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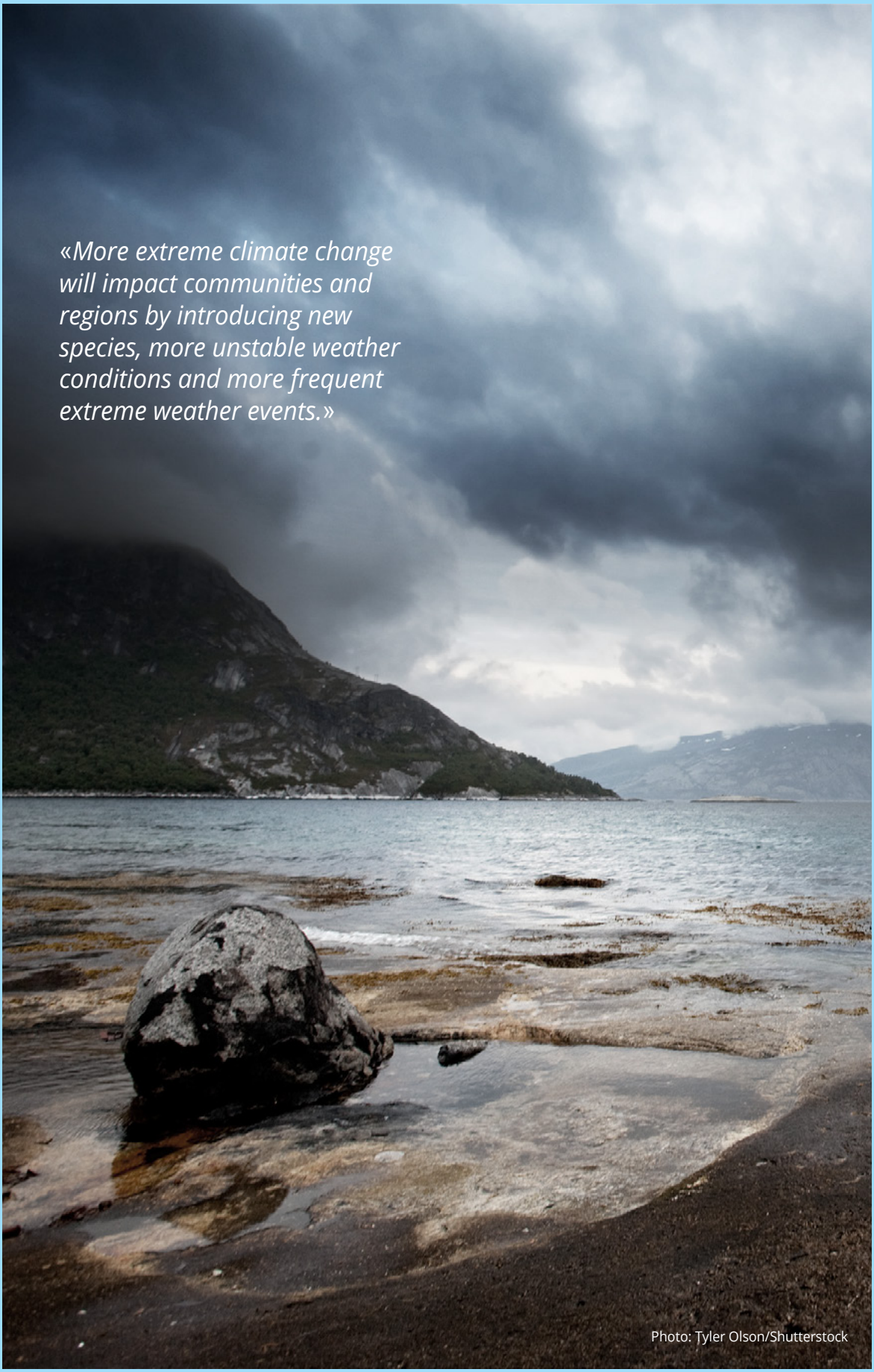
Policies and investments for a climate smart Barents Region

Report from the digital conference Policies and investments for a climate smart Barents Region organised under Norway's chairmanship of the Barents Euro-Arctic Council by the Norwegian Ministry of Climate and Environment, the Norwegian Ministry of Foreign Affairs, Västerbotten County in Sweden, and Cicero in cooperation with the Barents Euro-Arctic Council's Working Group on Environment.

Photo: Dmitri Belenikhin

Norwegian Ministry of Climate and Environment
Norwegian Ministry of Foreign Affairs



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Summary

This report has been prepared by Solveig Aamodt, Iselin Ekeli Rønningsbakk and Fay Madeleine Farstad, CICERO Center for Climate Research, Oslo, May 2021.

The webinar was organised as part of Norway's chairmanship of the Barents Council (2019-2021). The aim was to gather insight from experts and stakeholders on the following issues in the Barents Region:

- How can the Barents Region follow up on the Paris Agreement and become climate smart by 2050?
- How can this be done without detriment to the natural environment and traditional land use?
- What new policies and measures are needed, and what must be done to balance trade-offs?
- How can regional cooperation stimulate the requisite transformation?

Climate change is already affecting the Barents Region, where temperatures are rising at three times the average global rate. Several speakers pointed out that climatic conditions in the Arctic are relatively extreme and challenging from the outset. More extreme climate change will impact communities and regions by introducing new species, more unstable weather conditions and more frequent extreme weather events, threatening existing infrastructure and raising energy prices, while engendering new challenges to people, businesses and local authorities.

The presenters agreed that the future of the Barents Region is contingent upon an immediate transition towards new low carbon solutions. There are already several pilot projects and large-scale decarbonisation projects being conducted in the region, and several speakers emphasised that cooperation, knowledge-sharing and collaboration at the local, regional and national levels will be crucial for a successful transition. Emphasis was also attached to the importance of promoting involvement early on in the transition process, especially among local and indigenous communities and among young people.

Speakers from the research and business communities alike drew attention to the significant opportunities inherent in becoming a first mover in the green transition. The Barents Region has both the natural resources and the human capital required to become a provider of green materials and technologies to the European market. Researchers and indigenous representatives underscored the fact that solutions to the climate crisis must not exacerbate the biodiversity crisis. Climate change mitigation will require land areas for new infrastructure development, and new land uses could potentially create conflicts between climate mitigation on the one hand and biodiversity and traditional land use on the other. It is vital that sustainability, human rights, biodiversity, and indigenous rights take precedence in such conflicts.

The Barents Euro-Arctic Council deeply appreciated all the knowledge and experiences shared during the webinar. The exchanges will be used actively to update the Council's Action Plan on Climate Change.

Preface

The following report is based on the presentations from the webinar "Policies and investments for a climate smart Barents Region", which were supported by manuscripts and talking points provided by the speakers. The report is structured in keeping with the four sessions of the webinar, providing summaries of the key messages from speakers and panellists. For the full presentations and speeches, a recording of the webinar is available at barentscooperation.org[1]

Photo: Christina@Wocintechchat/Unsplash

1 *https://tinyurl.com/j9fcjxcw*

1: A vision for a climate smart Barents Region in 2050 – where should we go, and how do we get there?

Key take-aways from the session

- There is a pressing need for bridges between short-term spending priorities and longer-term climate goals. Infrastructure will play a key role in this context, and innovation will be instrumental in the green transition as public procurement and funding drive the innovation needed for low carbon technology. Recovery from the COVID-19 pandemic is a critical opportunity in this regard.
- The solutions for the Barents Region lie in adding to knowledge, expanding dialogue, and building on past experience.
- Regional cooperation is crucial for facilitating and stimulating the transition to a low emissions pathway in the Barents Region.
- Resources and opportunities in the region must be developed in ways that minimise impacts on biodiversity and changes in land use, taking indigenous rights into account.
- The Barents Region has strong potential based on multiple factors: natural resources, rich cultures, high-quality education and research, and a long tradition of cooperating with stakeholders at the local, regional and local levels, including indigenous communities.
- Solutions to the climate crisis in the region depend on understanding the biodiversity crisis.
- Policies and investments for a climate smart Barents Region must not be based solely on scientific knowledge, but also on traditional indigenous knowledge.
- The increasing competition for land in the region has undermined trust in public decision-making processes, e.g., in relation to mining and the development of wind power. Trust is a critical resource that must not be depleted.

One goal of the webinar was to gather insight from experts and stakeholders in the Barents Region on the following issues:

- How can the Barents Region follow up on the Paris Agreement and become climate smart by 2050?
- How can this be done without detriment to the natural environment and traditional land use?
- What new policies and measures are needed, and what must be done to balance trade-offs?
- How can regional cooperation stimulate the requisite transformation?

The webinar opened with a series of keynote speeches by representatives of the Norwegian government, the regional authorities in Västerbotten, Sweden, and the Sámi Parliament of Norway. These were followed by two presentations that introduced the issues of the transition to low-carbon solutions and the interlinkages between the climate and biodiversity crises, respectively. The session was moderated by Anne Berteig, Senior Adviser at the Ministry of Climate and Environment, Norway. She began by pointing out that one of the main purposes of the webinar was to envisage how the Barents Region can make the transition to a climate smart future while still protecting the region's unique natural environment, values and traditional land use. She also hoped that the webinar would inspire stronger regional cooperation and contribute to a new action plan for the climate under the auspices of the Barents Council.

Speech 1:

Ine Eriksen Søreide

Minister of Foreign Affairs and Chair of the Barents Euro-Arctic Council, Norway

«I firmly believe that the solution for tomorrow's Barents Region lies in increasing our knowledge, expanding our dialogue, and using our experience to think along new lines. Together, we can find new ways to target our joint efforts to achieve a more climate smart Barents Region.»

Søreide noted that identifying policies and investments for a climate smart Barents Region is not only crucial for the region, but also a vital step in finding solutions to global challenges. Norway has made knowledge-sharing a high priority during its chairmanship of the Barents Euro-Arctic Council, and Søreide stressed that the record-high temperatures and melting ice cap in the Arctic are cause for alarm. Retreating sea ice and rising sea levels are two examples of the growing pressure on the region. Efforts to address the escalating threats posed by polluting activities in respect of the Arctic environment and resources must be based on scientific fact. Søreide contended that under the Paris Agreement and Agenda 2030, it is our joint

responsibility to build a more sustainable, resilient Barents Region, and that it is essential to bear in mind that the Barents Region is not a wasteland covered in snow and ice, but rather home to dynamic modern communities and innovative businesses. Low carbon technologies and a green mindset must be part of the solution. Norway remains committed to ensuring the continued development of the Barents Euro-Arctic Council as a strong foundation for cooperation in the High North. Søreide concluded her opening address with the following greeting to the webinar: "I firmly believe that the solution for tomorrow's Barents Region lies in increasing our knowledge, expanding our dialogue, and using our experience to think along new lines. Together, we can find new ways to target our joint efforts to achieve a more climate smart Barents Region."

Speech 2:

Sveinung Rotevatn

Minister of Climate and Environment, Norway

Rotevatn argued that a low-carbon future will call for more infrastructure for renewable energy and natural resource extraction. New roads and railways are bound to fragment landscapes and wildlife and reindeer habitats. To minimise these conflicts, we need to step up our resource efficiency and accelerate our transformation to a circular economy.

Rotevatn stated that the two main environmental crises facing humanity, i.e. the climate crisis and the biodiversity crisis, are interlinked in multiple ways, as are the policies, measures and solutions that can help solve them. He underscored the importance of regional cooperation to incentivise the transition to a low emissions pathway in the Barents Region.

Referring to a 2019 report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)[2], he pointed out that 1 million species of plants and animals are now threatened by extinction. Accordingly, smart policies and investments must not be limited to reducing emissions; they must also take into account potential impacts on nature and traditional land use. He added that the Paris Agreement calls for a wide variety of measures to reduce greenhouse gas emissions, e.g. new regulations, economic incentives, technological innovations, and investments in renewable energy and infrastructure to promote low carbon energy, industry and

2 *https://ipbes.net/global-assessment*

transport. Many of these measures will require changes in land use. He also stressed that global warming is a major threat to biodiversity, not least in the Arctic and sub-Arctic, where temperatures are rising rapidly. Reducing greenhouse gas emissions is therefore essential for protecting biodiversity. However, some mitigation measures may have negative impacts on biodiversity and traditional land use and livelihoods. Citing examples of such conflicts in the Barents Region, he mentioned disputes over wind power and hydropower, as well as over the mining of metals, all of which are important for low carbon technologies.

Rotevatn argued that a low-carbon future will call for more infrastructure for renewable energy and natural resource extraction. New roads and railways are bound to fragment landscapes and wildlife and reindeer habitats. To minimise these conflicts, we need to step up our resource efficiency and accelerate our transformation to a circular economy. He went on to say that the rising demand for metals, forestry products and renewable energy is not only a threat to biodiversity and traditional land use, it also offers important business opportunities in a region with an abundance of natural resources. He stressed that the resources and opportunities must be used in ways that minimise their impacts on biodiversity and other land use, and take indigenous rights into account. In addition, Rotevatn pointed out that the Barents Region is the site of Europe's largest remaining areas of relatively intact natural ecosystems and landscapes, including some of the last large-scale areas that remain unfragmented by human infrastructure. It is vital to achieve a low emissions pathway that also benefits biodiversity and traditional land use.

Speech 3:

Helene Hellmark Knutsson

Governor of Västerbotten County and Chair of the Barents Regional Council, Sweden

Knutsson emphasised that the Barents Region has strong potential based on multiple factors: natural resources, rich cultures, high-quality education and research, and a long tradition of cooperating with stakeholders, including indigenous communities, at the local, regional and national levels.

Knutsson began by underlining the rapid pace of climate change in the Arctic, pointing out that research and innovation will be key to handling this challenge. She stressed that Arctic cooperation is local, regional and national, and includes cooperation with indigenous communities. The Barents Region is well-suited to act as a testing ground for Arctic challenges and opportunities. There are, for instance,

three projects currently being carried out in Northern Sweden that will help reduce green-house gas emissions. Noting that steel production accounts for 25% of Europe's industrial CO2 emissions and that Sweden is the EU's largest producer of ore, she mentioned that two factories are being set up for green or fossil-free steel production in Northern Sweden: H2 Green steel[3] and HYBRIT[4]. The plants rely on hydrogen rather than coal, and the plan is to deliver their first green fossil-free steel to the market in 2024. One of Europe's largest battery factories is also currently being built in Northern Sweden. Based on harnessing the power of wind and water, the factory will also maintain a focus on recycling batteries. Knutsson emphasised that the Barents Region has strong potential based on multiple factors: natural resources, rich cultures, high-quality education and research, and a long tradition of cooperating with stakeholders, including indigenous communities, at the local, regional and national levels.

The region is characterised by long distances and increasing urbanisation, both present challenges and opportunities for regional cooperation. She also mentioned the further challenge implied by the drain of young people who are moving away from the area, since "young people are truly the future of the Barents Region".

3 https://www.h2greensteel.com

4 https://www.ssab.com/fossil-free-steel/

Speech 4:

Silje Karine Muotka

Member of the Sámi Parliament, Norway

Muotka emphasised that policies and investments for a climate smart Barents Region must not be based solely on scientific knowledge, but on indigenous knowledge as well. The indigenous people in the Barents Region know the land and the waters. Their traditional knowledge is derived from hundreds of years of experience of harvesting resources in this area sustainably. It is therefore important that the Sámi be included in future solutions.

Muotka began her presentation by telling the audience about the Sámi, an indigenous people who live in all four countries in the Barents Region, and who have moved across the borders freely since time immemorial. She emphasised that policies and investments for a climate smart Barents Region must not be based solely on scientific knowledge, but on indigenous knowledge as well. The indigenous people

in the Barents Region know the land and the waters. Their traditional knowledge is derived from hundreds of years of experience of harvesting resources in this area sustainably. It is therefore important that the Sámi be included in future solutions. Muotka explained how the Sámi's traditional activities are seriously threatened by climate change in several ways, e.g. the introduction of new species and the advent of more extreme and unpredictable weather. To the Sámi, however, one of the most challenging factors is the green transition itself, which "in some ways seems to take the form of green colonisation, with wind power plants in grazing areas, and extractive industries". She argued that human rights and indigenous rights must be taken into account in environmental measures and protection initiatives. Muotka also pointed out that the special international legal protection afforded to indigenous lands and resources could provide a foundation for continuing and renewing traditional industries and developing new businesses.

Presentation 1:

A decisive transition for climate and growth – policies for scaling up clean, climate resilient infrastructure

Anthony Cox, Deputy Director, Environment Directorate, OECD

Cox argued that the recovery offers a compelling opportunity to build bridges between short-term spending priorities and longer-term climate goals, and that infrastructure will play a key role in this context.

Cox observed that governments around the world are pouring money into rescue and recovery measures to get their economies moving again in the wake of the COVID-19 pandemic. Clear priority is being given to driving growth, creating jobs and improving health; many countries are also emphasising the importance of making a green recovery. Nevertheless, there is still a tendency towards 'business as usual', and few countries have made concrete promises to reduce emissions. Meanwhile, more than 190 countries have pledged short-term Nationally Determined Contributions under the Paris Agreement, and around 130 countries have expressed some form of commitment to net-zero emissions. However, fewer than 30 countries have developed long-term low emissions development strategies, and only a handful of such strategies have been made into law.

Cox argued that the recovery offers a compelling opportunity to build bridges between short-term spending priorities and longer-term climate goals, and that infrastructure will play a key role in this context. He remarked that innovation will be instrumental in the green transition, as public procurement and funding drive the

innovation needed for low carbon technology. He contended that governments must review the skills required for a low carbon economy and then adjust their educational programmes accordingly. Cox also highlighted the role of carbon prices in driving innovation. Investment and innovation support alone are not enough to make a business case for investing in low carbon assets and infrastructure, meaning the longer-term signals provided by carbon prices are needed to spur investments in green innovation. More than half the emissions in the OECD countries are not priced at all. For many other types of emissions, costs are currently low. Phasing out fossil fuel subsidies could generate much needed funding and fiscal space.

He pointed out that governments are still spending more on subsidising fossil fuels than on supporting renewables. The recovery packages in the wake of the COVID-19 pandemic should be aligned with climate goals as well as other goals intended to improve people's lives and well-being in the short and medium term. He concluded his presentation by recommending that the audience examine a new report[5] published by the OECD entitled 'The Economic Benefits of Improving Air Quality in the Arctic Council Countries'.

5 https://tinyurl.com/wsn9c9r8

Presentation 2:

How can we solve the climate and biodiversity crisis at the same time?

Annika E. Nilsson, Researcher, Luleå University of Technology and Senior Researcher, Nordland Research Institute

Nilsson warned that we face rapidly accelerating warming and rapidly shrinking habitats, with collateral detrimental impacts on biodiversity. The biodiversity of the Barents Region is closely linked to the climate conditions that have shaped the region.

Nilsson referred to the impacts of climate change that are already becoming apparent in the Barents Region, pointing out that some of the trends we are currently seeing are likely to escalate in the years ahead. The Barents Region is getting warmer. In particular, the winters are milder now than they used to be, with temperatures rising by more than 10 degrees in some places. There is also less snow, less ice and less permafrost. It is likely that the Barents Sea will soon be ice-free all year round. Climate change will bring with it more frequent and severe avalanches, floods, landslides, wildfires, rain and storms.

Nilsson warned that we face rapidly accelerating warming and rapidly shrinking habitats, with collateral detrimental impacts on biodiversity. The biodiversity of the Barents Region is closely linked to the climate conditions that have shaped the region. New species will be able to survive in the north as the climate gets warmer. Such species will potentially compete with existing species, and possibly even out-compete them. The increasing competition for land in the region is also a major cause for concern, as land is becoming a limited resource. This increasing competition for land has undermined trust in public decision-making processes, e.g. in relation to mining and the development of wind power. Nilsson emphasised that trust is our most critical resource, and that we must be careful not to deplete it. She also stressed that the Barents Region will need to adapt to the new situation because climate change is likely to continue. It is of the essence to safeguard eco-system services, such as food safety and security and clean drinking water. Nilsson concluded her presentation by adding that solving the climate crisis in the region will require that we understand the regional biodiversity crisis as well. We do not know how the ecosystem will develop. Accordingly, we will have to learn continuously to adapt to new circumstances in an effort to support robust ecosystems.

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Photo: Lucas Favre/Unsplash

2: Climate smart infrastructure for transport, energy, and industry

Key take-aways from the session

- The Barents Region should look to the seven flagship areas of the EU's pandemic recovery plan for inspiration and opportunities.
- Most of the EU's new financial instruments will build on the climate agenda. New programmes for cooperation and research will be relevant for action and knowledge in the Barents Region.
- The impact of climate change and climate policies will require decisive and rapid action. Power and heat as well as transport should be the two first sectors to decarbonise.
- Low carbon scenarios require large investments, and the Barents Region could take advantage of being an early mover.
- Achieving climate goals and promoting value creation in the Barents Region requires establishing new green value chains for energy, industry and transport. Research platforms and collaboration between industry and academia are also essential.
- Barents cooperation provides an arena for meeting, cooperating and understanding, where we can focus on our common challenges and issues, and inspire each other.
- Russian actors, especially business actors oriented towards Europe, are increasingly concerned with reducing their carbon footprint. Natural gas may be a necessary 'bridging fuel' in the short to medium term in order for Russia to reach net-zero emissions.
- Although small local and regional pilot projects to decarbonise are important for engaging people and encouraging awareness, participation, and a demand for change.
- We need to exercise caution in respect of compromising local communities and natural systems, while being efficient and analysing overall impacts, e.g. we need to learn how to reduce impacts on multiple ecosystems and services. For example, forest biomass harvesting could increase emissions if not done in a sustainable way.

Moderator Kristin Halvorsen, Director of CICERO, gave a brief introduction to the next two sessions, which took a deeper look into the challenges of creating a climate smart Barents Region. The first session elaborated on developing green infrastructure and becoming low-carbon societies. After three introductory presentations, there was a panel debate featuring brief introductions and follow-up questions. The second session detailed how we can make the transformation without negative impacts on nature and biodiversity.

Presentation 1:

The European Green Deal and EUs recovery plan – what does it mean for the Barents region?

Johanna Kentala-Lehtonen, Senior Specialist for EU Affairs, Prime Minister's Office, Finland

«By achieving competitive sustainability, the aim is to make Europe a transformational leader. Environmental sustainability, productivity, fairness, and macroeconomic stability are the four guiding principles for the recovery.»

Kentala-Lehtonen presented the European Green Deal (EGD) as a flagship project of the EU Commission since it is both a climate plan and a growth plan. The EGD is very comprehensive, and its implementation depends on research and knowledge, and on support from stakeholders and citizens alike. The EGD has five main goals:

1) Reaching the climate targets set for 2030 and 2050
2) Decoupling economic growth from resource use
3) Ensuring that natural capital is protected, sustainably managed and restored
4) Protecting the health and well-being of citizens from environment-related risks and impacts
5) Achieving a just transition, leaving no person or place behind.

Kentala-Lehtonen moved on to explain how the EU aims to recover from the COVID-19 pandemic through the EGD. By achieving competitive sustainability, the aim is to make Europe a transformational leader. Environmental sustainability, productivity, fairness, and macroeconomic stability are the four guiding principles for the recovery. The seven flagship areas for the recovery point to where the EU is investing its money and where its neighbours, including the Barents Region, should also focus to take advantage of this trajectory. Most of the EU's new financial instruments will build on the climate agenda. New programmes for cooperation and research will be relevant for action and knowledge in the Barents Region.

Presentation 2:

Consistency with climate goals – implications for infrastructure development in the Barents region. The Barents 2050 study

Tomi J. Lindroos, Research Scientist, Technical Research Centre of Finland (VTT)

«Low carbon scenarios require major investments, and the Barents Region could take advantage of being an early mover.»

Lindroos presented the results of the Barents 2050[6] Study that focuses on the implications of climate goals for infrastructure in the Barents Region. The region will face the impact of climate change and climate policies, which will require large-scale, rapid action. The report presents sector-specific impacts, opportunities, and risks related to climate change and climate change mitigation. The sectors are:

- Power and heat
- Transportation
- Oil and gas
- Manufacturing
- Mining
- Agriculture
- Forestry
- Fisheries/Aquaculture
- Reindeer herding
- Tourism

The report also provides a list of policy recommendations for implementation at the national, regional, and municipal levels. The study found that the power and heat sector should be the first to decarbonise. A slight increase in hydropower production due to increased rainfall and a rise in the demand for electricity due to electrification may also create new opportunities for exporting power. However, more volatile weather conditions present a risk. Transport is the second most important sector. It can decarbonise by using biofuels, electricity and other fuels. The Barents Region may produce forest-based biofuels. Although there will likely be better winter conditions for transport, including sea transport, overall transport costs will increase. The oil and gas sector will face severe challenges. While better weather conditions may reduce costs, but there is a risk of stranded assets. Gas markets will decline faster than oil markets, as transport is harder to decarbonise than power on a global basis. Low carbon scenarios require major investments, and the Barents Region could take advantage of being an early mover.

6 *https://www.vttresearch.com/sites/default/files/pdf/technology/2017/T316.pdf*

Presentation 3:

Climate smart solutions for energy, industry, and transport – a Northern perspective

Kyrre Sundseth, Research Manager, SINTEF
(the Foundation for Industrial and Technical Research), Norway

«Based on SINTEF's research and projects, Sundseth stated that to achieve the climate goals and promote value creation in the Barents Region, he would recommend focusing on establishing new green value chains.»

Sundseth presented SINTEF's work on climate smart solutions, focusing on technological developments. He emphasised that there is already a growing need for investment in and the implementation of new renewable energy solutions. These need to be adapted to Arctic conditions. The extreme weather conditions, ice, wind and great differences between access to resources (wind and solar) in winter and summer are all factors that need to be taken into account, meaning that we must act now to meet the climate targets. Renewable energy requires energy storage. Batteries have a limited hour range, the potential to extend pumped hydro capacity is limited, and Compressed-Air Energy Storage (CAES) has limitations in operational flexibility and capacity. Hydrogen, on the other hand, is the energy carrier with the capacity to store vast amounts of energy compared with electro-chemical batteries. Sundseth then talked about coupling different sectors of the energy system. He gave an example from Berlevåg/Varanger, an area that is rather typical of the Barents Region because it is remote and sparsely populated. The available wind resources in the area can produce 1000 kg hydrogen/day because production far outstrips local demand. A strong consortium for hydrogen production in Berlevåg is currently in the process of becoming operative. Distance issues will require energy carriers like hydrogen and ammonia to transport energy from Berlevåg.

Based on SINTEF's research and projects, Sundseth stated that to achieve the climate goals and promote value creation in the Barents Region, he would recommend focusing on establishing new green value chains. These should target the hard-to-decarbonise sectors in the Barents Region, e.g. energy, industry and transport. Research platforms and collaboration between industry and academia are also essential to build the requisite expertise and business opportunities. SINTEF is prepared to support and contribute to this based on the organisation's high-level competence and experience.

Panel debate

The panel debate started with brief introductions of the participants who were not among the presenters, then moved on to questions from the moderator.

Paal Iversen
Senior Advisor, Norwegian Ministry of Transport, and Chair of the Steering Committee for the Barents Euro-Arctic Transport Area (BEATA), Norway

BEATA brings representatives from all four Barents countries together with experts and regional representatives. BEATA provides an arena for meetings, cooperation and understanding, where we can focus on our common challenges and issues and inspire each other. We need to do this within the framework of the Paris Agreement and the UN Sustainable Development Goals. One goal is to have sustainable transport systems to reduce our carbon footprint. From the Norwegian side, we are interested in sharing and learning. We have made progress in some areas, e.g. the electrification of passenger cars and ferry crossings. These are examples we would like to share, and we are especially receptive to discussing and finding information about making transport more efficient.

Michael Yulkin
Founder and CEO, CarbonLab llc, Russia

Yulkin discussed opportunities and challenges from a Russian perspective, focusing on Arkhangelsk. He emphasised that they are witnessing rapid climate change. Especially those dependent on forest resources are seeing changes already. When it comes to logistics, it is clear that the sea, rivers, and roads are under threat from climate change. CarbonLab studies the climate risks that clients face and provides advice on how industries can understand and mitigate their own carbon footprints. "Carbon footprint" is now one of the most commonly used phrases in Russia. That is a good sign!

Raisa Mäkipää
Research Professor, Natural Resource Institute, Finland.

Mäkipää emphasised that forests are the source of multiple ecosystem services, such as the wood used by a variety of forest industries, and carbon sinks that mitigate climate change. Fossil fuel substitution is not a major target, but it is efficient to use all the harvested biomass. On a global scale, one-third of annual fossil fuel emissions

is removed by forest carbon sinks. In relation to carbon neutrality targets, forests are currently the only feasible method for offsetting CO2 from the atmosphere. Technical solutions for carbon removal remain too immature and expensive for large scale use. In the long term, we have the means to increase forest carbon sinks, e.g. through soil management practices, enhanced forest growth, raising the proportion of mature stands (with high-carbon stock), and by afforestation to increase the forest area. Generally speaking, all of these measures can be implemented in commercially managed forests. Some measures may even increase the economic profitability of forestry. Forest biomass is an important substrate for energy production. In Finland, 28% of consumer energy is produced from forest biomass. A large part of the biomass comes from side streams from wood processing and pulping. In fact, more than half (56%) the biomass of all harvested timber is used for energy production. The contribution of forest biomass to energy production is said to be driven by the industrial use of wood.

Alexey Kokorin
Head, Climate and Energy Program, WWF Russia.

Kokorin represented the views of environmental non-governmental organisations (ENGOs) on climate smart development. The strategic goal is 100% renewables, and he pointed out that there are two possible pathways to a carbon neutral society. The first pathway is the preferred one, as it develops through the use of renewables. The second pathway uses 'bridging energies', such as gas. In many remote places in the Russian part of the Barents Region, emissions-intensive coal and diesel oil are used to generate energy, so the two parallel pathways are both necessary. Social awareness is a very important driver for decarbonisation. The WWF has experience of small decarbonisation projects for indigenous people in the Chokotka region of Russia. The organisation is responsible for the legal formalisation of the projects, securing funding from companies to reduce products' carbon footprint. Although there is a new law on greenhouse gases (GHGs) in Russia, the WWF expects progress to be slow in Russia as a whole. This means that the Barents Region has an opportunity to be at the forefront of developments. It is possible to learn from the WWF projects in Sakhalin, for example, since such projects are also feasible in the Barents Region. WWF can be a partner in local projects, e.g. wind and solar projects in local communities. People are eager for such projects. Another possibility is electrification. Hydrogen is also considered an innovative local solution.

Debate

What policy changes are needed?
What are the main policy gaps today, and how do we fill them?
Sundseth stated that we need policies that are holistic in terms of sectors. We need to be able to obtain more knowledge of technology faster, and we need to make sure these technologies will work in the Barents Region. Iversen pointed out that we are dealing with cross-border cooperation, but that policies are adopted at the national level. Infrastructure planning and funding should also be seen in a regional perspective. Through our cooperation, we have corridors that could be important tools for transition. One example is the establishment of charging stations for electric vehicles. Norway would like to see such infrastructure develop faster in locations outside of Norway. Another example is procurement. Public procurement is extensive, making it possible to set ambitious standards, for example, for transport services. There is considerable room for improvement in this context.

What about manufacturing?
Will industries be able to make the requisite reductions in their carbon footprints?
Yulkin argued that there is some movement towards being less carbon intensive, as companies are being more cautious in response to the Carbon Border Adjustment Mechanism signalled by the EU. Russian companies owned by European investors are also very concerned with this issue. These enterprises are becoming drivers, striving to be as European as possible by developing GHG inventories, for example. However, at the regional authority level, they may face numerous challenges that could potentially be overcome with initiatives from the corporate side. Yulkin reported that he sees little movement when he speaks with regional authorities. In the past, cooperation with other regions was good, involving the Barents secretariat, Västerbotten, Norrbotten and others in the Barents Region. They addressed carbon reduction efforts in the region, focusing on sharing knowledge and information. There was good cooperation until late 2019, when the connection was lost. That loss is a pity, and efforts should be made to restore sub-regional cooperation. Through cooperation, it became clear that we face many of the same challenges, threats and obstacles. It was gratifying to see that we can cooperate and accomplish something together. We had a very good session in Lulea at the end of 2019, highlighting what we can manage to accomplish together. We drafted a strong list of potential opportunities, including knowledge-sharing and education. This cooperation should be resumed.

How can people be included in the movement towards decarbonised societies?
Kokorin emphasised that young people are very positive to the green deal. In fact, anything green is seen as positive, and they welcome stronger cooperation with the EU to find green solutions. The WWF has discussed various possibilities with them. One obvious example is that if road infrastructure were better for some winter roads in Russia, the use of airplanes could be reduced. Better roads would not require such polluting vehicles, because smaller, more environment-friendly vehicles would be enough on good roads. Young people generally express good, optimistic views.

Although we hear that we have many good opportunities, things can go wrong. What are the risks inherent in making wrong decisions?
Mäkipää indicated that more analyses are needed, adding that we have to choose solutions that are cost efficient. We need to exercise caution in respect of compromising local communities and natural systems, and to be efficient and analyse overall impacts. We also need to devote attention to what reduces impacts on multiple ecosystems and services. For example, forest biomass harvesting could increase emissions if not done responsibly. We need to focus on using all resources prudently, and on generating more knowledge, analyses and cooperation across sectors.

Photo: Artem Maltsev/Unsplash

«More sustainable forest management would be a win-win forthe general public and make the use of wood more sustainable.»

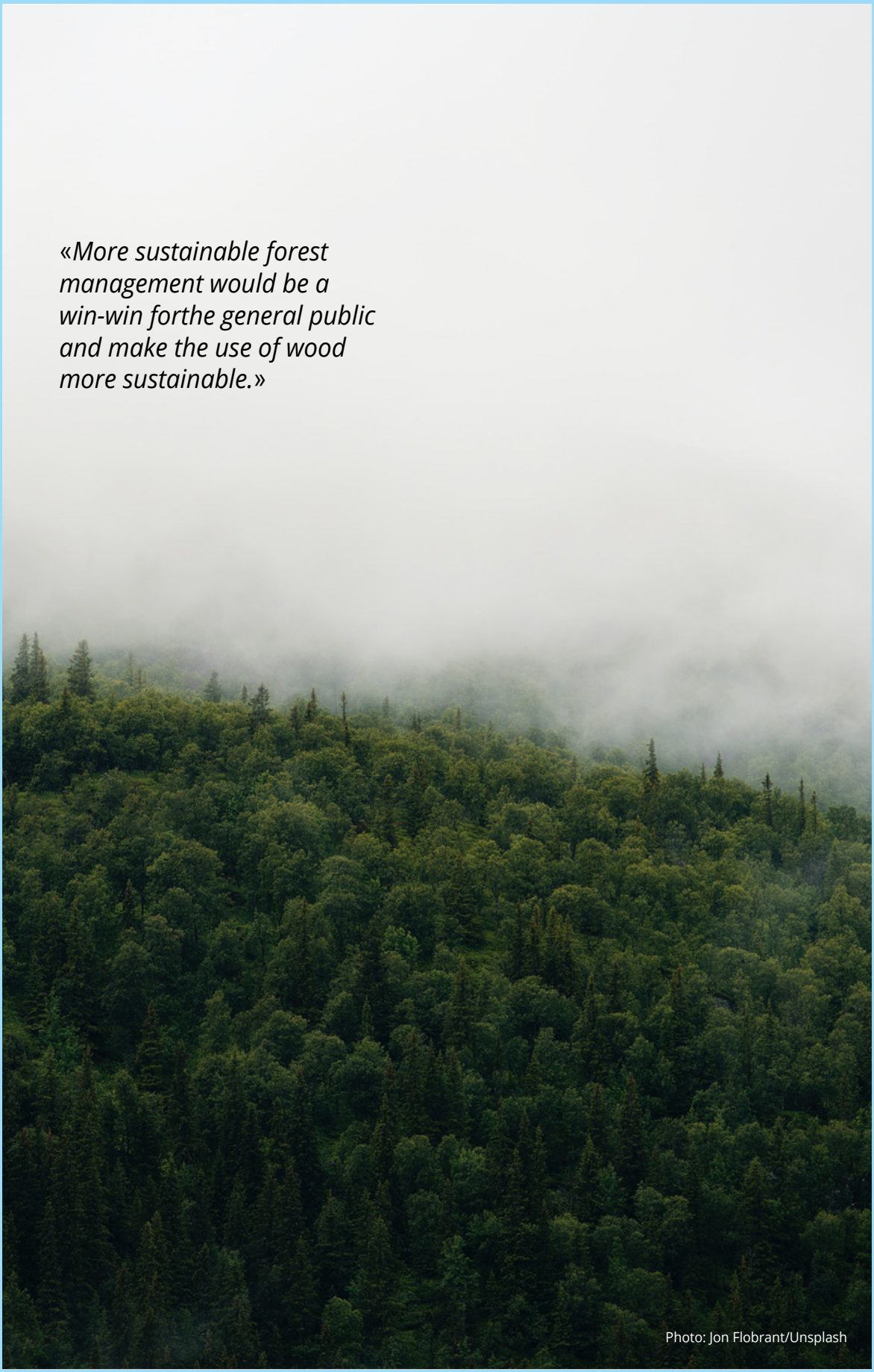

Photo: Jon Flobrant/Unsplash

3: Minimizing impacts on nature and traditional landuse – Policies and tradeoffs

Key take-aways from the session

- According to a model study, the combined effects of climate change, land use change and infrastructure development are likely to result in the loss of considerable biodiversity in the Barents Region in the decades ahead.
- The most serious immediate threat to Sámi culture and reindeer husbandry is not necessarily climate change per se. In some cases, it is rather the impacts on land use of policies and measures intended to reduce the threat of climate change. The Sámi appreciate that new energy resources are needed, but dispute that they must be located far from urban areas and in areas used for reindeer herding. A balance must be struck between climate change mitigation, the preservation of biodiversity and traditional land use, preferably in dialogue with indigenous peoples.
- The current planning system in Norway fails to take adequate account of the effects of new infrastructure projects on natural habitats and ecosystems. It also lacks a system for monitoring the effects of changes in land use. We need a better system for ecosystem accounting in land use planning.
- All area planning should take biodiversity loss and land loss into consideration right from the start. The UN standard for ecosystem accounts should be integrated into all planning activities.
- More sustainable forest management would be a win-win for the general public and make the use of wood more sustainable.
- Open, early communication is essential for building trust. In the Finnish municipality of Ii, the authorities always start projects by communicating about them with the citizenry. They have good experience with such involvement.
- The Sámi have deep traditional knowledge and solutions. The value of their knowledge and understanding of the Arctic should be recognised.

This session explored the combined effect on the natural environment and traditional land use of the development of climate smart infrastructure. Participants discussed approaches and policies that could potentially be effective for minimising the harm done to nature and traditional land use, identifying which trade-offs may be unavoidable.

Moderator Kristin Halvorsen, Director of CICERO, initiated the session by referring to the Global Assessment Report on Biodiversity and Ecosystem Services by IPBES[7], which concludes that the climate crisis should not be solved by means that could exacerbate the equally dramatic biodiversity crisis.

New infrastructure for transport, energy and industry uses land and changes landscapes. Although the impact of each new development may not be large, the sum of these developments could have a huge footprint.

7 *https://ipbes.net/global-assessment*

Presentation 1:

Combined effects on biodiversity and traditional land use from climate change and infrastructure development – projections for the Barents region.

Wilbert Van Roij, Director, Plansup, The Netherlands

«They found that a 7°C increase in the average temperature in the Barents Region would result in a reduction in biodiversity of more than 10%. This loss will mainly be ascribable to climate change, but the anticipated impacts of infrastructure development and land use changes are also great, particularly at the local level and in reindeer herding areas.»

Van Roij presented the results of a study that Plansup has carried out in cooperation with the International Centre for Reindeer Husbandry and Statistics Norway. The study projects how biodiversity in the Barents Region is expected to develop over the next couple of decades. Plansup used a model that includes data on land use change, infrastructure development and climate change. They found that a 7°C increase in the average temperature in the Barents Region would result in a reduction in biodiversity of more than 10%. This loss will mainly be ascribable to climate change, but the anticipated impacts of infrastructure development and land use changes are also great, particularly at the local level and in reindeer herding areas. Van Roij added that a 7°C temperature increase by 2030 is "a bit exaggerated and not realistic", but that an increase of 4°C is very realistic. He added that the temperature in the Barents Region is expected to rise further over the decades ahead, and the region is expected to be 7°C warmer by 2100.

Presentation 2:

Impacts of infrastructure development and other land use change on traditional activities.

Gunn-Britt Retter, Head of Arctic and Environment Unit, Saami Council, Norway

Retter argued that the greatest immediate threat to Sámi culture and reindeer husbandry seems not to be climate change per se, but rather the policies and measures intended to mitigate the threat of climate change.

Retter began by reminding the audience of the fact that climate change and rising temperatures are happening three times faster in the Artic region than the global average, and that this is likely to continue at the same pace – or possibly even faster – in the run-up to 2100. The Arctic, as we know it, will probably not be recognisable by then. Although many Sámi live in cities and towns, have regular jobs and are highly educated, traditional livelihoods such as subsistence hunting, trapping, and gathering remain a fundamental part of Sámi culture. These livelihoods still constitute the basis for nutrition and well-being, and they affect where the Sámi look for future opportunities. She argued that the greatest immediate threat to Sámi culture and reindeer husbandry seems not to be climate change per se, but rather the policies and measures intended to mitigate the threat of climate change. It is important to safeguard indigenous peoples, as well as their livelihoods and cultures. These should not be eligible for trade-offs. She said the Sámi understand and support the fact that new energy resources are needed, but that they dispute that such resources must be located far from urban areas, especially in areas traditionally used for reindeer herding. Wind turbines built to provide more renewable energy, mines used to extract minerals for batteries and new railways (if one were to be built in the region) require huge land areas, and lead to the fragmentation of intact land. Retter emphasised that Sámi culture is on the verge of extinction in many areas, and that climate change mitigation measures are causing massive changes in land use, leading to land disruption. A balance should be struck between essential infrastructure development to cover societal needs and a reduction in the over-consumption of scarce resources. She emphasised that we have to seek economic growth that is not destructive to nature, and that we need to shift to a circular economy with less waste and more respect for natural values. The Sámi should be more involved in the decision-making in the countries in which they reside to avoid unbearable trade-offs involving Sámi culture and livelihoods.

How are cumulative impacts from infrastructure developments integrated into spatial planning today?

Gro Sandkjær Hansen, Senior Researcher, NIBR Oslo Met, Norway

Hansen argued that we need a far better system for ecosystem accounting in land use planning, and that the Norwegian planning system currently lacks an accounting system for monitoring the effects of changing land use

Hansen focused on the Norwegian planning system. She contended that the current system fails to take adequate account of the effects of new infrastructure projects on natural habitats and ecosystems. She reported that according to the Planning and Building Act, all projects should, in principle, include an environmental impact assessment, describing the project's impact on the environment and ecosystem services. However, Hansen claimed that this is not done in actual practice, referring to a new report[8] published in February 2021 that evaluated 35 infrastructure projects. None of the projects included assessments of impacts on ecosystem services. She argued that we need a far better system for ecosystem accounting in land use planning, and that the Norwegian planning system currently lacks an accounting system for monitoring the effects of changing land use. We also need better integration between the Planning and Building Act and land use planning for wind power installations. Moreover, there is a need for quality assurance regarding the choice of large, national infrastructure projects. However, it takes time to build an accounting system, and this has not been a political priority thus far.

8 https://tinyurl.com/kyp9bczy

Panel debate

Nature considerations in wind power development.

Cathrine Henaug, Research Director,
The Norwegian Institute of Nature Research (NINA)

Henaug postulated that the question of whether wind power can be considered "green" depends on where wind farms are located and whether their location takes biodiversity into account. She said that even though the world needs more renewable energy to reduce greenhouse gas emissions, wind power development that involves changing land use can lead to a loss of biodiversity and disrupt wilderness areas. It is important to understand the cumulative effects on

nature of different infrastructure development projects. She argued that all area planning should take account of biodiversity and land loss from the very beginning, and that the UN standard for ecosystem accounting should be integrated into all planning.

How could a climate smart forestry minimize impacts on biodiversity? Win-win or tradeoffs?
Hillevi Eriksson, Climate Specialist, The Swedish Forrest Agency

Eriksson warned about how climate change will impact biodiversity in the Barents Region, contending that large areas will face drier summers, reducing populations of insects and insect-eating birds. She pointed out that areas at higher altitudes, north-facing slopes and deeply shadowed valleys will be less affected by the loss of biodiversity because the climate is colder there. On more fertile sites, particularly in the southern parts of the Barents Region, greater ambitions to preserve and establish new winter grazing areas for reindeer could also improve the situation for other threatened species. In addition, better forest management and more mixed forests with a wider variety of tree species could also reduce the risk of losing species that are dependent on trees. She concluded by saying that more sustainable forest management would be a win-win for the general public and that the use of wood must become more sustainable.

The perspective of regional or municipal authorities
Leena Vuotovesi, CEO, Micropolis, Finland

Vuotovesi described how the municipality of Ii in the northern part of Finland has managed to cut its emissions by 80%, reach carbon neutrality and be named the greenest town in Europe by the BBC. With 10 000 inhabitants, the municipality is currently working to improve its carbon sinks to promote biodiversity and the health of the planet. She reported that 100% of the town's energy is renewable, and that their production currently outstrips their consumption by 10%. The town's investments in clean technology have been very profitable, and climate dividends are now included in the town budget. The people of Ii believe there are local solutions to global challenges. Everything they plan for the city takes climate actions into account. To avoid conflicts, they ensure that everyone is heard and understood, and compromises have indeed been made. It is important to work together with the people; in fact, great efforts have been invested in working with the citizenry. Everyone participates, she maintained, adding that local companies have made environmental pledges, and the schools promote climate action every day.

The children are learning what they themselves can do to combat climate change. She underlined that open communication is crucial, and that the authorities always begin communicating with the citizenry as soon as they start planning an activity. It is important to do this early on to build trust. When planning new infrastructure development, it is essential to listen to the people and to avoid actions that run counter to public opinion. There is usually more than one solution or one answer. The best solution is the right one that has popular support.

The perspective of the indigenous community
Gunn-Britt Retter, Head of Arctic and Environment Unit, Saami Council, Norway

Retter argued that from the political perspective of the Sámi people, the authorities always considerable certain issues to be more important than Sámi culture, so they inevitably take precedence. She asserted there is also a lack of true dialogue not only at the political level, but also when it comes to land users and environmental impact assessments, adding that it is very difficult for the Sámi to influence projects at the planning stage. She pointed out that there seems to be a lack of acknowledgement of the Sámi's right to be heard. The Sámi have deep traditional knowledge and traditional solutions. The depth of their knowledge and understanding of the Arctic deserves to be recognised. In some areas, there is simply no room for more infrastructure development because it poses a threat to Sámi culture and their way of life. Sometimes energy production should be developed closer to where the energy is needed. She concluded by saying that people need to examine their own consumption patterns because we cannot sustain today's excessive consumption.

Photo: Nikola J. Mirkovic/Unsplash

4: Summing-up of key take-home messages for the Barents region

Key take-aways from the session

- Low-emission semi-products combined with sustainable transportation could turn the Barents Region into a new low emissions technological frontier, serving European needs for industrial factor inputs.
- Industrial actors in the area recognise opportunities inherent in being early movers. A green profile is essential for attracting employees, and failure to take part in the green transition could put reputations at risk.
- At the same time, we need to address the possible negative impacts of new industrial and infrastructure development on natural habitats and land used by indigenous peoples. New projects may have negative impacts and increase pressure on indigenous land use and traditions. Regardless of whether an encroachment is green or non-renewable, indigenous people need to be more actively involved in decision-making to ensure they are part of the solution.
- Society as a whole needs to understand that we will have to set priorities when choosing between development projects with a negative impact on nature and traditional land use. We cannot implement all projects.
- Political leaders need to listen to young people and recognise that time is running out. There is an urgent need for policies that really make a difference in the amount of pollution in the oceans, the CO2 we release into the atmosphere and the destruction of nature.
- With a view to research and nature conservation, it is necessary to harmonise methods for monitoring, mapping and measuring across the region. We will probably also need new conservation areas or corridors between existing ones, depending on the changes and the species that need to be preserved. It is important to exchange results and to take measurements for comparison.

- It is imperative not to replace the climate crisis with a biodiversity crisis. The core problem for society is its growing consumption of resources. We need to reduce consumption and develop a circular economy.
- The SDGs can be a tool to help us integrate sustainability properly. The SDGs are indivisible – all of them must be taken into consideration.
- The regional level can facilitate and make it easier for local communities and individuals to choose decarbonisation, but communities and individuals are ultimately the ones that will have to implement changes.
- It is vital to work more on collaboration and best practice change in our region, for example, by organising peer reviews of different strategies.

Moderator Mats-Rune Bergstöm, Director of the County Administrative Board of Västerbotten, said that the last session was intended to sum up the key messages to take away from the webinar. The question is still how it will be possible to scale up clean infrastructure in the Barents Region and how to do so without compromising nature. The panellists made their introductory comments and then answered follow-up questions.

Panel debate

Perspective of industry

Kjell Stokvik, Managing Director of Center for High North Logistics, Norway

Stokvik introduced the Centre for High North Logistics as a bridge-builder between countries, academia, industry and governments. He emphasised the need to focus more on developing new solutions in sustainable ways. The Barents Region has vast fossil and renewable resources that could be developed into a platform for green industrial production to meet demand. The Barents Region could become a base for new cross-border industries that combine Norwegian gas and Finnish, Swedish and

Russian minerals and metals, making the region a new low emissions technological frontier that serves European needs for industrial factor inputs. Low emission semi-processed products, combined with sustainable transportation to the European markets, could turn the Barents Region into one of Europe's (and the world's) best examples of green solutions. Gas, minerals, wind and solar resources could be combined to produce new solutions. Indigenous rights and knowledge need to be respected and stakeholders need to be involved in all projects. Companies are already moving forward in the Barents Region. Several presentations at this webinar bear witness to this new development trajectory. However, it is vital to address the possible negative impacts on nature of green energy infrastructure development. Funded by the Research Council of Norway, the new BEAR project involves collaboration with the business sector and the authorities. It will focus on finding new solutions for logistics and transport systems in the Barents Region that leave a smaller footprint than those that exist today.

Concerning the green transition, is there really something in it for industry? Yes, when we speak with representatives of industry, they mention a number of opportunities, and many are eager to move in a greener direction. They see opportunities inherent in being early movers. There are now framework conditions for funding, and a green profile is essential for attracting employees. Failure to take part in the green transition could put reputations at risk.

The key players in this context are manufacturing, the authorities, academia and local communities. Are they mature enough to cooperate? If not, what is missing? Cooperation depends on finding the right platform. We are working with a research platform to get businesses involved. This is easier for larger industries and companies. Enterprises that are too small should seek cooperation with each other and work through their organisations.

Youth perspective

Martin Gamst Johnsen, Deputy Chair of Barents Regional Youth Council, Norway

Johnsen emphasised that "the future is now". Young people believe in a future in which we can make the world a better place. It is frustrating to experience that changes are taking such a long time, and many are afraid that we will not be able to fix the problems once we finally get into a position of power. We believe it is possible. It is simply a matter of political will. In my opinion, politicians need to think bigger. We must learn from the past to fulfil our potential. Young people want change! We want real change. We want policies that really make a difference in the amount of pollution in the oceans. We need to implement mitigation measures to combat the

CO2 we release into the atmosphere and the destruction of nature. Leaders need to listen to young people and acknowledge the fact that we are running out of time. We are at a crossroads. Johnsen hopes we will choose the right path.

Do we need a "Greta" in the Barents Region? This is a complicated question. Greta Thunberg has accomplished a great deal by throwing herself into a difficult debate, and she is under attack as a result. It would be wonderful to have such a spearhead in the Barents Region, but in the bigger picture, it is at least equally important that we stand together. Politicians need to see that we are many who are united in our demand for change.

How can the adult generation influence current developments? Johnsen emphasised that it is important to start talking about the future of the Barents Region to your friends and family. Perhaps you should join an organisation. Talk to your politicians, make your concerns for the climate and nature into an election issue, and make it clear that the majority of people want this change. Johnsen encouraged everyone to speak their mind openly and honestly.

Perspective of nature protection
Sofia Kryukova, Senior Researcher, Pasvik Nature Reserve, Russia

Kryukova introduced the Pasvik Nature Reserve, telling how climate change is already noticeable there. The scientific work being done at the reserve involves mapping, monitoring and measuring parameters in the area, including vegetation and weather. The reserve has its own weather station. They can document changes in the fauna and flora, but the reasons underlying these changes need to be studied further. In the animal world, the changes include disruptions in the cycles of the Norwegian lemming, which may be indicative of changes in northern ecosystems. Birds are the main indicator; they are coming earlier, and the dates are changing. Norway is carrying out transboundary studies in Pasvik, examining water birds and mammals, and meteorological data is being analysed. The area is the site of micro-projects and pilot projects on waste and water management. Kryukova emphasised that it is necessary to harmonise methods. It is important to exchange results and compare measures, and to share monitoring data and sensors.

Given ongoing climate and biodiversity changes, what will happen with today's nature conservation areas? Do we need a new approach or new areas? Kryukova commented that we cannot know what the future will bring. Several new factors may come into play in relation to plants and animals. She pointed out that we have not observed the disappearance of species in our area, but we are seeing new species.

Will we need new habitats for new species? Yes, we will probably need new conservation areas and corridors between the existing ones, depending on the changes and the species that need to be preserved.

Perspective of traditional land use
Piera Heaika Muotka, Chair of Barents Working Group of Indigenous Peoples

Muotka pointed out that while indigenous peoples and practises have contributed very little to the vast common climate and biodiversity challenges facing us, they are among those most affected by the consequences. New projects present a great threat when located on indigenous lands. Regardless of whether an encroachment is green or non-renewable, it has a negative impact on indigenous land use and adds to the pressures on indigenous people and their traditions. There is no "no man's land" anymore; the landscapes and ecosystems we see in the Barents Region today have been shaped by thousands of years of co-existence and mutual influence between nature and indigenous activities. In some vulnerable areas, new infrastructure has led to catastrophic results. Indigenous people need to be actively involved in decision-making to be part of solutions.

The mitigation of climate change calls for new technology. For example, renewable energy and minerals for battery production will increase land use. What dilemmas are caused by such new infrastructure? He argued that we need to be careful to avoid replacing the climate crisis with a new biodiversity crisis. The core problem for our society is the increase in our non-renewable consumption. He emphasised that we need to cut back consumption drastically, and to recycle and reuse materials like copper, which is 100% recyclable, and to improve our energy efficiency.

Regarding land use, how do you see possibilities for cooperation or co-existence?
We need to distinguish between different land uses. They are not equal in terms of quality, traditional importance or protection under international law. Society as a whole has to understand that we need to choose how to prioritise development projects. For example, where wind power has been built up, it may not be possible to make ski trails or build holiday homes. Again, there should be no solutions without indigenous involvement.

Perspective of regional authorities
Ylva Sardén, Senior Advisor, Region of Norrbotten

Sardén stated that the key take-aways are clear: we are talking about an all-encompassing green deal that includes sustainability in more arenas. Sustainability

has become pivotal. It is not enough simply to include climate mitigation and adaptation, all considerations need to be integrated at this juncture. One major question is how to accomplish this, that is, how can sustainability be integrated properly? The SDGs can be a tool. They take all environmental, social and economic aspects into consideration. They are indivisible, that is, we cannot split them up. We need to examine all of them and devise a package. All the various needs must be met. This does not mean that we have to address and meet all SDGs in all projects, but the overall total must improve, not get worse.

We have heard a lot about action at different levels, in a small municipality in Finland, for instance. What makes local communities important? Sardén said that it is at the local and individual levels that change will happen. The regional level exists to facilitate and make it easier for local communities and individuals, but communities and individuals are ultimately the ones that will have to implement changes. We cannot sit at the regional level and envisage that we will provide solutions so that everything will be fine if we produce just one more paper.

The final question is how can we use the Barents Region to fight climate change? Barents cooperation has been important for the climate and for building communities that share knowledge and inspire each other to arrive at a better common understanding. We should work more with collaboration and best practice change in our region, for instance, through peer reviews of different strategies implemented in our region. That would be a prudent next step.

Presentation 1:

Update of the Barents regions Action Plan on Climate Change

Henna Haapala, Chair of the Barents Working Group on Environment

«How can the BEAC (and the WGs) support the regions and municipalities in the Barents Region in transitioning to low-carbon, climate smart solutions, enhancing adaptation capacity and awareness? »

Haapala commented that the webinar had been extremely inspiring, underlining the importance of mutual inspiration and knowledge-sharing, as we have done during the webinar. She presented the results achieved by the working group, which include updating the Action Plan on Climate Change. She also wanted to mention what has not been talked about much today: The costs of climate change will be high. Some extreme weather events and phenomena, e.g. floods, storms, landslides, erosion, increased precipitation, snow-load, drought, wildfires, plant diseases and invasive

species will have serious economic and social consequences, so we need to understand them how they are interlinked in the longer term. The action plan is being updated at the direct request of the Barents countries' ministers of Environment and Foreign Affairs. They stressed the need to continue development and cooperation in the Barents Region. It is not the first time that we are here - we have devised plans before, and now we need to update them to include new knowledge and new opportunities. Considerable work has already been invested in relation to nature-based solutions and in relation to transport, as we heard from Paal Iversen. Work has also been done on reindeer husbandry and Barents rescue.

Haapala asked a guiding question on behalf of the working group: How can the BEAC (and the WGs) support the regions and municipalities in the Barents Region in transitioning to low-carbon, climate smart solutions, enhancing adaptation capacity and awareness? They would appreciate even more feedback from indigenous groups, youth, manufacturing and other groups and individuals on this question. Your suggestions are most welcome.

The working group is also planning a series of webinars next year on different topics. Participants were invited to suggest topics and to vote on the ideas listed at slido.com (use the code #274). What vision should our region be sending out to the world?

Closure of the webinar

Anne Berteig rounded off the webinar. She thanked all participants and collaborators, emphasising that we should make more platforms for sharing and learning from each other, take all views and knowledge to heart and use them to further Barents cooperation.

Photo: Anna Frizen/Unsplash

PROGRAMME

Date: Tuesday 27 April Time: 10:00 – 15:00

10:00–10:40 **Moderator: Anne Berteig,** Senior Advisor, Ministry of Climate and Environment, Norway

SESSION 1

A VISION FOR A CLIMATE SMART BARENTS REGION IN 2050 – WHERE SHOULD WE GO, AND HOW DO WE GET THERE?

1. **Opening addresses by**
   I. **Ine Eriksen Søreide,** Minister of Foreign Affairs and Chair of the Barents Euro-Arctic Council, Norway
   II. **Sveinung Rotevatn,** Minister of Climate and Environment, Norway
   III. **Helene Hellmark Knutsson,** Governor of Västerbotten County and Chair of the Barents Regional Council, Sweden
   IV. **Silje Karina Muotka,** member of the Sami Parliament, Norway
2. **A decisive transition for climate and growth – policies for scaling up clean, climate resilient infrastructure.**
   Anthony Cox, Deputy Director, Environment Directorate, OECD
3. **How can we solve the climate and biodiversity crisis at the same time?**
   Annika E. Nilsson, Researcher, Luleå University of Technology and Senior Researcher, Nordland Research Institute

10:40–11:50 **Moderator: Kristin Halvorsen**, Director, CICERO Center for International Climate Research, Norway

SESSION 2

CLIMATE SMART INFRASTRUCTURE FOR TRANSPORT, ENERGY, AND INDUSTRY

1. **The European Green Deal and EUs recovery plan – what does it mean for the Barents region?**
   Johanna Kentala-Lehtonen, Senior Specialist for EU Affairs, Prime Minister's Office, Finland
2. **Consistency with climate goals – implications for infrastructure development in the Barents region. The Barents 2050 study?**
   Tomi J. Lindroos, Research Scientist, Technical Research Centre of Finland (VTT)
3. **Climate smart solutions for energy, industry, and transport – a Northern perspective.**
   Kyrre Sundseth, Research Manager, SINTEF (the Company for industrial and technical research), Norway
4. **Panel debate**
   a) TRANSPORT
   Paal Iversen, Senior Advisor, Norwegian Ministry of Transport, and chair of the Steering Committee for the Barents Euro-Arctic Transport Area (BEATA), Norway

b) INDUSTRY – A ROADMAP TO A LOW-EMISSION TRANSITION IN THE NORTH
Michael Yulkin, Founder and CEO, CarbonLab Ilc, Russiay

c) FORESTS AND FORESTRY – CARBON SINK OR FOSSIL FUEL SUBSTITUTION?
Raisa Mäkipää, Research Professor, Natural Resource Institute, Finland

d) NGO-PERSPECTIVE
Alexey Kokorin, Head, Climate and Energy Program, WWF Russia

e) RESEARCH PERSPECTIVE
Kyrre Sundseth, Research Manager, SINTEF (the Company for industrial and technical research), Norway

11:50–12:30 **LUNCH BREAK**

12:30–13:40 **Moderator:** **Kristin Halvorsen**, Director, CICERO Center for International Climate Research, Norway

SESSION 3

MINIMIZING IMPACTS ON NATURE AND TRADITIONAL LAND-USE – POLICIES AND TRADEOFFS

1. **Combined effects on biodiversity and traditional land use from climate change and infrastructure development – projections for the Barents region.**
   Wilbert Van Roij, Director, Plansup, The Netherlands
2. **Impacts of infrastructure development and other land use change on traditional activities.**
   Gunn-Britt Retter, Head of Arctic and Environment Unit, Saami Council, Norway
3. **How are cumulative impacts from infrastructure developments integrated into spatial planning today?**
   Gro Sandkjær Hansen, Senior Researcher, NIBR Oslo Met, Norway
4. **Panel debate**
   a) CHALLENGES FOR INDUSTRY AND EXAMPLES OF COEXISTENCE AND CONFLICTS OF INTEREST.
   Pontus Grahn, Project Development Manager, Vattenfall, Sweden
   b) NATURE CONSIDERATIONS IN WINDPOWER DEVELOPMENT.
   Cathrine Henaug, Research Director, The Norwegian Institute of Nature Research (NINA)
   c) HOW COULD A CLIMATE SMART FORESTRY MINIMIZE IMPACTS ON BIODIVERSITY? WIN- WIN OR TRADEOFFS?
   Hillevi Eriksson, Climate Specialist, The Swedish Forrest Agency
   d) PERSPECTIVE OF REGIONAL OR MUNICIPAL AUTHORITIES
   Leena Vuotovesi, CEO, Micropolis, Finland
   e) PERSPECTIVE FROM INDIGENOUS COMMUNITY
   Gunn-Britt Retter, Head of Arctic and Environment Unit, Saami Council, Norway

13:40–13:50 **BREAK**

13:50–15:00 **Moderator: Mats-Rune Bergström**, Director at County Administrative Board of Västerbotten, Sweden

SESSION 4

SUMMING-UP OF KEY TAKE-HOME MESSAGES FOR THE BARENTS REGION

1. **Panel debate**
   a) PERSPECTIVE OF INDUSTRY
   Kjell Stokvik, Managing Director of Center for High North Logistics, Norway
   b) YOUTH PERSPECTIVE
   Martin Gamst Johnsen, Deputy Chair of Barents Regional Youth Council, Norway
   c) PERSPECTIVE OF NATURE PROTECTION
   Sofia Kryukova, Senior Researcher, Pasvik Nature Reserve, Russia
   d) PERSPECTIVE OF TRADITIONAL LAND USE
   Piera Heika Moutka, Chair of Barents Working Group of Indigenous Peoples
   e) PERSPECTIVE OF REGIONAL AUTHORITIES
   Ylva Sardén, Senior Advisor, Region of Norrbotten
2. **Update of the Barents regions Action Plan on Climate Change**
   Henna Haapala, Chair of Barents Working Group on Environment
3. **Closure of the webinar**
   Anne Berteig, Senior Advisor, Ministry of Climate and Environment, Norway

GJERHOLM