participation and empowerment. Yet evaluation findings complicated conventional cultural assumptions: Bourmistrov showed that young people often define “culture” differently than institutions do; for many, thriving is driven less by opera and theatre than by socialisation, everyday meeting spaces, and activities that build bonds. This reinforced a key takeaway: cultural programmes succeed when they are understood as social infrastructure as much as artistic programming and when they meet young people where they are.

Discussions about Kiruna’s turn as a European Capital of Culture in 2029 included discussions of politics. **Sofia Lagerlöf Määttä** and **Maria Svonni** highlighted Kiruna’s unique context: a city being physically relocated under pressure from mining, with profound impacts on community cohesion and everyday life. From a Sámi perspective, Svonni stressed that cultural visibility must translate into self-representation and safe platforms for indigenous voices, particularly as land-use pressures intensify under the banner of the Green Transition. The panel did not shy away from the tensions between artistic freedom and funding sources. Svonni warned of “culture-washing” risks when cultural initiatives are financed by actors whose activities reshape or diminish indigenous homelands. The discussion repeatedly returned to the need for culture to create spaces where difficult

debates, like land rights, reindeer herding, and community futures, can be aired openly, rather than deferred.

Anchoring these questions in legal and rights-based frameworks, **Elena Kavanagh** emphasised that culture is not only an asset or attraction but also a rights-bearing concept. Referring to Norway's landmark Fosen case (2021), she underscored that indigenous cultural rights (notably under Article 27 of the ICCPR) require states to respect and protect cultural practice, including where land-based livelihoods are affected, reinforcing that renewable energy projects cannot proceed on indigenous lands without free, prior and informed consent. She connected this to wider climate interventions and the need for equitable engagement, arguing that culture and land are inseparable in indigenous rights claims.

The Oulu 2026 European Capital of Culture contribution from **Piia Rantala-Korhonen**, framed culture as “cultural climate change” - a mechanism for social cohesion, equality, and local problem-solving in a fractured Europe. Oulu's programme presented culture as a tool for inclusion, particularly for marginalised groups, and as a regional innovation platform connecting creative and high-tech sectors. Funding debates surfaced repeatedly. While Oulu received parity support for its programme year, Rantala-Korhonen highlighted perceived structural imbalances in national cultural funding and raised concerns that shifting wind-power tax revenues away from northern municipalities risks reinforcing “internal colonialism” dynamics.

Overall, the panel's key finding was that culture functions as a strategic enabler for making Arctic communities more resilient. It strengthens attractiveness and belonging, encourages youth to stay and live in the Arctic, creates legitimacy for difficult conversations regarding land use, and can help safeguard indigenous self-determination. The discussion closed on a practical note: cultural capital programmes are best treated as long-term investments in resilient societies rather than short-term expenses, while success depends on governance, measurement capacity, and the willingness to put “people first,” not last, in Arctic development trajectories.

Panel 4: Cross-Border Collaboration on Renewable Energy

- Moderator
 - **Charlotta Söderberg** (Associate Professor, Political Science, Luleå University of Technology)
- Speakers
 - **Anna Krook-Riekkola** (Professor, Energy Science, Luleå University of Technology)
 - **Antonio Calò** (University Lecturer, Water Energy and Environmental Engineering Research Unit, University of Oulu)
 - **Marit Magelssen Vambheim** (Cluster Manager, Energi i Nord)
 - **Erika Tizya-Tramm** (Manager of Community Partnerships with Northern Energy Innovation, Yukon University; Vuntut Gwitch'in First Nation)
 - **Monica Paulsen** (Cluster Manager, Arctic Cluster)

Moderated by **Charlotta Söderberg**, the panel explored how cross-border cooperation can enable renewable energy transitions in the Arctic while addressing social acceptance, energy security, and local impacts. Framing the discussion from her experience living in the Arctic, Söderberg emphasised that the Green Transition in the High North is not merely technological, but a profound societal transformation unfolding under accelerating climate change.

A shared assessment among panelists was that, while the Arctic is often seen as a frontrunner in renewable energy potential, the transition is currently uneven and under strain. **Marit Magelssen Vambheim** and **Monica Paulsen** both underlined that industrial actors have largely delivered on innovation, piloting low-carbon technologies at scale and building viable value chains. However, progress is increasingly hindered by stalled investments, slow permitting, grid constraints, and insufficient public incentives. Without clearer political direction and shared risk-taking from the public sector, many projects risk remaining stuck between demonstration and deployment.

From a systems perspective, **Anna Krook-Riekkola** argued that the energy transition is advancing faster than public narratives suggest, particularly with regard to Northern Sweden's industrial electrification. She identified misinformation, fragmented communication, and inconsistent policy signals as major obstacles, noting that mature solutions such as wind, solar, electrification, and batteries are often undermined in public debate, while longer-term technologies are disproportionately emphasised. This mismatch, she cautioned, erodes trust and delays near-term decarbonisation.

Technical and governance challenges were further unpacked by **Antonio Calò**, who highlighted the growing gap between rapidly deployed renewable generation and much slower grid expansion. While cross-border interconnections could improve resilience, flexibility, and cost efficiency, he stressed that outdated economic narratives around "energy independence" complicate acceptance. For Arctic communities at the edge of national systems, the costs and impacts of infrastructure decisions taken elsewhere are acutely felt, raising questions of fairness and energy justice.

A Canadian and indigenous perspective was provided by **Erika Tizya-Tramm**, who emphasised that indigenous-led renewable energy projects in Canada have proven most resilient precisely because they are community-driven and grounded in local priorities. Rather than emissions targets alone, these initiatives focus on energy sovereignty, long-term resilience, and reinvesting benefits locally. At the same time, she warned that climate change increasingly undermines even well-designed projects, exposing renewable infrastructure to flooding, wildfires, and ecosystem collapse, and reinforcing the need for adaptive, place-based solutions.

Cross-border collaboration in the Arctic was highlighted as both necessary and challenging, with examples from Nordic hydrogen initiatives and Arctic university networks. Panelists emphasized that cooperation across regions, industries, and communities must complement national strategies and be grounded in trust, long-term relationships, and local engagement. Success in renewable energy projects depends on tangible benefits for local communities, aligned infrastructure planning, and coherent policies. The Green Transition must be co-designed with Arctic societies, making cross-border collaboration essential for a just and resilient energy future.

Panel 5: Arctic Resources on Our Own Terms

- **Moderator**
 - **Mikael Janson** (Director, North Sweden European Office)
- **Speakers**
 - **Kenneth Høegh** (Chair, Senior Arctic Officials, Ministry of Foreign Affairs, Greenland)
 - **Bjørn Olav Megard** (Director General of Department for Indigenous Peoples and National Minorities at the Ministry of Regional and Municipal Policy of Norway)
 - **Justin Langan** (Indigenous Canadian Activist, Social Entrepreneur and Policy Leader)
 - **Jonas Andersson** (Chair for the Network of Northern Sparsely Populated Areas)
 - **Andres Sanabria** (Coordinator, OECD Mining Regions and Cities Initiative)
 - **Maria Martisiute** (Policy Analyst on Europe in the World, European Policy Centre)

Moderated by **Mikael Janson**, the panel addressed one of the symposium's most politically charged questions: how Arctic resource development can reconcile growing global demand with the rights, livelihoods, and long-term well-being of Arctic communities. Framed as a tension between an "Arctic of mines" and an "Arctic of people," the discussion underscored that resource governance in the Arctic is neither abstract nor binary, but rooted in lived experience, power relations, and historical legacies.

From a geopolitical and EU policy perspective, **Maria Martisiute** situated Arctic resources at the centre of intensifying global competition. She highlighted how climate change, melting ice, and strategic dependencies are accelerating external pressure from global powers, while the EU simultaneously seeks greater economic and security autonomy through critical raw materials strategies. Her intervention stressed that without clearly articulated Arctic ambitions grounded in local values, decisions risk being shaped by external actors on unfavourable terms. Security, she argued, must be understood broadly, encompassing economic resilience, societal stability, and the empowerment of Arctic populations.

Speaking from Greenland's perspective, **Kenneth Høegh** emphasised ownership and benefit-sharing as the foundation of legitimate resource development. In Greenland, where land and subsoil resources are owned by the people, policies in fisheries, mining, and tourism increasingly aim to secure local employment, taxation, and business participation. He highlighted impact benefit agreements as a key governance tool, drawing on experiences from Canada to ensure that extraction projects translate into concrete and lasting local gains rather than short-term external profits.

A national governance lens was provided by **Bjørn Olav Megard**, who focused on consultation frameworks with Sámi rights holders in Norway. He stressed that consultation is not symbolic but a structured, legally grounded process requiring good-faith efforts to

reach agreement and mitigate power imbalances. While acknowledging that outcomes are not always consensual, he argued that early, inclusive dialogue can fundamentally alter project design and reduce conflict. Fast-tracking permitting processes without such engagement, he warned, risks deepening mistrust and delaying projects rather than accelerating them.

From an indigenous and youth-led perspective, **Justin Langan** challenged extractive development models that treat communities as stakeholders rather than equal partners. Drawing on experiences across Arctic indigenous communities, he highlighted three recurring lessons: local leadership must shape projects from the outset; investments must outlast the lifecycle of extraction; and youth seek futures that integrate economic opportunity with cultural and environmental continuity. He framed indigenous peoples as “voices for nature,” calling for development approaches that recognise land, culture, and human rights as inseparable.

Representing the regional level, **Jonas Andersson** traced the long history of resource extraction in northern Europe, noting persistent colonial patterns where national and global priorities override local interests. He argued that Arctic regions are willing to contribute to the green and digital transitions, but only under place-based, tailor-made policies that deliver genuine win-win outcomes. Trust, involvement beyond formal consultation, and viewing investments cumulatively rather than project-by-project were identified as essential conditions for long-term societal resilience.

Complementing these perspectives, **Andres Sanabria** provided comparative evidence from OECD mining regions. He showed that while mining regions often benefit from higher incomes and employment, they also face lower diversification, innovation leakage, and long-term vulnerability once projects close. Key policy lessons included the importance of early capacity-building for municipalities, local value-sharing mechanisms, regional cooperation among small administrations, and accelerating social investment alongside industrial permitting.

The panel highlighted that Arctic resource development must balance global demand with the rights, well-being, and agency of local communities. The panelists stressed that legitimate and resilient governance depends on local ownership, inclusive consultation, benefit-sharing, and long-term investment beyond extraction cycles. Effective approaches require grounding decisions in lived experience, historical context, and local values, rather than external pressures.

Mohn Prize Keynote

During the Symposium, UiT Rector **Dag Rune Olsen** announced that the 2026 Mohn Prize would be awarded to Professor **John P. Smol** of Queen's University, Canada. Awarded biennially, the Mohn Prize recognises outstanding contributions to Arctic research and celebrates individuals or groups whose work has advanced understanding of the region while demonstrating international leadership. Rector Olsen highlighted Professor Smol's long-standing dedication to collaborative and impactful Arctic research, describing him as "a role model for us all."

Professor **Nils Christian Stenseth**, the Director for the Centre for Ecological and Evolutionary Synthesis at the University of Oslo and member of the Mohn Prize Scientific Committee, delivered remarks outlining the reasons the committee chose Professor Smol among the many experts who had been proposed to receive the award.

He was recognized for his pioneering work on Arctic freshwater ecosystems, including long-term studies of lake ecology, climate change, pollution, and biodiversity loss. His research provides critical tools for detecting and understanding environmental change in Arctic lakes and rivers, informing both policy and conservation efforts.

Professor Smol's career spans over four decades, with more than 700 publications and 24 books, leadership positions including Canada Research Chair in Environmental Change, and national honours such as Officer of the Order of Canada. The Mohn Prize, valued at 2 million NOK, will be formally presented to him during Arctic Frontiers in Tromsø (February 2-5, 2026), where he will also participate in related sessions and seminars at UiT.

Speaking via video, Professor Smol expressed his gratitude to colleagues, collaborators, funders, and the many students who have contributed to his research at the Paleocological Environmental Assessment and Research Laboratory (PEARL) at Queen's University.

Panel 6: Arctic Monitoring: Understanding Current and Future Challenges through Examining the Past

- Moderator
 - **Dag Rune Olsen** (Rector, UiT - The Arctic University of Norway)
- Speakers
 - **Guillaume Lamarche-Gagnon** (Researcher, IC3, UiT - the Arctic University of Norway)
 - **Maria Grigoratou** (Executive Secretary, European Polar Board)
 - **Edward Alexander** (Co-Chair, Gwich'in Council International; Head of Delegation to the Senior Arctic Officials, Conservation of Arctic Flora and Fauna and Emergency Prevention, Preparedness, and Response working groups)
 - **Nils Christian Stenseth** (Director, Centre for Ecological and Evolutionary Synthesis, University of Oslo; Mohn Prize Scientific Committee)

Moderated by **Dag Rune Olsen**, the final panel used the Mohn Prize award to Professor John P. Smol as a lens to discuss why freshwater ecosystems, long-term observation, and knowledge co-production are essential for understanding rapid Arctic change. The speakers brought complementary perspectives from geoscience (**Guillaume Lamarche-Gagnon**), the European Polar Board (**Maria Grigoratou**), a Permanent Participant indigenous group on the Arctic Council (**Edward Alexander**), and ecological systems science (**Nils Christian Stenseth**).

A central message was that Arctic lakes and freshwater ecosystems deserve far more attention, alongside oceans. Panellists stressed that lakes cannot be studied in isolation: they are tightly linked to surrounding terrestrial ecosystems and can serve as high-resolution archives of environmental change, helping to distinguish natural variability from sustained, human-driven trends.

The discussion strongly emphasized the value and persistent underfunding of long-term monitoring. Sustained time series were framed as critical societal infrastructure, enabling reliable baselines, detection of thresholds, and evaluation of climate targets. The panel also noted that reduced access to parts of the Arctic, including gaps in observations from Russia due to current geopolitical tensions, introduces bias in observation-based research, especially when it comes to monitoring permafrost thaw. Satellite monitoring can help fill coverage to some extent but cannot fully replace in-situ measurements or reconstruct earlier historical baselines.

Knowledge co-production (“two-eyed seeing”) emerged as another key outcome. Edward Alexander highlighted how indigenous knowledge systems often detect emerging change earlier and interpret cascading ecological impacts that standard indicators may miss. Speakers also acknowledged the need to address trust, attribution, data rights, and underlying power structures to make collaboration credible and equitable.

Finally, the panel argued that the challenge is no longer producing knowledge, but ensuring it informs action. Better communication and policy coordination are needed in a context where geopolitics can overshadow climate priorities. The upcoming Fifth International Polar Year (2032–2033) was presented as a major opportunity to strengthen observing systems, deepen inclusive cooperation, and secure a lasting legacy beyond the IPY itself.

Summary and Closing Remarks

- **Marie-Anne Coninsx** (Former EU Arctic Ambassador; Board Member, International Polar Foundation; Senior Fellow, Egmont Institute)

In her closing remarks, **Marie-Anne Coninsx**, former EU Ambassador at Large for the Arctic and Board Member of the International Polar Foundation, reflected on the key messages emerging from the 16th Arctic Futures Symposium.

She highlighted the strong engagement of Arctic and non-Arctic stakeholders alike, underlining that while Arctic states play a central role in shaping the region's future, cooperation with non-Arctic partners remains essential. Throughout the discussions, the Arctic was described as standing at a crossroads, facing climate change, geopolitical shifts, and growing demands for sustainable development.

Ambassador Coninsx emphasized that the human dimension emerged as a defining theme of this year's symposium. Across panels and keynotes, speakers consistently stressed that Arctic development must be for and by the people of the Arctic, with indigenous peoples and local communities as active partners rather than passive observers. Particular attention was given to youth, culture, and the need to ensure attractive living and working conditions to sustain vibrant Arctic communities.

She also underscored the importance of responsible resource management, innovation, and cross-border cooperation in advancing a just green transition, noting that long-term resilience depends on trust, inclusion, and locally grounded solutions.

Concluding, Ambassador Coninsx thanked the organizers, partners, speakers, and participants for their contributions to a rich and forward-looking dialogue, and wished all attendees safe travels, expressing her hope to continue the conversation at future editions of the symposium.

