



Justice in Participation and Governance: A Comparative Integrated Report

2022

*Toward Just, Ethical and
Sustainable Arctic Economies,
Environments and Societies*



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JUSTNORTH Case studies 13-16 & 18



Railway:

Case Study 13:
Transportation Links and
Power Disparities: the Arctic
Railway Plans in Finland

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Mining:

Case Study 14:
Mining in the Finnish Arctic

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Livelihoods:

Case Study 15:
The Power and Perish of
Multiple Land-Use for
Indigenous and Traditional
Livelihoods in Northern
Finland

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WindFIN:

Case Study 16:
Balancing Sustainable
Opportunities in the Arctic:
Wind Power & Reindeer
Herding in Northern Finland

Researchers:
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IndEntr:

Case Study 18:
Empowering Equitable and
Robust Indigenous Economy
through Indigenous
Entrepreneurship in the
Swedish & Russian Arctic

Researchers:
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Notes

1) The European Commission terminated NARFU's participation in JUSTNORTH on 9 April 2022 in accordance with Article 50.3.1(b) of the Grant Agreement and based on Council Regulation (EU) No 833/20141, as subsequently amended, in response to Russia's military aggression in Ukraine.

2) Due to issues of travel to Russia for fieldwork and the impossibility of conducting fieldwork with remote methodologies by the team in Case Study 17 in the Covid-19 pandemic, this case study has not been included in this deliverable. Further work on the case study was cancelled in consultation with the Commission's Project Officer assigned to JUSTNORTH in late 2021.



Executive Summary

This report assesses the status of the economic sectors under consideration in case studies 13-16 and 18 of JUSTNORTH, giving a rich overview of the existing context of the economic activities through analyses of justice. The report discusses evaluations of the ethical conditions of economic activities, the risks to stakeholders and ecosystem services and finally, barriers and pathways to sustainable development under the theme of justice in participation and governance. This consolidated report integrates the research findings of and provides a comparative analysis of the findings on human and natural systems, mechanisms for reconciling multiple ethics systems, potential national or subnational regulatory solutions and finally, the ethics of sustainability. Through perspectives of value and analyses of justice, these reports conceptualise the relationship between the existing economic activity and stakeholders' ethical perspectives and criteria of sustainable development goals to make recommendations on legal and regulatory pathways towards just and ethical sustainable development in the Arctic.

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I. Summary of the findings

Considerable growth in competition over natural resources increases the risks and impacts on ecosystem services and protected natural territories on which the life and well-being of people and communities in the Arctic are dependent. Industrial infrastructure development (e.g., wind farms, mines) affects particularly traditional livelihoods and cultures such as reindeer husbandry, as well as nature-based tourism. In this report, Case Studies (CS) from Finland examined the planned Arctic Railway (CS13), mining (CS14), and wind farm (CS16) development, as well as nature-based livelihoods of salmon fishing, reindeer husbandry, and nature-based tourism (CS15). Carnivore governance affecting reindeer husbandry in Sweden was studied in the CS18. Essential questions of justice were how the land and waters should be used, by whom, who owns the right to use the natural resources, and for what purposes. While there is a need for a sustainable and just transition, little attention has been paid to the meaning of 'justice,' which is inevitably interlinked with the uneven distribution of national benefits based on national policy goals versus local benefits and risks (e.g., national climate mitigation goals pushing the development of wind farms but ignoring local negative impacts of this development), as well as cumulative and long-term consequences of Arctic economic development.

In this research project, we used a values-based approach to study multiple land-use interests and value conflicts and to identify mechanisms to reconcile these. First, the United Nations' Sustainable Development Goals (SDGs) offer a possibility to consider each development from numerous vantage points and identify potential

problems and trade-offs. Next, the concept of Ecosystem Services encompassing the so-called Cultural, Provisioning, Regulating, and Supporting services has been applied. The so-called Procedural Values, in which relevant values of equality, freedom, rights, and transparency, were used to study ethical grounds for sustainability-centric economic decision-making. Furthermore, the Substantive Values approach enabled studying human security, belonging, flourishing, and respect.

The results of this report reveal that nature-based livelihoods are substantial and essential for the flourishing of the Fennoscandian Arctic, forming the basis of well-being in these remote areas. They provide local economic, social, and cultural benefits, which are now at risk due to the cumulative land-use impacts, climate change, and strict nature protection requirements. For these livelihoods, from the point of view of the SDGs, responsible consumption of natural resources, maintenance of environmental prosperity, and innovations are highly valued.

Participatory governance and co-production of scientific and practitioners' knowledge are needed to evaluate what just economic development looks like and what kinds of long-term benefits and opportunities it can provide if planned carefully. The reconciliation of multiple land-use requires an understanding of the diverse ethical grounds based on values, the cultural and spatial requirements of the different livelihoods, and a law that holistically considers these. If the rights and responsibilities regarding natural resource use are unclear, the distribution of risks, costs, and benefits cannot be (come) just.



2. Overarching Methodology

The findings of this report are based on the JUSTNORTH deliverables D4.1 ‘Set of Contextual Case Study Papers on Justice in Participation & Governance’ D4.2 “Set of Case Study Value Indicators for Justice in Participation & Governance” and D4.3 “Set of Case Study Discussion Paper on Stakeholder Ethical Perspectives and Barriers to Sustainable Development”. These were compiled by the WP4 teams of each Case Study (CS13-16 and CS18). The purpose of this report, the D4.4, is to compare and synthesize the CS findings by providing 1) a comprehensive overview of the existing context of the economic activities studied in CS13-16 and CS18, evaluating 2) their ethical condition, 3) the risks to stakeholders and ecosystem services, and finally, 4) barriers and pathways to sustainable development.

The D4.1-4.3 analyses were based on a comprehensive review of academic literature, policy reports, and legal documents. The legal documents consisted of national or supranational laws and Acts. English translations of the laws were used, if available. The policy reports consisted of policy papers, official strategy documents, and industry reports.

For the D4.2 and D4.3, approximately eighty semi-structured interviews were conducted during October 2021-March 2022. The questions were formulated together with the case studies 13-16 and 18 team.

The interviewees were local, regional, and national governmental authorities, businesses and industries, local politicians, and local people of which some of them identify themselves as indigenous representing nature-based livelihoods in Finland and Sweden. All interviews were audio-recorded and transcribed. The interviews were conducted in Finland and Sweden (except two in Norway) and on Microsoft Teams due to the COVID pandemic. Some key informants were also invited to JUSTNORTH roundtable workshops organised in Rovaniemi, Finland, and different locations in Sweden.

To analyse the material for the D4.2, the JUSTNORTH Value Indicators Approach provided by the WPI was applied. The Value Indicator Groups encompassed Ecosystem Services Indicators: cultural, provisioning, regulating, supporting; Procedural Value Indicators: equality, freedom, rights, transparency; Sustainable Development Goals Related Value Indicators: conservation, environmental protection, sustainability; Substantive Value Indicators: human security, belonging, flourishing, respect. The JUSTNORTH Analytical Handbook (unpublished) guided the D4.3 empirical analyses. A content analysis (sensu Neuendorf 2016) was performed for the whole dataset using NVivo qualitative analysis software.

3. Human and natural systems: the perceived and desired positive and negative impacts, risks, and benefits across the economic sectors

3.1 Comparative summary organized by key actor (stakeholder) type

Table 1 depicts stakeholder perceptions of the case studies CS13 (Arctic Railway), CS14 (mining), and CS16 (wind power) on positive and negative impacts, benefits, and risks related to these industrial activities in northern Finland.

The table shows that the perceptions of stakeholders on mining, wind farms, and the Arctic Railway are heterogeneous. The benefits and impacts of the industrial projects vary spatially and temporally. For example, although there is consensus about the negative impacts of mining on natural systems locally and regionally, the perceptions on them differ, particularly considering the local level impacts. Wind power development is another example. While wind farms have significant negative landscape effects locally, they produce clean energy, contributing to national climate mitigation targets.

The positive impacts of the wind farm and mining development are related to economic benefits, e.g., such as municipal taxes. Especially mines bring along local services and employment, thus positively affecting demographics. Negative impacts relate to environmental impacts such as noise, dust, and landscape fragmentation, which

affect other livelihoods, such as reindeer husbandry or nature-based tourism.

Compared to these large-scale industries, nature-based livelihoods are practiced by local businesses and entrepreneurs and are highly interconnected with the environment, local culture, and way of life in Lapland. In addition to positive impacts on local economies, these livelihoods represent age-old traditions such as reindeer herding and salmon fishing with high cultural value. While their negative impacts on natural systems are mostly minor, the positive impacts on the human systems are significant.

The justice implications of large-scale industrial projects cannot be understood without considering their (cumulative) impacts on nature-based livelihoods which drive the land-use conflicts in Lapland, as they are all operating in the same area (Fig. 1). These conflicts cannot be resolved without considering the different ethical and value systems playing a role in the complex social-ecological-economic systems. Environmental impacts of industrial projects are not only affecting environmental values but also values of the human systems, such as cultural values.

Table I: Comparative summary of the perceived and desired positive and negative impacts, risks, and benefits across the industrial activities (CSI3, CSI4, and CSI6), organized by the stakeholder types. Impacts on human systems are represented as light-blue columns and on natural systems as light-yellow columns. The plus and minus signs denote perceptions of which the interviewees of the stakeholder group agreed upon the risks and impacts, whereas the tilde -sign “~” denotes if they disagreed.

Economic activity / Stakeholder type	Arctic Railway		Mining		Windpower	
Large industry	+	~	+	-	+	+
Local business	+	~	+	-	~	-
Indigenous organization	-	-	-	-	n.a	n.a
Non-governmental organization (NGO)	n.a	n.a	~	-	+	+
Local government	~	~	+	-	+	~
Regional government	~	~	+	-	+	~
National government	+	~	+	-	+	+
Local community members	n.a	n.a	~	-	-	-
Indigenous community members	-	-	n.a	n.a	-	-

Note: Each row represents the perceptions of a stakeholder group within each case study, e.g., local business representatives

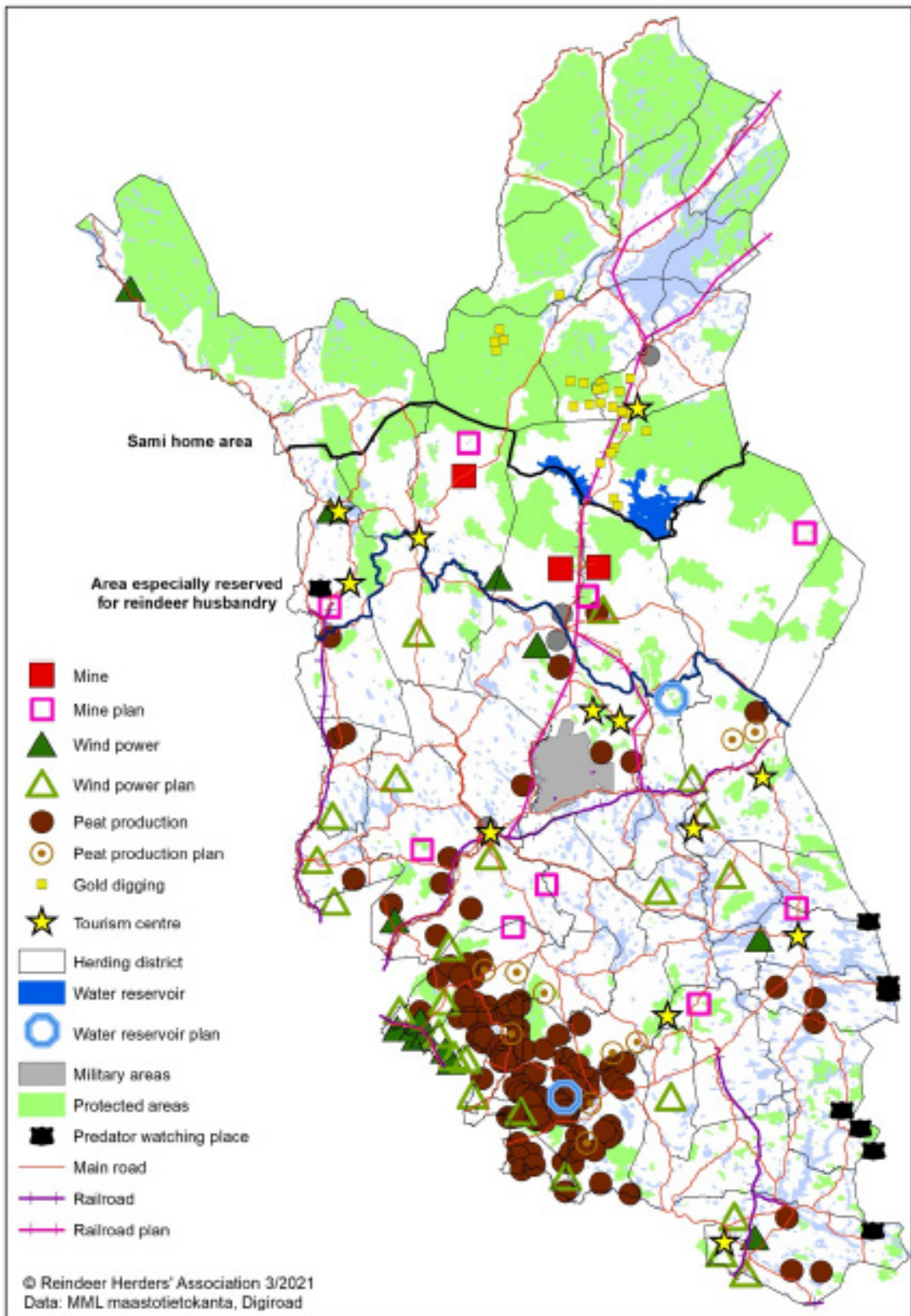


Figure 1: Land use in the reindeer husbandry area of Finland. Map credit: Reindeer Herders' Association 3/2021. Printed with permission.

3.2 Comparative summary organized by the applicable SDG

The SDGs identified as the most applicable to this report are 8, 10, 11, and 15.

SDG 8: Decent Work and Economic Growth

Employment and long-term maintenance of the local livelihoods were the central benefits of the activities examined in our case studies. The employment opportunities offered by largescale industrial projects and traditional livelihoods which benefit the local communities were emphasized across the case studies. However, current industrial resource development projects tend to have high educational requirements for workers due to high-end technologies (e.g., mining projects). In addition, these projects tend to attract and demand workers outside the local region reducing the direct employment benefits to the local communities. Economic growth per se was not an explicit point of discussion compared to the demand for environmentally and socially sustainable use of natural resources, a major theme within all case studies.

SDG 10: Reduced Inequalities

An issue discussed in all case studies concerns “historical wrongdoings” and cumulative impacts. Lapland has a considerable history of large-scale industrial development, such as hydropower and forestry. New projects, such as new mines, the Arctic Railway, and wind farms, are the latest additions to this development, which is perceived as resource colonialism by some local communities and an issue of generational inequality and related to rural vs. urban relations. These large-scale projects may reaffirm these perceptions of resource colonialism. However, the projects create jobs and opportunities for the locals and contribute directly to the local and regional economies.

SDG 11: Sustainable Cities and Communities

The environment is a part of everyday life in the rural Arctic and their livelihoods, such as reindeer husbandry which follows a seasonal cycle. Often, for local people in the north, nature relations begin as a “hobby.” It is fun to go fishing, it is lovely to get a catch, you are proud to get your hunting license and there are memorable moments spent by the campfire after picking berries in the forest. At the same time, one can observe nature and teach kids the names of the hills, lakes, and rivers and how to respect and live with nature. This nature connection which maybe seems self-evident for local people, would be essential for anybody to be able to understand the inter-connectedness of the values given to natural and human systems: the cultures, lifestyle, and diversity. Often locals feel that decision-makers outside the region are asserting their way of life and the values of the northern communities. This is why understanding this requires an exceptional ability by the officials and policymakers. This is seen by some as a manifestation of resource colonialism in the Arctic.

SDG 15: Life on Land

Mines, wind farms, and railways cause considerable local environmental impacts and landscape changes. Nature-based livelihoods impacted by them are faced with top-down governance mechanisms and regulatory barriers when trying to raise the issue. Overall, the responsibility of the states to regulate land use and industrial infrastructure projects plays a significant role in halting biodiversity loss and protecting fragile Arctic ecosystems. Environmental values are reflected by the current nature-based tourism and outdoor recreation behaviour trends and demand for learning from culture and traditions, and learning and experiencing nature, and understanding the well-being value of its silence and peace.

4. The ethics condition of the economic sectors: comparative analysis

The cultural values and practices in the northern communities are strongly connected to nature-based activities (cf. CS15, 16 and 18) and businesses (cf. CS13-16) that reflect the long history of using Lapland's natural resources. Common to all cases is that when comparing the economic activities' justice implications, there is a desire to improve participation in the planning processes and have legislation that gives the local people a fair opportunity to be heard in decision-making. This is particularly important for young generations whose future is formed now.

Awareness of climate and environmental issues

Growing citizen activism has increased public awareness of **mining and wind power** projects' environmental and social impacts. From the climate mitigation point of view, **rail transport** is a better means of transport than road traffic, which is likely to increase due to the industrial development of mines and the growth of wind farms. The media tends to highlight industrial development's positive aspects, such as the climate benefits of wind power. **Salmon and reindeer** are considered important natural products of Lapland, which are not only economically and culturally but also ecologically important. Among tourists and recreationists, environmental awareness has grown.



Socio-economic diversity in industrial infrastructure development

Heavy investments in one type of business (cf. CS14) can transform local economies into “mono-economies”, which can reduce the economic diversity and communities’ resilience.

Mining and wind power development currently strengthen the view of Lapland as a natural resource colony if they rather benefit financial hubs in southern Finland and international companies than local people and cause environmental impacts. Indeed, wind farms (CS16) employ very few people and not so many locals, even though projects are often marketed in these terms. Many of Lapland’s tourism entrepreneurs are local people, also Sami entrepreneurs. Tourism business, e.g., combined with reindeer husbandry is one way to also preserve traditional livelihoods and culture, when the income from reindeer husbandry alone can be modest.

Indigenous perspectives on industrial infrastructure development

Large-scale projects exploiting natural resources generally cause strong emotions among the locals because of the historical wrongs the previous generations have encountered with the previous land-use projects. Article 17 (3) of the Constitution of Finland contains the constitutional basis for the status of the Sami. It aims to protect the Sami’s cultural form, including their **traditional livelihoods** such as reindeer husbandry, fishing, and hunting which are now at risk due to industrial infrastructure development. The Reindeer Husbandry Act (848/1990) of Finland also states that reindeer husbandry is part of a central part of Sami culture, which must be protected.

Building the **Arctic Railway** for transporting cargo through the Sami Homeland can be seen as a new step in seeing Lapland as a national and global resource reserve. It would strengthen the resource-extractive industry, such as **mining** (cf. CS14) but likely weaken possibilities for traditional livelihoods (cf. CS15). A decision not to build the Railway would be a step towards recognizing the rights of the Sami by showing

that their culture and way of living matter and will not be swiped away as a relic of history, and building dialogue and trust are needed in any negotiations considering land use in Lapland (CS13).

Towards sustainable and just governance of nature-based activities: rules and rights

National legislation and binding international agreements on fishing are based on the premise that the fishing of migratory fish such as salmon (CS15) must be on a sustainable basis, regardless of who owns the right to fish. The basis for salmon fishing rights is that the right to fish belongs to the owner of the water area. In the case of River Teno, part of the river basin belongs to the state, part to the private owners of the watershed. However, Teno is a border river, and its fishing is co-agreed in the Teno Fisheries Agreement and regulations with Norway. This agreement should guarantee the local population’s right to fish salmon. However, according to the interviewed stakeholders, the constitutional legal basis of the agreement is lacking. Problems appear because different stakeholders compete for a large percentage of salmon fishing. Teno is a major recreational fishing river, and the agreement stipulates that part of the fishing rights will also be reserved for fishing tourists. Local tourism entrepreneurs would also like fishing tourists to have a sufficient share of salmon fishing.

If based on scientific evidence, fish stock is endangered, fishing will be strictly regulated. Ultimately, for such reasons, the government decided to ban salmon fishing at Teno River in 2021 and 2022, based on the current Agreement. This has already caused significant negative economic and cultural impacts on the area’s traditional fishing and nature-based tourism. It is estimated that Utsjoki’s economy have decreased by more than 5 million euros as a result of the fishing quota since 2017, affecting salmon tourism (details in Knuuttila et al. 2020). Since the two years total ban of Teno salmon fishing, both fishing-based tourism in the area and traditional fishing practices have been on hold.

At Tornio River, the use of the Finnish-Swedish border waters has been agreed upon in the Border River Agreement (SopS 91/2010). The primary purpose is to promote cooperation in water and fisheries matters. According to the CS15 findings, co-production of knowledge between scientists and local fishermen exists, but it has not become a regular practice yet. However, this kind of co-produced data would be needed to gain more holistic knowledge for decision-makers on such restrictions' environmental, socio-cultural, and economic impacts.

Regarding sustainable and respectful **nature-based tourism** management, the growth of nature-based tourism and outdoor recreation requires usage restrictions and guidance on resource use to protect recreational areas and avoid conflicts with traditional livelihoods such as reindeer husbandry. This has been considered in the service concept and taken seriously within the national park management by preparing management plans, including rules of order, and providing information along the recreational routes.

Fair compensation mechanisms to maintain reindeer husbandry

In the case of **reindeer husbandry** in Finland, the state compensation of climate change-related losses is usually paid to herding cooperatives, not to individual herders directly, which means not necessarily to those herders affected by the impacts the most. Furthermore, the government process for compensation decisions is considered very slow among the herders (CS15). This circumvents implementing proactive and immediate actions, such as supplementary feeding of reindeer, which is costly and work intensive. Regarding climate change impacts on reindeer husbandry, such as sudden rain-on-snow events that increase

reindeer mortality, the herders argue that compensations should be paid right after the damages occur, as has been done in Norway.

In Sweden, the negative issues are related to the current ways reindeer owners participate in the carnivore governance process in which they need to spend time and resources in negotiating policy goals that they do not even desire (CS18). The CS18 could not identify any transformative processes in the carnivore compensation system in Sweden that would lead to systemic changes that would, in turn, increase justice. Sweden's current carnivore compensation process reiterates and reinforces an asymmetrical and nonreciprocal form of participation and lacks recognition of reindeer herders. The rights of carnivores over reindeer and the interest of hunters and wildlife protection groups over reindeer herders take precedence in carnivore governance, following colonial conservation patterns. These structures and conservation ideals are reinforced by not adequately including the perspectives of reindeer herders in the planning or decision-making processes. The collective payment of carnivore compensation reinforces democratic deficits and inequality within reindeer herding cooperatives. Compensation is considered low and inadequate, and it alleviates the most urgent need of reindeer owners, which is not only about carnivore damages but also threats from other land use.

Focusing solely on compensation increases the monetization of herding but undermines its cultural value and the socio-ecological basis of livelihood. Furthermore, without looking holistically into the conditions shaping reindeer husbandry's viability and sustainable development, compensation will not help in the long term, as found by the CS18.

5. Comparative analysis of the value indicators across economic sectors

Procedural values: equality, freedom, rights, transparency

In the case of the **Arctic Railway**, the perceived lack of procedural values: transparency, rights, and equality has increased mistrust in decision-making. Legal rights and recognition of indigenous communities in the planning procedures are called for. In the case of industrial “megaprojects”, early consultations with the local communities are considered very important: the rights and wellbeing of Sami are the critical values from the land use and regulatory perspectives.

Procedural values regarding **mining** are also the ones that all stakeholders highlighted: Equality of participation in planning mining activities and related processes is considered critical. The transparency of decision-making processes, open communication, and knowledge production was seen as core values of these processes, which need to be strengthened. Local stakeholders emphasized that a proper understanding of the history and culture of the region is essential for equal participation. Uneven distribution of resources and lack of knowledge and power in processes and negotiations caused concerns among locals.

Regarding participatory processes related to **windfarm** planning in Finland, there have been significant problems with public hearings, and people feel that they are not heard. Although the hearings required by law have been organised, they have not resulted in changes that would benefit those residents bearing most of the risks. As a result of such processes, the local people do not find the procedure reliable or transparent. For **nature-based tourism** management in national parks, equal treatment of local entrepreneurs operating in the area is considered important, according to government officials.

Participatory processes in land use planning are considered of utmost importance for **traditional livelihoods**, especially from the local communities’ point of view. Strict fishing restrictions and regulatory changes considering **salmon fishing** rights limit local economic possibilities, such as salmon tourism and maintaining traditions based on salmon fishing. The NGOs call for more equality when determining catch quotas; they cannot tolerate the “power of money” of the wealthier to retain higher quotas. They argue that there should be a legal basis that reduces disputes between different groups of people.

Local **reindeer herding** communities in Finland stress that they should have a legal obligation, considering the right to negotiate when planning land use that affects reindeer husbandry. They think it is essential to be transparent and provide reliable information and guidance. Reindeer herders in Sweden perceive a lack of justice in procedural measures and clarity in enforcing carnivore tolerance levels. The authorities do not fully recognize reindeer herders’ estimations of the damage caused by carnivores. In negotiating with authorities, traditional knowledge is subordinated to the knowledge system enforced by authorities for documentation and a legitimate evidence base.

Ecosystem services: cultural, provisioning, regulating, supporting services

Both **reindeer** and **salmon** are considered a valuable part of the ecosystem services, according to all interviewed stakeholders of the CS15. The tourism entrepreneurs of the CS16 fear that the value of cultural services may decline due to biodiversity loss and sudden habitat changes caused by **wind farms**

Substantive values: human security, belonging, flourishing, respect

Especially the analyses of values respect and human security indicated a strong tension among local communities due to a lack of respect within the planning process of the **Arctic Railway**. Human security was considered a local and national security supply issue in the CS13.

The **mining** industry is a significant contributor to local and regional economic well-being. It provides opportunities for decent work and can create a sense of belonging and inclusivity in remote regions. But modern mining is technology-intensive, and the requirements for skilled labour are sometimes beyond local labour markets. Furthermore, the economic values gained from mining can be contradictory to the flourishing of other economic sectors or social wellbeing. Moreover, mines are often the single most significant contributor to the local economy but only for a limited time. Without long-term planning, the local economy can become unbalanced and face social and economic risks.

According to the stakeholders, **reindeer herding, nature-based tourism, and salmon fishing** increase northern communities' capability to flourish and strengthen the inclusivity of the livelihoods in the North. The injustice claims of herders regarding carnivore management in Sweden are centrally rooted in substantive value conflicts concerning issues of (dis)respect to traditional know-how, which undermines human rights.

Sustainable Development Goals (SDGs): conservation, environmental protection, sustainability

Mining can undermine environmental values and values related to human security and health as mines have direct environmental impacts. All mining stakeholders considered environmental and social sustainability as the fundamental value of mining development. They agreed that environmental protection and restoration must be at the core of decision-making and planning.

Environmental protection, the need for further conservation measures, but also fears of overly strong conservation were highlighted in the **Arctic Railway** case.

Carnivores are seen as key to biological diversity and as part of the value of environmental protection. Still, in this context, the ecosystem services provided by reindeer husbandry are undervalued, according to **reindeer herders** in Sweden.

For **nature-based tourism** management in Finland, the same principles should apply to everyone, considering the diversity of local businesses but it should not undermine the region's environmental values. National parks management follows the principles of sustainable tourism, while they value conservation and emphasize responsible consumption and production, applying the Law on Metsähallitus (234/2016) To maintain sustainability, demand for innovative thinking exists. The **reindeer herders** reflected that more attention should be paid to preservation in tourism management.




6. Comparative analysis of the economic activities through the lens of barriers and/or opportunities for sustainable development

The opportunities for industrial infrastructure development are employment and economic diversification opportunities. However, the diverse interests across local, regional, and national scales create confronting ideas about social justice and sustainable land use and conflicts between different land users. The preference and value differences are barriers leading to tensions and perceived injustices related to rights to utilisation of ecosystem services. The justice issues concerning traditional livelihoods are rooted in the historical developments of common goods' use (and abuse). Especially the postcolonial, indigenous, and landscape justice perspectives applied in the case studies reflect this.

The question of rights is particularly relevant when considering to whom the land and water rights belong, is the use of natural resources distributed fairly, or who can participate in decision-making. Very heterogeneous stakeholder preferences of these were found across the different case studies. The unequal distribution of benefits and opportunities on human systems versus the distribution of environmental impacts is at the crux of the experienced injustice by the locals. Considerably intense polarisation of some stakeholder groups' opinions, attitudes, and values emerged, which seems to be a significant barrier to industrial infrastructure development such as the Arctic Railway. A vital concern of the local stakeholders is whether adverse environmental risks and impacts of industrial development could outweigh its benefits in the long run.

One strong driver of conflicts is the, topdown' regulatory steering: to protect certain fish species or carnivores, land-use guidelines, and municipal zoning to earmark certain areas for specific land use (e.g., mines and wind farms, or railroads). Lack of consideration of potential cumulative impacts in land-use governance was a frequently mentioned barrier for holistic planning.

The most significant value conflict between different stakeholders seemed to be of a procedural nature: The power of industrial development over local people's voices in landuse governance has led to injustices and even violations of indigenous and human rights. Equality of participation and information transparency were deemed important requirements for any successful planning and evaluation process. The biggest problem is that decisionmaking has been taken too far from the local level, there is no "common language" to speak, and there is a lack of trust between the parties. Even the concepts used in the different phases of the process are difficult to understand for those participating in the hearings; and the different stages of the processes are unclear. Participants would require interpreter and their own lawyer accompanying them.



7. Comparative analysis of the mechanisms for reconciling multiple ethics systems for aligning ethical grounds for sustainability-centric economic decision-making with the desired positive impacts and benefits and acceptable negative impacts and risks

The way of life in the Arctic periphery is centred around nature and ecosystem services. The biggest contradiction and problem with the current policy statements, industry and government outlooks is the ignorance and lack of knowledge of the way of life of the northern people. In the communities of the north, cultural growth occurs in a social environment where family and family relationships are essential. National authorities and policymakers require an exceptional **ability to understand the meaning and value of culture and the lifestyles, nature, and diversity** related to it. Although the risk perceptions, risk tolerance, and perceptions on just participatory processes related to natural resources management differ among the stakeholders interviewed in the Justice in Participation and Governance report, consensus on the formation of risks and negative impacts seems to exist: Land use, climate change, and state governance of natural resources are the main drivers of them. Difficult trade-offs must be made to consider whether culture should be preserved, or economic development implemented at any cost.

Land-use conflicts in Lapland cannot be solved only with legislative methods. The values of stakeholder groups are so different that we can talk about differing worldviews. Some see industrialization and economic growth as an obvious development that will gradually supersede traditional livelihoods, while others defend the possibility of continuing opportunities for age-old traditional ways of living. The current debate forces actors to **take responsibility** because local people are aware of their rights and see values in their environment other than just economic ones. All stakeholders value the environment. Still, there are varying preferences on how and by whom land-use planning and conservation measures should be done. To assess these, **participatory governance** is needed because contemporary top-down governance is considered old-fashioned and inefficient in regulating and reconciling economic development or traditional livelihood practices in a just and sustainable way.

Furthermore, to ensure the long-term social, cultural, and economic sustainability of the traditional livelihoods and maintain possibilities for future generations to practice them, some fundamental issues in the current legislation and policy on land and water use should be noticed. **Decentralisation of power** and more self-governance of traditional livelihoods would be needed to include **local knowledge** in decision-making and planning. This would also help build trust between actors across different levels of governance and increase awareness of the needs of the livelihoods. More **resources** would also be needed for local communities and livelihoods to prepare for the changes.

According to local people, tourism entrepreneurs, and reindeer herders affected by the wind power projects, the planning process has been unclear due to a lack of **transparency**. The whole process causes stress and affects the well-being of individual families and communities. The public hearing situations can be very emotional, so people should be offered **psychosocial support** because they must think about serious questions about their families' and livelihoods' future.

The CS18 from Sweden illustrates that the current carnivore **compensation** system is not able to accomplish the desired outcome to significantly reduce the impact felt by carnivore damage on reindeer husbandry. The carnivore governance system lacks **inclusivity** as it does not acknowledge the **traditional knowledge** of reindeer herders about carnivore damage, thus failing to provide peaceful and inclusive societies for sustainable development. Carnivore governance needs to build on indigenous rights of consultation and **self-governance**. Indigenous claims on carnivore damage are not classifiable by data collection legitimized by authorities and need to be acknowledged by accumulating a **knowledge base** for how carnivore damage and presence could be approved using traditional ways of knowing.

Balancing between differing worldviews is, in principle, the purpose of the state in Finland. Still, in practice, past historical wrongs have eroded the locals' confidence in the national aims and made land-use conflicts extremely difficult to solve. The case of the Arctic Railway shows that historical wrongs, together with diminishing space for engaging in various old and new business activities, make conflicts of values between stakeholders sometimes irreconcilable justice issues. **Early consultations and dialogues** to build trust would help



Public authorities and mining companies should use **more time and resources to interact** with those potentially affected. Moreover, continuous interaction after formal decisions would help understand local people's needs. The government of Finland has also achieved a political agreement that it will introduce a **mining tax**. The Mining Act reform and related mining tax reform would significantly change the role of local governments. The regulation concerning pollution is becoming quite strict. The lack of obligatory **ecological compensation** for mining is considered a significant deficiency in case of biodiversity loss.

So far, a mining permit is always granted if a mining project fulfills specific technical requirements, and environmental permits are given if the project meets environmental standards. Social implications of mining for the area may be considered only if there is a clear and observable link between environmental and social impacts. **Spatial planning** will allow a local government to make decisions from a larger perspective. It can prevent the realization of a new mining project if it considers that negative impacts on other livelihoods and local people exceed the benefits. Consequently, the crucial issue is how democratic decisionmaking functions locally.

Although a mining company should cover the direct monitoring costs according to the "polluter pays" principle, the local government could **strengthen its expertise and abilities** to contribute to **collaborative monitoring** programs with local people. However, there is a challenge to which new reforms are unlikely to bring improvements. For example, due to the loss of pastures, reindeer herding suffers from mining. Because no new pastures are available, spatial planning or increased revenues cannot directly solve this problem.

Linking the justice issues identified in our empirical material to **EU policy and law** is challenging. Local people are drawing attention to concrete and visible matters at the local level, and the role of strategic decisions made at high political levels might be less visible. While the EU environmental law has shaped some domestic environmental legislation, particularly those related to pollution and nature conservation, our interviews do not suggest that EU policy and law would be a significant reason behind injustices experienced at the local level (cf. CS14). Issues in the hands of regional or national governments seem to play a more prominent role. Would, for instance, the mining industry face severe setbacks; it could create a need for **funding mechanisms** relevant to the revival of the economy or cleaning and restoring the environment.



8. Summary of the potential national, or/and sub-national (and, if applicable, international) legal and regulatory solutions for the implementation of such mechanisms

Rights to use land and water areas for recreation and traditional livelihood

Nature conservation requires certain restrictions for outdoor recreation to maintain environmental values. The so-called Everyman's Right in Finland (Ministry of the Environment 2021) constitutes a very relevant part of the steering of nature-based activities since 96% of land falls under this rule (see also Konu et al. 2017). This right allows recreational access to nature (e.g., hiking, berry-picking) anywhere in the Finnish countryside, regardless of land ownership. However, specific permits, such as using motor vehicles, camping, fishing, or hunting, are beyond this Right.

Salmon fishing is subject to national legislation in Finland and Sweden (Fishing Act 379/2015). The management of the salmon-rich border river Tornio is shared between Finland and Sweden. The current Border River Agreement (2010) established the Border River Commission, a cooperation body between Sweden and Finland at River Tornio. It has the power to decide on matters relating to the use of the river. According to Finnish law, the right to fish belongs to the owner of the water area. However, there are several exceptions to this general rule. One such exception is the so-called salmon rule, 'lohiregaali' (Joonas 2015). It means that while the fishing of other fish species belongs to the owner of the water area, fishing for salmon and trout belongs to the state in rivers which flow to the Baltic Sea. This is the most important rule in Finland, although very controversial, specifically for the Tornio River watershed. In the case of the other significant salmon river, the Teno, the fishing rule divides those entitled to fish into three categories in which fishing rights differ (CSI 5). The first group consists of persons permanently residing in the Teno River valley, the second group consists of permanent residents whose right to fish is based on ownership or a special right, and the third group consists of non-residents or persons with either fishing rights (see ELY Centre 2019). As the Teno River does not flow into the Baltic Sea, it is not claimed on behalf of the Finnish state through the 'lohiregaali'.



Based on the Reindeer Husbandry Act (848/1990) in Finland, reindeer may only be owned by citizens of the countries belonging to the European Economic Area who have permanent residence in the reindeer herding area, and reindeer herding co-operatives. This means also that reindeer herding in Finland is not restricted to indigenous Sámi. Reindeer can graze freely, independent of land ownership, in the reindeer husbandry area, which covers 36 percent of Finland, although reindeer are themselves privately owned. Reindeer husbandry as a subsector of agriculture is governed by the EU and the Ministry of Agriculture and Forestry of Finland. Regional governmental authorities (ELY Centres) are responsible for the implementation of laws and regulations concerning reindeer management and land use in the reindeer management area set by the state. The Ministry steers the number of reindeer in the reindeer husbandry area of Finland to ensure sustainable use of pastures. In Sweden, the right to reindeer herding is restricted to members of a reindeer herding cooperative (RHC), which also has hunting, fishing, and forest use rights. The economic functions of the RHCs are regulated since the RHC cannot engage in other economic activities than distributing the right to herding according to 9 § of the Reindeer Husbandry Law (Rennäringslagen: SFS 1971:437 t.o.m. SFS 2018:364) with the help of a Reindeer Use Plan (Renbruksplan). The county administrative boards (Länsstyrelse) decide how many reindeer the land can withstand concerning grazing pressure. The number of reindeer that each RHC can allow to feed on the pasture is regulated by the county authority in consideration. Meanwhile, state intervention has been more decisive in countervailing other negative factors.

Regulations for industrial land use

Land-use targets help mitigate and adapt to climate change, safeguard biodiversity and the values of the cultural environment, and improve economic renewal opportunities (Ministry of Environment, 2017). The Ministry of Transport and Communications of Finland approves railway track plans and road plans by the Centre for Economic Development, Transport and the Environment (ELY Centre). In principle, plans must be based on a legally binding formula (provincial plan, master plan, and town plan). Furthermore, there must be a proper plan on land use (Land Use and Building Act 199/132) and Environmental Impact Assessment (EIA). The planning process occurs in zoning and disagreements are resolved in administrative courts.

The mineral ownership regime is fundamental for regulating mining activities. In Finland, it is based on a claim system, one of the three basic types of the regime worldwide, the two others being the concession system and the land ownership system (Liedholm Johnson 2010). The company that discovers a mineral deposit has a legal right to exploit it regardless of the will of landowners on the condition that the activity fulfils environmental and other legal requirements. There is a need to acquire a mining and mining safety permit for the establishment of a mine and the undertaking of mining activity and an exploration permit for exploration projects. Land use planning decision under the Land Use and Building Act (132/1999) precedes granting a mining permit. This is the most important decision made at the local level during the whole duration of a mining project in Finland. The Mining Act 621/2011 serves as the legal basis for any mining permit application submitted after it enters into force. As the authorization was called previously, applications for a mining patent are subject to different rules under the old Mining Act (503/1965.) Permits are valuable assets and can be transferred to another company.

Wind farm construction is based on the same regulations as other construction in Finland. Whether an area is suitable for wind farms is decided in a provincial plan, master plan, or town plan. The Land Use and Building Act is used to determine whether the site should be zoned for the construction of wind farms or whether the power plants can be built based on permit solutions. When the wind power area is in the provincial plan or master plan, wind power plants' siting can be implemented with permit solutions without a detailed plan (Ministry of the Environment 2011.) Based on permit solutions alone, a wind farm can only be built in areas where there is little need for coordination between wind power construction and other land uses and no specific environmental values. Such sites may include, for example, industrial, port, and storage areas and their immediate surroundings. In wind power construction projects, the Territorial Surveillance Act (755/2000) requires the Air Force Headquarters' opinion and the regional administrative authority (military county) of the Defence Forces competent in the area.

Indigenous and human rights, human security

It is necessary to pay close attention to the specificity of the rights attached to Indigenous peoples' status under international law. Finland is committed to several international human rights treaties. These agreements include, e.g., the International Covenant on Civil and Political Rights (ICCPR) and the UN Declaration on the Rights of Indigenous Peoples, and the UN Human Rights Conventions. By amending its Constitution and national legislation, Finland has aimed to meet the requirement of the ILO Convention No. 169 concerning the rights of Indigenous peoples – a Convention that Finland has not ratified. Still, the Convention is used more as an ethical guideline to safeguard and implement indigenous peoples' rights. The national legislation on the Sami Parliament, the Sami Language, and Article 17 of the Constitution are stipulated in line with the Convention (Joonas 2020). On a national level in Finland, the Act on Sámi Parliament (974/1995) gives cultural autonomy to the indigenous Sami. The organ to govern this autonomy is the Sami Parliament. In Sweden, the Reindeer Husbandry Law (Rennäringslagen: SFS 1971:437) formulates the state's intentions to support reindeer husbandry's maintenance as the base for Sami ways of living with economic means.

In the case of mining, landowners are entitled to full compensation for economic losses and a small exploration fee. Still, in general, there is no special mining tax or mining royalties to be paid to the municipalities as in many other countries. Mining companies are paying taxes like any other company. The Council Directive 92/91/EEC sets the minimum requirements for improving workers' safety and health protection in the mineral-extracting industries through drilling.

If there are settlements in the vicinity of wind farm construction, the construction may require an environmental permit issued according to the Environmental Protection Act (527/2014). An environmental permit is always needed if the wind power plant may cause an unreasonable burden within the meaning of the Law on Certain Neighbourhoods (26/1920). Such effects can arise from a wind turbine's operation, such as running noise and flickering of rotating blades. Municipal Environmental Protection Authority addresses that environmental permit issue.

The EU's agricultural and nature conservation policies provide financial mechanisms to substitute or compensate for losses of reindeer herders. The subsidies consist of agricultural subsidies and predation compensation regimes. For example, in Sweden, different types of compensation are the following: Catastrophe compensation (Ordinance of Compensation, Förordning om ersättning: SFS 1994:246) (Sametinget 2009, 2020a), Grazing compensation (Rennäringsförordning: SFS 1993:384), Wildlife Damage Ordinance (Viltskadeförordning: SFS 2001:724) for damages caused by predators (Sametinget, 2013). There are also compensations for reindeer killed by traffic accidents (Trafikförsäkringsföreningen 2013).

Rights to participate in planning and decision-making processes

According to the Act on Railroads (304/2011) and the Wilderness Law (62/1991), planning a railway through wilderness involves negotiations with those locals who practice traditional livelihoods in the area. Negotiations must occur when industrial activity may affect the Sami cultural rights (Act on Sámi Parliament 974/1995: §9). The Act on the Sámi Parliament means that the project must be negotiated with the Sami Parliament when planning construction in the Sami Homeland. This, however, is a controversial issue of justice since there are Sami living outside the Homeland area and practicing traditional livelihoods. The Supreme Administrative Court of Finland just ruled on this in a recent case concerning the planned Sokli mine in Eastern Finland (Supreme Administrative Court 2022:38, 24.3.2022).

For any land-use projects in Finland, it is also necessary to evaluate the project's effects on reindeer husbandry and negotiate and request opinions from the relevant herding cooperatives and the Reindeer Herders' Association (Paliskuntain yhdistys). Reindeer herding as a traditional Sami livelihood is considered part of the Sami culture. The *Reindeer Husbandry Act's* restrictions on the use of sites must be considered in the reindeer husbandry area. The mining authority granting a permit under the *Mining Act* must assess in cooperation with the Sami Parliament, reindeer herders' cooperatives, and other impacts of the activity on the maintenance and development of the Sami language and culture how to mitigate or avoid adverse effects. However, this and other provisions of the *Mining Act* concerning the reindeer husbandry and the various forms of involvement of reindeer herding cooperatives apply only to the northern part of the reindeer husbandry area under the *Reindeer Husbandry Act*, i.e., the so-called 'Area specifically intended for reindeer husbandry.

The EIA procedure, which pertains to all environmental impacts (emissions, biodiversity, landscape, etc.), is procedurally separate from the permitting processes. It consists of obligatory participatory processes, such as public hearings that must be implemented in large-scale land-use projects and consultations that are not necessarily obligatory (Fig. 2).

Environmental protection

The way how the state sets the highest permissible number of reindeer is driven by the needs of other land use and the ecological carrying capacity of pastures, and it is therefore strict (Kumpula and Siitari 2020). In the case of **salmon fishing**, legislation and binding international agreements are based on the premise that the fishing of migratory fish must be on a sustainable basis, regardless of who owns the right to fish.

The assessment of transboundary environmental impacts has been agreed upon in the Espoo Convention, 25 February 1997 (Koivurova et al., 2012). The EIA procedure precedes all permit and land-use planning processes but does not have legal effects. The assessment produces information but does not result in immediate changes in the legal rights and obligations; however, this information must be considered in the permitting and land-use planning processes, such as the **Arctic Railway**.

As of 2011, the construction of a wind farm requires the application of the EIA procedure following the EIA Act in situations where the project includes at least ten windmills, or the wind farm's full capacity is at least 30 megawatts. Besides, the Wilderness Act restricts wind power construction to wilderness areas, so that the structure of permanent roads in these areas is prohibited. Hydroelectric construction of wind farms requires a permit under the Water Act, and if the construction of a wind farm on land impacts waters, it also requires such a permit.



The evolution of most national environmental laws is strongly linked to the development of the EU law. The Natura 2000 network of protected areas and the Habitats and Birds Directives (92/43/EEC and 2009/147/EC); Water Framework Directive (Directive 2000/60/EC); Directive 2006/21/EC on the management of waste from the extractive industries; Directive 2008/1/EC concerning integrated pollution prevention and control; Directive 2012/18/EU on the control of significant accident hazards involving dangerous substances; and Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation, and Restriction of Chemicals.



Figure 2: Public hearing on wind farm development in Finnish Lapland. Photo credit: T. Joona 2021.

Exploration projects do not require other permits than that defined in the Mining Act unless they will take place in a protected area or otherwise cause risks to nature conservation values under the Nature Conservation Act. Mining projects are bound by environmental and other laws, which touch upon various economic and environmental social sustainability aspects.

The key instrument for pollution control is the environmental permit under the Environmental Protection Act, which

transposes the Industrial Emissions Directive (2010/75/EC). It is the critical instrument that the Good Ecological Status as defined in the EU Water Framework Directive is achieved or maintained. Establishing a mine in a protected area is prohibited unless a derogation is granted. It is noteworthy that the European Commission seems not to see any principal objection to a mining project in the Natura 2000 protected areas so long as necessary safeguarding measures are taken (European Commission 2011).

9. Ethics of sustainability – methodological recommendations

The Arctic region is often described as a test laboratory and an early warning system when discussing climate change and its effects. It is said that these effects are more pronounced in the Arctic region than in other parts of the world. To restrain climate change and consider the new geopolitical situation of Finland and Sweden, it is considered necessary to find new ways, e.g., for energy production (Fig. 3).

When looking into the information produced in the project and the case studies 13 to 17 and 18, it is relatively straightforward that the situation in terms of preserving natural environment and ecosystems, on the one hand, and the use of natural resources for sustainable economic development of the Arctic region, on the other hand, is paradoxical. When we examined the ethical perspectives and values of stakeholders regarding the impact of the development of new economic projects on their community, and the ecosystem services they enjoy and rely upon and analysed the value indicators to identify barriers to sustainable development, we paid particular attention to how projects are implemented. We considered, whether they are sustainable in people's minds and in practice, the processes are transparent, and everyone has an equal opportunity to participate in planning and decisionmaking. We noticed shortcomings in the planning processes and gaps in legislation such as in the Mining Act reformation and salmon fishing regulation.

We also considered whether top-down decision-making is the only way 'to go'? Individual rights, decentralisation of power, and their importance in the context of large industrial projects also came up very strongly in the case results. People have felt powerless in the past and considered the possibilities and resources to act very limited. In this context, it is also worth mentioning the rights of the indigenous people, which have not been sufficiently recognized. It should also be noted that the legal protection of traditional livelihoods, such as reindeer husbandry and salmon fishing, is currently weak. Based on the analysed material, it can be said that the benefits and harms of industrial infrastructure projects are not distributed fairly. This can be seen particularly clearly in connection with wind power construction and the Arctic Railway.

Finally, it can be stated that the topics of the WP4 case studies are even more relevant than at the beginning of the JUSTNORTH project. In 2020, we only experienced the start of the COVID pandemic era, which has been going on for more than two years. The global pandemic has affected the project in many ways and how the world has changed. In February 2022, Russia's invasion of Ukraine started a discussion about energy supply and security of supply. So far, rising prices cause uncertainty about the future. People all over Europe want to show solidarity with the people of Ukraine. However, Finland and Sweden are far away, in the Nordic region. As the cold winter approaches, it will be to handle the rising prices of electricity and fossil fuels in this area. In the north, private cars are almost the only alternative for getting around, and heating houses with electricity is very common. A plan to construct an Arctic railway to the Arctic Ocean may not be entirely out of the question if it is said to be of public interest, like the reconstruction of Finland after the war and the damming of the rivers connected with it. However, it can be concluded that Europe, including Finland and Sweden, has been poorly prepared for the situation we are living in now, and it will be difficult for people to endure.

The findings of this research project can be used to prepare recommendations for regulatory and legal pathways toward sustainable development. From the point of view of utilizing the natural resources of the Arctic region and transitioning towards just, greener societies, it is of the utmost importance that the current uncontrolled situation is approached through a comprehensive, holistic vision that takes the values and worldviews of different stakeholders into account but also the cumulative effects of various economic development projects.



Figure 3: Wind farms in the northern landscape. Photo: Finnish Wind Power Association.

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