Chapter 7
MINING IN THE EUROPEAN ARCTIC

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Key Messages:
• The upsurge in mining activity is a clear trend in the region but developments are highly dependent on the fluctuating prices of minerals on the world market.
• The European Arctic is seen as a politically and economically stable region, characterised by high-quality regulation.
• Both industry and (indigenous) Arctic communities ask for better and improved communication and decision-making processes throughout the entire mining life cycle.
• The EU is a major consumer of Arctic raw materials and is promoting domestic mineral extraction to increase security of supply.
• Mining activities take place within a framework of EU regulations, including mitigation of environmental impacts.

Recommendations to the EU:
• Facilitate the collection and sharing of data, knowledge and information.
• Develop an integrated view on the mining sector and transparent policies.
• Harmonise environmental, economic and social assessments.
• Improve dialogue and meaningful consultation, particularly with indigenous and local people.
• Support international governance and cooperation to enhance responsible mining.
Mining’s role is crucial in creating employment in areas of high unemployment. Industrial activities always have some impact on their close surroundings, but the footprint of mining operations is relatively small comparing to many other activities, and modern mining can be done in a way that is causing minimal impact on the environment.

Representative of the mining industry, Finland

The environmental impact assessments are sufficient, but there is need for developing social impact assessments that mirror the land use needs by indigenous people. Their land use and the conditions for reindeer herding are threatened by different interests and exploitation activities (not only mining).

State agency, Sweden

Mining lasts only some tens of years but the nature forever, and that is why the nature and the local inhabitants must be respected.

State agency, Finland

In the case of indigenous peoples and their livelihood, they are seen as local people and the matters such as local/regional employment is rated higher than traditional indigenous economy. [on the consideration of social and cultural issues in decision-making regarding mining activities]

Reindeer herder and a member of Sami Parliament, Sweden

The quotes come from respondents to the online questionnaire – an element of the consultation process within the ‘Strategic Assessment of Development of the Arctic’
7.1 Introduction

The European Arctic contains vast amounts of mineral resources. Extracting minerals in the Arctic appears to be both challenging and expensive. Yet today the region is experiencing an upsurge in mining activity as high market prices and improved technology have triggered interest and action by mining companies. Mining may be viewed as not only an opportunity for wealth creation, but also a threat to people’s livelihoods.

This chapter deals with the current increase in mining activity – with a focus on traditional metallic ores and rare earth elements – in the European Arctic, including Greenland and to a lesser extent Northwest Russia. It provides a general overview of mining and its impacts on the environment, economy and society. In addition, the implications for the European Union (EU) are discussed through the identification of EU interests regarding extraction of minerals and by assessing relevant EU policies.

7.2 Current Upsurge in Mining Activity

The upsurge in mining activity is a clear trend in most Euro-Arctic regions. The states of physical infrastructure, regulatory and administrative frameworks, human resources and the societal awareness of mining vary from one country to another. There is a long history of mining in regions such as Fennoscandia, Svalbard and Northwest Russia. These regions have well-established social and physical infrastructure accompanied by regulatory frameworks to ensure that mining is a well-integrated part of the economy. In contrast, large-scale mining in Greenland is a relatively new activity, where there is little infrastructure and the technical challenges are sizable.

Until recently, mining in Fennoscandia was thought to be in decline or stable at best. Today, greater private sector interest and government attention are giving clear signs of a rapid increase in mining activity. At the end of 2013, there were more than 40 active mines in Sweden, Finland and Norway, including mines that were reopened in the last decade and projects in the early phases of development (see Figure 7.2.)

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1. The focus here is mainly on traditional metallic ores (base and precious) and rare earth elements (REEs). Industrial minerals and gemstone mines are generally excluded. The geographical coverage is the broad Arctic area as defined by the Arctic Human Development Report (2004). However, some examples and data from the Barents region are used. Some statistics refer to entire Nordic states.

2. The mining activities are developing so quickly that reliable and comparable data are hard to obtain.

Mining activities in Northern Fennoscandia and Greenland

Figure 7.2: Mining Activities in Northern Fennoscandia and Greenland.
Credit: Ricardo Pravettoni, GRID-Arendal 2014.
Many Nordic communities are both excited and concerned by the planned developments, particularly in areas where traditional activities such as Sámi reindeer herding take place. Most Nordic countries recently revised their mining legislation or adopted strategies to stimulate mining development by focusing on economic opportunities. Moreover, in response to social concerns, there are numerous regulatory and research efforts (both by public authorities and the industry) to ensure responsibility in mining activities. For example, Sweden is investing considerably in infrastructure projects and in research and development. In 2011, the Finnish government issued a new Mining Act explicitly aimed at promoting mining in a socially, economically and ecologically sustainable manner. Nordic governments and agencies have also started initiatives focused on research and co-operation, such as the Finnish Funding Agency for Technology and Innovation’s Green Mining programme; the Norwegian state programme for gathering geophysical data; and the establishment of a Nordic network on mining expertise – NordMin (with the participation of Greenland).

Russia is among the world leaders in mineral production. In northwest Russia, the mining industry has a significant presence on the Kola Peninsula, the Komi Republic and the Republic of Karelia. However, the Russian mining industry has several obsolete plants, a comparatively slow rate of innovation and low labour productivity. Nevertheless, Russia is expected to invest in new exploration activities and strengthen business relations with neighbouring countries.

Greenland has major potential for mining in the known geological occurrences along the coast. In this typical frontier region with limited mining infrastructure and challenging physical circumstances, the number of mining licences issued increased from 39 in 2000 to 115 in 2013. In 2013, Greenland had one operating gold mine (Nalunaq Angel Mining) and a number of projects in advanced stages of development. This includes the rare earth oxides deposit at Kvanefjed, which is second in size only to rare earth element (REE) deposits in China. As mining is not yet well integrated into the overall economy, Greenland will be particularly sensitive to the boom and bust character of the industry and the risks of economic decoupling, that is, a situation in which economic benefits are exported to other regions. Recent policy and regulatory changes instituted by the Greenland government favour mining development, expecting that revenues will help finance expansion of its autonomy and possible independence. However, it has been estimated that Greenland would require 24 large-scale and profitable mines in order to cover the current budget transfer from Denmark. In the final quarter of 2013, amid much controversy domestically, the Greenland government lifted its ban on uranium mining.

7.3 Drivers

Having the appropriate geology is a condition for development. The European Arctic has significant mineral occurrences: the Fennoscandian Shield contains minerals that are found in limited locations around the world and Greenland holds great potential for many minerals, including REEs and uranium. A number of drivers can be identified to explain the present trend.

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4. Koivurova, T. & Stepien, A. (eds.) (2008), Reforming Mining Law in a Changing World, with Special Reference to Finland, University of Lapland, Rovaniemi, Finland.
8. What is under the ice sheet is largely unknown.
14. Geologically, the Fennoscandian Shield is an exposed portion of the Baltic Shield and includes territories of Norway, Sweden, Finland, and Russian Kola Peninsula and Karelia.
The main driver of the current upsurge is growing *global demand for mineral resources*, pushed by modernisation in emerging economies such as China and India, as well as by the deployment of advanced technologies such as wind turbine generators, mobile phones and hybrid cars, which require REEs and other critical minerals.

*Advances in technologies* that serve exploration, operation and transportation in mining are making Arctic resources more accessible and less expensive. Examples include improved seismic exploration and mapping technologies and methods to mine in permafrost.

Further, the *legal, administrative and political landscape* supports development, although there is resistance from some stakeholders such as reindeer herders and tourism organisations. Of relevance is also the role of consulting companies conducting environmental impact assessments or economic feasibility analyses in terms of their competence and interaction with mining companies and administrations. The investments of states and the private sector, including junior companies, determine the extent of geological knowledge and new discoveries.

To a modest degree, physical changes due to *climate change* influence mining activities through easier (or cheaper) sea access to resources (in particular in Greenland), longer operating seasons, and possibly via lower transportation costs due to shorter shipping routes. However, climate change also ushers in new challenges and hazards for the industry.

### 7.4 Impacts

The impacts of mining activities differ depending on the stage of mine development, the type of mining activity and the existing infrastructure. The decision on whether or not to explore and mine should ideally be based on an integrated assessment of the inter-related environmental, economic and social impacts. Importantly, exploration and exploitation result in different impacts and are usually regulated differently, also in terms of taxation or impact assessment requirements. Exploration, even if successful, is not always followed by extraction activities.

#### 7.4.1 Environmental Impacts

Besides visible changes in the landscape, the environmental effects of mining can include the pollution of water, air and land. These impacts may continue long after the operative phase of the mine. Mining may alter the landscape, destroy reindeer grazing grounds, migratory routes and jeopardise fishing in rivers, lakes and seas. Sensitive Arctic ecosystems require long recovery times after environmental degradation. The nature of impacts varies depending on local conditions, type of resource and applied technology.

In particular, many communities have long-term concerns about what will happen after mine closure. As the boom-and-bust cycles of mining can turn active mines idle, there is concern about environmental management during periods of inactivity. A critical question is how to manage waste, decommissioning and rehabilitation when a mine ceases operation. Nowadays, operators are legally required to have a mine closure and...
environmental restoration plan in place, but this is the most difficult phase to monitor.\textsuperscript{18} Environmental impact assessments (EIAs) are intended to identify impacts and mitigation measures for the likely environmental and social impacts of the proposed mining activity, but they may not adequately address all the concerns of local and indigenous communities, tourist operators and environmental NGOs. Many stakeholders express particular apprehension regarding hazards and accidents during mine operations. For example, at the Talvivaara nickel mine in Finland, large quantities of contaminated water leaked into surrounding rivers and lakes in 2012 and 2013.

Assessments of ecosystems and socioeconomic impacts must take account of other activities, such as wind power, infrastructure and other mine developments, and measure the cumulative impacts. Importantly, environmental performance is more and more connected to the economic feasibility of mining operations. Companies are required to uphold high environmental standards. These standards are increasingly an important factor in investment decisions as major environmental accidents put companies in a difficult financial situation and adversely affect the perception of the whole industry (as is the case with the Talvivaara mine).

\subsection*{7.4.2 Economic Impacts}

Developing a mine involves investment flows, employment opportunities, trade and transport spending. Local employment can have positive impacts also at the national level. It generates multiplier effects as local consumption increases and demand for goods and services boosts economic activity. Several mining companies now have stringent local content requirements, which may improve local employment.\textsuperscript{19} These benefits should continue after a mine closes, in particular with regard to minimising the impact of job losses. Many mining companies have adopted a Corporate Social Responsibility (CSR) agenda as part of their strategy to acquire their social licence to operate (trust, acceptance and support of communities). In addition, there are also general company and government investments, such as education, infrastructure and healthcare.\textsuperscript{20} Royalties, fees or taxes can generate significant revenue for regional and national budgets. Royalties as such have not been introduced in Nordic countries and mining-specific fees or taxes are comparatively low. As a result, the main budget income is from general tax systems or (e.g. in the case of LKAB) profits generated by state-owned companies. However, the economic benefits from tax revenues depend on associated increases in government expenditure.

In order to be economically sustainable in the long term, some negative economic impacts must be mitigated. The costs and benefits of mining may be unfairly distributed between stakeholders, in particular where regulatory frameworks for equitable benefit, tax sharing and social and economic impact assessment provisions are insufficient. For some municipalities the costs of the increased needs for public services, such as health care, are not compensated by the local tax gains associated with mining. In addition, mining may contribute to an overall strategy of economic diversification in some regions and thereby complement the employment structure, with family members being able to work in various industries. However, it may also take away jobs from other local economic activities, such as reindeer herding or tourism.\textsuperscript{21}

\textsuperscript{18} Kauppila, P., Räisänen, M. L. & Myllyoja, S. (Eds) (May 2013), (Best environmental practices in metal mining operations). The Finnish Environment Institute (SYKE).

\textsuperscript{19} Mining Association of British Columbia (October 2011). Economic Impact Analysis, \url{http://www.mining.bc.ca/sites/default/files/resources/pwcmining-economicimpactanalysis_1.pdf}. Accessed 1 July 2013.


7.4.3 Social Impacts

Social impacts are both the positive and negative changes to many aspects of the culture and livelihoods of local and regional populations and communities, and are closely related to the economic and environmental impacts. The social effects of new and existing mining activities occur mostly at the community level, potentially transforming the local economy, society and cultures, both indigenous and non-indigenous.22

Mining activity potentially creates local jobs, infrastructure, services and businesses, and thus helps to address various social problems typically faced by remote small Arctic communities (see Chapter 7). The associated development of transport infrastructure improves the accessibility of places that can benefit the local population and other economic sectors. In addition, local infrastructure and community services may be built or expanded to meet additional demand such as schools, administration, law enforcement, health care and emergency response. This includes the transfer of skills and technology to the local population. Some regions have adopted an active policy for local capacity building. The universities of Luleå (Sweden) and Oulu (Finland) have initiated a Nordic Mining School,23 and Greenland has opened a mining school in Sisimiut.

In many communities, mining and associated activities interfere with other human activities and land uses such as reindeer herding, tourism, fishing and transport (see Chapter 8). Regions such as Lapland have had a history of out-migration and are now experiencing a localised influx of workers. While this may bring new life to villages,24 evidence indicates that many temporary newcomers develop only a utilitarian relation to the area.25 This is often in sharp contrast to the relation that indigenous peoples have with their ecosystem. Mining can also impact the well-being and health of local populations. Impacts on leisure activities may be experienced directly, for example through noise, dust, vibrations, gaseous emissions, water effluents, or indirectly through the appearance of excavations and processing sites. Long-term impacts on the environment may also lead to health problems.


7.5 Implications of Arctic Mining for the European Union

The EU is a major consumer and importer of Arctic raw materials. The EU consumes about one-fifth of global metallic metals production, while its own production amounts to roughly 3%, and due to the limited number of new discoveries this reliance on imports is expected to rise in the coming decades.26 Import dependence has made the security of the supply of raw materials a top policy priority, particularly for critical raw materials with deposits in the Arctic.27 The European Commission

Importance of Minerals Production in Fennoscandia and the Russian North for the EU

In general, a significant share of EU minerals production takes place in Arctic regions, though data for all minerals is not available. Sweden and Finland together are the principal mining and processing regions for the “EU35” – EU member states, EEA, EFTA and candidate countries including Turkey. In 2011, they accounted for 17.5% of EU35 silver production, 28% of gold, 10.5% of copper and 27% of zinc. In addition, the Russian North has significant mineral deposits and production, with the Murmansk Oblast (over 200 deposits of 40 types of minerals) contributing 80% of rare metals, and the Arkhangelsk Oblast housing the largest bauxite mine in Europe. With regard to the critical raw materials, Finland contributes 62% and Norway 18% of EU35 cobalt production.33 Surveys in Greenland (primarily in west Greenland) indicate deposits of niobium, tantalum, graphite, platinum and other REEs.34

expects that the mining industry will account for as much as 20% of the EU’s GDP (directly and indirectly) by 2020.28 In general, it is estimated that over 30 million jobs in the EU are dependent on a stable supply of raw materials.29

A major (and potentially growing) part of the EU’s domestic hard mineral supply comes from the Barents region. Further exploitation of European Arctic minerals may significantly influence EU supply by enhancing diversification and decreasing import dependence, especially from regions considered potentially unstable. Prospects for developing important REEs and raw materials further highlight the strategic significance of the Arctic in mineral policy and diplomacy. The European Arctic can therefore be seen as a fairly safe and stable supply region. A survey among mining companies conducted in 2013 by the Fraser Institute pointed to Finland and Sweden as the most promising mining territories in terms of public policies and potential.30

Mining is important for the EU’s labour market. Notably, mining industries are international in terms of both their ownership structure and workforce. In the Barents region and Greenland, construction and operation of mines involves foreign labour, a noticeable portion of which comes from EU member states, e.g. Poland. Greenland, with its small population of 56 000, is unable to provide the 4 000 to 8 000 skilled workers that are required during the construction phase.

Environmental protection is another key interest of the EU. Mines have significant local environmental impacts. Particular operations are noteworthy for the EU with regard to greenhouse gas emission targets (e.g. nickel) and mercury pollution (e.g. gold).

Sustainable development of the northern sparsely populated regions is an EU interest as defined in treaties and demonstrated by funding programmes.31 Mining developments would add to economic diversity of these areas, but also increase their dependence on primary resource production. Moreover, the EU emphasises its commitment to the principles of cultural diversity and indigenous rights.22

7.6 Outlook to 2030

The global demand for mineral resources, in particular REEs, is likely to rise.35 Albeit with regional differences, mining in the Arctic is generally challenging, costly and uncertain, and the ongoing expansion of mining activity depends on the feasibility and willingness of investors to risk long-term investments. Technological advances will facilitate mining itself and contribute to increasing demand for certain minerals. The trend is expected to continue, including maintaining the boom-and-bust characteristics and uncertainty. Stricter regulations, for example on shipping, health and safety, and local and indigenous populations, are also expected. This should result in more attention being paid to social issues and social responsibility, and increase the importance of complying with international standards. The importance of Fennoscandia for European industry could potentially be growing due to EU and state policies that are favourable to domestic supply.

tention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density”. See the Northern Periphery Programme 2007-2013, http://www.northernperiphery.eu/en/home/ and Chapter 7 Social and Cultural Changes in the European Arctic.


35. See: e.g. Keramidas, K., Kitous, A. & Griffin, B. (2012). Future availability and demand for oil gas and key minerals. POLINARES working paper nr. 30.
The EU influences the mining sector directly and indirectly through legislation and various policy measures. EU policy aims to create favourable conditions for mining in the European north. The Raw Materials Initiative, launched in 2008, identified measures to secure supplies of raw materials for the EU from domestic and international sources. In addition, the EU published a communication aiming to tackle the challenges in commodity markets, specifically concerning raw materials. Raw material supply (current and future) from EU domestic sources is fostered by promoting investment in extractive industries and enhancing knowledge. An EU working group produced a compendium of best practices, including social issues, stakeholder engagement and transparency, as well as considering the societal benefits of minerals extraction. The Commission has encouraged member states to develop national minerals policies, set up comprehensive land-use planning policies for minerals, and to streamline permitting processes. As the focus of the Raw Materials Initiative and its measures is on facilitating mining developments in Europe, surprisingly little attention is given to establishing a comprehensive environmental framework, participatory processes or the broader social dimension of mining.

The Barents region and Greenland can be viewed as secure source areas for minerals. So far, however, EU policy-makers have not given particular attention to the potential of the Barents region – the region with the most recent exploration discoveries. The European Innovation Partnership (EIP) for Raw Materials can be an important element in this respect, as it is intended to support the high-quality performance of the European mining industry. Nordic states already have a strong position – the Finnish Green Mining programme is a good example. However, the EIP membership, which primarily consists of parties from the broader mining industry and academia, is limiting participation in the process.

Various EU regulations, many of which apply to European Economic Area (EEA) countries, contribute to mitigating the environmental impacts of mining and setting limits to resource extraction. Examples include: Water Framework Directive and Groundwater Directive; Mining Waste Directive and Landfill Waste Directive; and more broadly, the Integrated Pollution Prevention and Control and Seveso-III Directives. The Mineral-Extracting Industries – Drilling Directive establishes the minimum requirements for improving the safety and health protection of workers related to drilling

REACH Regulation 1907/2006/EC (Registration, Evaluation, Authorisation and Restriction of Chemicals) applies to the mining industry both as a user of chemicals (mines have to report the use of chemicals to the supplier) as well as to mining products (ores and concentrates in the case of chemical alteration). While materials occurring in nature are exempted from REACH, they have to be registered under Classification, Labelling and Packaging Regulation. An important framework is created by the Habitats and Birds Directives and the Natura 2000 network of protected areas. The European Commission issued guidance dedicated to reconciling the environmental objectives with the desire to promote mineral extraction. The Commission has also encouraged the mining sector to undertake non-obligatory actions to enhance sustainable development and safe operations.

Since EIAs are critically important for mining projects, the minimum requirements established by the EIA Directive (EEA relevant, revision currently underway) are of major significance for how mining projects are developed.

EU policies regarding transport also influence mining activities in the Arctic. EU initiatives such as the trans-European transport network (TEN-T) play a vital role in

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42. Directive 2006/21/EC on the management of waste from the extractive industries and Directive 99/31/EC.
44. Directive 2012/18/UE on the control of major-accident hazards involving dangerous substances.
47. Kauppli et al. (2013); Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
49. European Commission (July 2010). Guidance on undertaking non-energy extractive activities in accordance with Natura 2000 requirements.
enhancing capacity and multi-modality transport. The network has been recently updated in line with a new financial perspective. As the core EU transport network does not extend to the Barents region apart from the “Bothnian corridor” and Kiruna connection, the EU funding available for transport projects of importance for the Barents mining industry may be limited (see Chapter 9).

The recent amendment to the EU Sulphur Directive (following MARPOL convention amendments) limits the sulphur content in marine fuels after 2015, especially in the specified Emissions Control Areas such as the Baltic Sea. Some industry stakeholders fear that increased fuel costs could influence the economic conditions of mining operations in northern Sweden and Finland, thereby affecting their competitiveness. For example, Finnish industry estimated that the total increase in transport costs would amount to up to EUR 500 million per year. On the other hand, the environmental gains, especially in the Baltic Sea, are appreciated by other stakeholders.

Through its research policies and actions, EU policy has supported Arctic research on innovation and sustainability in mining in the Framework Programme 7 (FP7) and EU regional funds. Mining research projects (dealing with mining technologies, resources and sustainability) are also to be expected (first calls already published) in the Horizon 2020, where raw materials are identified as one of the key societal challenges. The need for a rise in research and development funding for exploration technology will become evident over the coming decade. EIP is currently gathering “commitments” from industry partners that may constitute bases for networking and joint projects, and could support identification of specific research and development needs under Horizon 2020.

The EU has a special relationship with Greenland, which is underlined in the 2007-2013 EU-Greenland Partnership Agreement. Mineral resources were included as one of the six areas for co-operation, although the actual focus was rather limited. Recently, a Letter of Intent between the European Commission and the Government of Greenland enlisted co-operation in: geological knowledge; analysis of infrastructure and the Government of Greenland enlisted co-operation (see Chapter 9).

Critical factors for EU decision-making include uncertainties that should be taken fully into account. Drawing on stakeholder input in the consultation process, several of the critical factors are highlighted below. Land-use conflicts, ranked high by the stakeholders, are covered in Chapter 8.

7.8 Critical Factors for EU Decision-making

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7.8.1 Global and European Demand for Resources

Mining activity remains highly sensitive to global demand for resources and commodity prices on the global market. This is particularly relevant in the Arctic, where mining is a comparatively highly capital-intensive activity. This causes a high degree of uncertainty, not only for the industry itself, but also for national economies and local communities that can be affected by the boom-and-bust character of mining.

7.8.2 Environmental Concerns and Uncertainty

Stakeholders highlighted the importance of ecosystem services and land-use conflicts in relation to mining, in particular with reference to Sámi reindeer herding and nature-based tourism. EIAs are usually in place, but the effectiveness and degree of influence of EIAs varies in different countries and is generally not straightforward, since decisions are weighed in the context of other considerations. There is also concern over the increased risks of environmental disasters and the effects of permanent or temporary closures of mines.  

minerals may be one of the key themes of the currently finalised partnership agreement for 2014-2020. Greenland is seen as a potentially significant partner with the EU for REEs. Apart from Greenland, the EU conducts raw materials dialogues and expert workshops with the United States and Russia, but so far with few specific outcomes, especially regarding Arctic issues. Free trade area agreements, e.g. with the United States and Canada, may come into effect in the near term, which may also influence the operations of international mining companies in the EU.

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7.8.3 Local Communities and Socioeconomic Impacts
At the local level, there is often uncertainty and concern about the socioeconomic effects of new mine developments, in particular in relation to effects on the workforce and composition of the population. Social issues are usually considered as a part of an environmental assessment procedure (or a separate, albeit connected process, as in Greenland) or within the process leading to benefit agreements. Multinational companies are expected to adhere to the principles of Corporate Social Responsibility and to acquire an informal social licence to operate. Nevertheless, there are many unresolved issues, for instance in relation to land ownership and use.

7.8.4 Indigenous Peoples’ Rights and Livelihoods
Mining activities and their impacts on traditional livelihoods (especially reindeer herding) are of major concern for Arctic indigenous peoples. Reindeer herding requires vast areas for winter and summer pastures. Mining may lead to the reduction of reindeer grazing areas, resulting in land-use conflicts. There are various resource governance systems and arrangements connected with the distribution of benefits in the Arctic, and there are also a variety of co-management regimes. Issues of control over resources and property rights will evolve in the near future, partly due to international recognition and increasing awareness of the rights of indigenous peoples, manifested by the 2007 United Nations Declaration of Rights of Indigenous Peoples, which includes the concept of Free, Prior and Informed Consent (FPIC).58

7.8.5 Existing Decision-Making Structures and Policy
This principle of using Free, Prior and Informed Consent for mining projects is related to the more general notion that there is a need for better and more inclusive decision-making structures and policies, where people are not only heard, but can also clearly influence decisions. On the one hand, many communities and stakeholders feel that the processes leading to decisions and the decision-making processes and structures themselves are inadequate for responding to challenges arising from mining projects. On the other hand, the industry finds itself faced with long permitting processes, administrative uncertainty and complex bureaucracy. Better and more inclusive processes are called for, including improved dialogue, communication and consultation throughout the entire project life-cycle. The existing decision-making structures need to be taken into account when policies are made at the EU level.

7.9 Recommendations
So far the EU’s role and interest in the European Arctic as a resource region has been limited. The EU does not have direct authority regarding some of the main critical issues (e.g. land use), but there are a number of key policy areas in which the EU plays a relevant role. The following recommendations, which the report authors developed by taking ideas from stakeholders as a starting point, should be considered.

7.9.1 Facilitate the Collection and Sharing of Data, Knowledge and Information
In order to ensure integrated assessments, monitoring and informed decisions, reliable and comparable data and information on mining activity in the European Arctic should be collected and updated frequently. Acquiring and sharing accurate information and best practices will benefit governments, businesses and communities. The EU also has a role to play in stimulating high standard research, education and capacity building. The possible tools include communication and data platforms or research projects built on the needs of industry, national permitting authorities and communities. Information platforms may be based on INSPIRE infrastructure and the outcome of projects like Promine (which maps European mineral resources).59 This process has already started within the European Innovation Partnership (EIP) on Raw Materials, which aims to identify research needs and potentials. However, the present initiative lacks significant input from those both positively and negatively affected by mining activities, such as local communities or other land users.

7.9.2 Develop an Integrated View on the Mining Sector and Transparent Policies
Although there are many EU policies and regulations that have a connection with mining, there is no integrated comprehensive policy overview for the mining sector in the European Arctic. This policy should be robust and flexible as stakeholders emphasise that current EU directives are detailed and prescriptive, whereas local conditions in the Arctic vary substantially. Therefore, more flexibility and local-level variation are required. At the same time, businesses need more transparency in regulations and policies to enhance the competitiveness of the sector. The 2008 Raw Materials Initiative and the process that followed comprise an appropriate initial framework, as it integrates production, import and

recycling. However, there is a need for greater focus on mining within the EU and the Arctic as an area with major potential, attention to social impacts, as well as more comprehensive and structured exchange of best practices between member states. Refinement of minerals within the Arctic regions could be supported, so that the regional economy gains greater benefits from the minerals extracted in the North.

7.9.3 Harmonise Environmental, Economic and Social Assessments

EU policy should be directed towards ensuring that the current level of good practice in EIAs is maintained and improved where necessary. Improvements include addressing issues related to mine closure and safety, emergencies and hazards. Social and economic issues should be effectively addressed in assessment processes. For that, the EU needs a clear vision and policy to address the social and economic impacts in all phases of the lifecycle of mining. In this respect, EU policy should be in line with international human rights developments (e.g. the principle of Free Prior and Informed Consent), and the current practice of the social responsibility of businesses (CSR). There is a need for the inclusion of the general principles connected with social licence to operate into the EU regulatory framework covering mining activities, including EIAs. Harmonisation, basic standards (including the assessment of social impacts) and procedures may enable companies operating across national boundaries to perform more effectively.

7.9.4 Improving Dialogue and Meaningful Consultation, in Particular with Indigenous and Local People

For the EU in general, more efforts should be made to involve communities and indigenous populations in remote regions in relevant EU policies and directives. Particularly for mining activities, these efforts should be directed towards improving dialogue with and between stakeholders in order to allow meaningful consultation. Many stakeholders feel that the awareness among EU decision-makers of northern livelihoods, in particular traditional livelihoods and cultural identity of indigenous peoples, should be improved. Overall consultation procedures conducted by the European Commission may prove insufficient for stakeholders in remote regions such as Lapland and those who experience specific challenges (such as indigenous communities). Constraints include: understanding of the influence of EU policies, capacity to participate in a meaningful way and human resources.

7.9.5 Support International Governance and Cooperation Enhancing Responsible Mining

Various international environmental instruments may be relevant to mining operations, for example the Ramsar Convention on Wetlands. However, international regulation and guidelines specific to Arctic mining can be considered to be fairly weak. For example, the Arctic EIA Guidelines adopted in 1997 under the Arctic Environmental Protection Strategy remain largely unknown to both regulators and companies. The Commission, in the development of its Arctic policy and its activities within the Arctic Council as an observer in principle, should focus attention on promoting and facilitating past and future Arctic Council work on environmental and social impact assessments. The Commission should strengthen its activities regarding various international developments such as international transport, International Maritime Organization negotiations on environmental performance of Arctic shipping in the Polar Code and sulphur regulation as well as international EIA standards. Co-operation within and across the mining industry may also influence mine operation norms and corporate standard setting. This can be done, for example, via the European Innovation Partnership or co-operation with the European Association for mining industries, metal ores and industrial minerals (euromine). Also, EU dialogues on minerals with Arctic partners and suppliers of the EU market such as the United States, Russia, Canada, Norway and Greenland, may in the long term be used as a tool for promoting high standards in responsible mining. However, it is important to engage a broad spectrum of stakeholders, going beyond the sole involvement of industry.

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