SOCIAL LICENCE TO OPERATE IN LAPLAND

Tools from the University of Lapland's SLO research

Final Report for the AMIC Project

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Arctic Smart Mining Cluster (AMIC)

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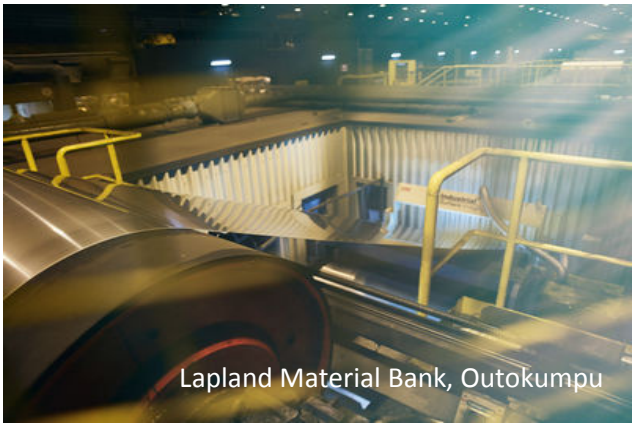
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1. INTRODUCTION

The purpose of the Arctic Smart Mining Cluster (AMIC) project is to form a regional cluster in Lapland and North Karelia that integrates the RDI-sector with industrial partners working in the mining industry. There are three work packages that comprise AMIC, the second of which focuses on the social licensing of the mining sector. This final report fulfils the tasks enumerated in Work Package 2:

- To understand the SLO-related knowledge needs of the Finnish Network for Sustainable Mining and evaluate how the University of Lapland's existing research in SLO could help fill those gaps.
- To develop a pool of experts in SLO that are located in either Lapland or North Karelia and who can be called upon for help and to disseminate knowledge and good practices.
- To explore digital tools and the potential for visualisation to further SLO.
- To apply the SLO practices from communities that already have practical experience with mining to communities that have the strong potential for exploration and extraction in three identified municipalities of northern Finland: Ylitornio, Kolari, and Ranua, where there are currently no extractive industries. This topic has been reported on separately and will not be discussed in the present document.

As the final deliverable, the primary aim of this report is to ascertain whether the SLO research from the University of Lapland can benefit and help inform the Finnish Network for Sustainable Mining (Kaivosvastuu), and if so, how it can best accomplish this.

The report highlights the SLO research from the University of Lapland. The key SLO-related projects of the University of Lapland can be found from the Arctic Centre, University of Lapland web page https://www.arcticcentre.org/EN/research/governance/slo. The University of Lapland provides a conducive

environment for SLO research, as the University's research profile highlights the relation of economic, political and social changes in northern societies and environment (University of Lapland 2018).

> At the heart of our university's research profile lies Arctic and northern change. The effects of the global economic and political changes and global warming are particularly severe in the Arctic region. We produce scientific knowledge on northern societies and environment and their interaction with each other to ensure that life in the Arctic and northern regions will flourish also in the future (University of Lapland 2018).

In addition to be a hub for SLO research in the Arctic, given the University's proximity to the Sámi homeland (Sápmi), the only indigenous peoples in Europe, it serves as one of the few repositories in Europe for research on human rights, indigenous peoples and mining. There are three indigenous Sámi cultures in Finnish Lapland, all of which are highly relevant to SLO research because Sápmi is abundant in minerals and other natural resources.

As to the structure of the report: the first chapter introduces Kaivosvastuu and their key publications; the second chapter analyses the Social Licence to Operate framework in Finland; the third chapter describes the SLO-related research from the University of Lapland; the fourth chapter provides key findings from the University of Lapland's SLO research; and the fifth and final chapter suggests what the future of SLO and SLO research may be in Finland and proposes several concrete actions that the mining companies participating in Kaivosvastuu might take to improve the relationship with their respective communities of interest.

Annex 1 includes a study of potential digital tools for SLO. Tools include, for example, video games and virtual reality to spread the understanding of SLO in a new way and to new audiences. In Annex 2, a pool of mining experts in Finnish Lapland, with contact details, is provided.

2. KAIVOSVASTUU – THE FINNISH NETWORK FOR SUSTAINABLE MINING

Kaivosvastuu (Finnish Network for Sustainable Mining) aims to be an open and trustworthy network that has advanced abilities for co-operation (Kaivosvastuu 2018, verkosto). This chapter evaluates the background and needs of the Network and shortly introduces its publications.

Kaivosvastuu was established in 2014 both to function as a platform for discussion and also to develop practical tools that improve the sustainability of mining and ore exploration in Finland (Kaivosvastuu 2018, Finnish Sustainability Standards). At its core, Kaivosvastuu is a network of mining related stakeholders all of whom share the goal to promote and ensure sustainability in the Finnish mining sector, thus making the country the global forerunner in sustainable mining. The link between sustainability and mining is emphasised because special attention must be paid to nature, cultural and social aspects, among other livelihoods (Kaivosvastuu 2018, verkosto).

The origins of Kaivosvastuu lie in the environmental disaster of Talvivaara. The network was a national government-backed initiative meant to engage all relevant mining stakeholders in order to develop sustainability standards for the mining industry. After reviewing sustainable mining standards from many countries, Kaivosvastuu adapted and tailored Canada's Toward Sustainable Mining (TSM) program to Finland by adopting their existing protocols and adding one more - water quality. Subsequently, Kaivosvastuu also prepared a number of different tools to aid the mining companies participating in the network, including a

Toolbox for Local Actions aimed at helping the mining companies interact positively with local communities and gain their social license to operate as well as CSR reports on the mining companies, who participate in the network.

Sustainability is a major issue in this report, and in this context sustainability of mining is defined by Kokko et al., as a balanced state of economic, social and environmental factors, but noting that the environment is seen as the basis of sustainability in general.

> "Sustainable mining calls for balancing economic, social, and environmental factors when seeking the best environmental regulation and practice. Between the dimensions of sustainability lies a grey area for balancing the factors against each other. However, ecological sustainability protected by smart environmental regulation and minimum standards sets an essential boundary that leaves no space for compromises without endangering the whole idea of sustainability. Economic and social sustainability are ultimately possible only within ecological limits." (Kokko et al. 2015, 78)

As Kaivosvastuu, and hence the Finnish context of mining in Finland is highlighted in this report, the consideration of local circumstances is of paramount interest:

> "Taking into account local circumstances means not only that an international company has to adjust to national regulation, but that it has to go further with self-regulation, network itself with local businesses and meet the needs of all kinds of stakeholders." (Kokko et al. 2015, 71)

In particular, the Network exemplifies Finland's attempt to further the importance and acceptance of company self-regulation, which is consistent with how SLO is understood in Finland. Interestingly, research has shown that it is the combination of SLO and regulations/legislative frameworks that, if they support one another, will further the practice of sustainable mining.

Kaivosvastuu has published a variety of mining-related publications, despite it only functioning for several years. The Network has been active in translating their publications and tools in English displaying a high level of transparency. Outreach is very active including newsletters and media coverage, but the rate of new publications appears to be slowing as the annual report was published only once (2015). The Corporate Social Responsibility (CSR) report of mining activities in Finland was published in 2014 and 2015 but has not been updated since. This is likely due to changes in the organization and uncertainties in the funding of the Network. Kaivosvastuu operated under and was funded by SITRA for the first 1,5 years and then became independent in August 2015.

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2.1. PUBLICATIONS OF KAIVOSVASTUU

FINNISH SUSTAINABILITY STANDARD FOR MINING (2016)

A broad document on the sustainability standards for mining. Consists of eight (8) protocols covering the following: Community outreach, Biodiversity conservation, Tailings management, Water management, Energy use and GHG emissions, Health and Safety, Crisis management and Mine closure.

FINNISH TOWARDS SUSTAINABLE MINING (TSM) STANDARD

Towards Sustainable Mining document. The guiding principles and a general overview of the standard.

ONLINE COURSE ON MINING RESPONSIBILITY SYSTEM

An online course of the Finnish TSM–system. The course is still in the test phase and offered only in Finnish at this time. At the time of writing this document, only the Crisis management module of the course was online.

REPORT BY PÖYRY 2015: TSM -FINNISH LEGISLATION COMPARISON

Comparative study about the requirements of the Canadian TSM and the Finnish mining legislation. The conclusion of the report states: "TSM is a management system in which procedures are created and implemented. The system is pre-emptive and has a precautionary and constant development approach to the subject matter. As in management systems generally, the operator sets its own goals for developing the activities within the TSM–framework. The TSM–system does not provide specific technical requirements as does the Finnish legislation (with the exception of the guidelines on managing tailings). Due to this, the comparison between the TSM–system and the requirements from Finnish legislation is uneven.

Our view is that the TSM–system emphasizes the followings issues more than the Finnish legislation appears to: stakeholder cooperation and GHG management. Mainly in the same level are energy consumption, safety and health. The Finnish legislation is stricter on tailings (technical requirements, not procedures) and crisis management.

Compared to the TSM–system, the Finnish legislation is lacking requirements for politics, management level engagement, goal setting and tracking. The Mining Safety Act contains some of these elements, such as management review on the level of principles and safety management system and keeping them on track. The TSM–system exceeds the requirements of Finnish legislation especially in considering the stakeholders and managing GHG emissions. The benefits of the TSM–system to Finnish mines could be related to the following issues: transparency of operations, planned communication and availability of information, stakeholder work in all phases of the mining lifecycle, interactive planning and reconciliation of interests, indigenous peoples and their livelihoods, other vulnerable stakeholders, GHG emission management, improving occupational health and safety.

The TSM–system is fairly laborious to build and maintain. Due to this the system could be

challenging for small and medium mining companies although it might fit well for larger companies."

Success through Dialogue: Annual report of the network for Sustainable Mining 2014-2015

- Annual report of the activities of the network during its first year of operation. Available in Finnish and English.

Social Responsibility of Mining 2014: Social responsibility report of mining and exploration companies based in Finland,

- Thorough CSR –report of the Mines in Finland. First CSR –report of the network. Published in 2015. Available only in Finnish.

Social Responsibility of Mining 2015: Social responsibility report of mining and exploration companies based in Finland

- Update on the annual CRS report. Available in Finnish and English. Published in 2016. Latest CSR report at the time of writing.

Standard for Sustainable Exploration

- Document containing the standard for exploration in Finnish TSM–framework. Consists of five modules:
  - Guiding principles
  - Stakeholder involvement
  - Biodiversity conservation
  - Safety and health
  - Crisis management

Thematic map

- A huge thematic map of mining activities in Finland related to other land-use. Heavy and non-interactive map. Not very handy.

Toolbox for local actions in mining operations and exploration activities

- Toolbox is divided into two modules, Mining and Exploration. Both handbooks are meant to use as general background, a roadmap, for best local practices. Available in Finnish and English.

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3. SOCIAL LICENCE TO OPERATE IN FINLAND

There is no universally agreed upon definition of Social Licence to Operate in academia or in actual practice. That said, there are essential elements that appear in the most widely used definitions, the most basic being that SLO is a continual process focusing on building trust between companies and affected communities. SLO as defined by Koivurova et al is "a specific aspect of company–community relations in resource extractive projects, in particular how different actors interact to resolve, or not, the social and economic impacts on local communities and other stakeholders" (Koivurova et al. 2015, 195).

Analysed by Lesser et al.(2017) in the synthesis report of the project entitled *Sustainable Mining in the Northernmost Europe – lessons learned and practices developed*, the key aspects from a Finnish perspective in SLO are the following: Kokko et al. (2014) states that "social license builds on the concepts of acceptance, reliability, and the trust of stakeholders created by actual activities in the field" (Lesser et al. 2017, 29). Nysten-Haarala et al. (2014) looks at the SLO more as a risk management tool (Lesser et al. 2017, 29). Jartti et al. (2013) examines social license as a concept that relates to social acceptance and local expectations towards mining (Lesser et al. 2017, 30) and argues that there are different levels in social acceptance which range from complete acceptance to total unacceptance (Lesser et al 2017, 30) Koivurova et al. (2015) found that 'social license' was not a widely used term in the Northern Europe, except for Finland, where it was "explicitly used and continuously implemented". Koivurova et al. argue that SLO is 'given' from the community to the company, and although voluntary, a company's desire to receive SLO can thus empower the affected community beyond what regulatory frameworks dictate (Lesser et al. 2017, 36-37). These key aspects of SLO are the most relevant to, and potentially the most helpful for, Kaivosvastuu as they specifically address the company-community relationship and begin to define what matters to communities. There has been recent research showing SLO exists on the national level as well, but for the purposes of this report, the focus is on SLO at the local level.

SLO has its roots in the mining sector having been a term coined in 1997 by an executive of Canadian company Placer Dome in response to a legacy of mining-related environmental and social disasters globally in the 1980s and 1990s. It was the first-time industry acknowledged the importance of social issues and their responsibility to be a good citizen and neighbour when developing projects in communities. The concept and practice of SLO around the world has evolved over the past two decades, but only recently has it entered the mining lexicon in Europe. In Finland, SLO entered with the influx of the Canadian mining companies and applies to the relationship between industry (typically mining but also other sectors such as the bio-economy) and the surrounding peripheral communities and environment. As social expectations and needs vary, so can the level of SLO. Due to the varying social structures of societies, SLO research should consider the special aspects of each country. For example, in the case of Finland, indigenous Sámi rights and interests in Northern Finland must be considered and taken into account.

As SLO is a dynamic approach, it may offer more leverage, and hence a better negotiating position, to local communities than hard law mechanisms. For example, compared to Environmental Impact Assessment alone, SLO is a "more progressive approach to community organization, fuelled by the demand side of SLO by the communities themselves" (Koivurova et al. 2015, 221).

In countries such as Canada where SLO began, the conversation now is about whether SLO should in fact be legislated, and if so, how to do that. For decades in Canada civil contracts, such as Impact and Benefit Agreements (IBAs), have been extremely successful for ensuring promises made by companies are carried out. While IBAs are mostly used with respect to indigenous peoples, they are beginning to be used also by local communities, and this is important because in Finnish Lapland, communities are mixed with indigenous

and non-indigenous peoples coexisting side by side. Whether SLO can or should be legislated in Finland is a discussion for a separate report, but it is worthwhile noting that there are legal mechanisms that can incentivize behaviour that encourages more engagement, and as a result, enhances social structures. One concrete example of this is having companies pay for technical experts to help local communities understand the long-term impacts of mining and how they can constructively negotiate with companies. As the Sámi live in Northern Finland and reindeer herding is still a mainstay, land use conflicts are ever-present. Resourcing capacity in the north would go a long way toward building trust between companies and both indigenous and non-indigenous communities.

3.1. SUSTAINABILITY, GOOD PRACTICES AND SLO IN FINLAND

SLO in Finland tends to be defined as a company-initiated practices that goes beyond what is legally required. Hence, in general terms, good practices are an integral part of the SLO process. Sustainable mining needs good practices in all aspects of mining, and they must be done within ecological limits (Kokko et al. 2015, 78).

> Sustainable mining calls for balancing economic, social, and environmental factors when seeking the best environmental regulation and practice. Between the dimensions of sustainability lies a grey area for balancing the factors against each other. However, ecological sustainability protected by smart environmental regulation and minimum standards sets an essential boundary that leaves no space for compromises without endangering the whole idea of sustainability. Economic and social sustainability are ultimately possible only within ecological limits. (Kokko et al. 2015, 78)

Sustainable mining in Finland needs good practices (Lesser et al. 2017, 13) and special attention should be paid to Sámi rights and interests. In addition to economic, social and environmental factors, cultural sustainability is also an important part of SLO.

Lesser et al. describe good practices in the natural resources sector as “a way of conducting mining activities in an ideal manner, which always exceeds the minimum level of what the law requires, in a situation where many options are possible (Lesser et al. 2017, 13)”. In this way SLO and good practices have a clear connection both within soft law and a company’s interest to act in a more sustainable way. In short, good practices are both part of SLO and also allow SLO to function.

Companies and national actors together need to build a common understanding of what sustainable mining in Finnish Lapland looks like as “It is only a matter of time before interest grows again in mining activities in this region….” (Lesser et al. 2017, 96). Due to the very real effects climate change in the north (IPCC 2018, 7) which are making resources more accessible, and the urgent need for minerals to enable the transition towards renewable energy production (Yrjö-Koskinen, 2017, 73), it is clear that demand for sustainable mining products is growing. This will directly affect mineral rich and densely populated Lapland (Yrjö-Koskinen, 2017, 82).

One of the key roles of SLO in this fast-changing world is to underline the importance of understanding the role of communities in natural resources projects (Lesser et al. 2017, 95), and this is especially true in Finland because of its noticeably warmer environment coupled with the interest of all stakeholders in the region to develop projects that ensure no net loss and substantial benefits to those people who are most affected(Lesser et al. 2017, 95). In Finland reconciliation of livelihoods is mainly examined from the viewpoint of companies, and while this report also looks at the roles of other actors, future research on SLO must also shift its focus to other actors or it is impossible to understand their expectations, perceptions, frameworks,

etc. Among these other actors, two groups who have noticeably received less attention are the Sami and affected municipalities and this should be remedied, particularly in light of the Sami's right to Free, Prior and Informed Consent (FPIC), and the growing trend in Europe's mining regions to change royalty legislation allowing revenue to begin flowing to municipalities. As research on SLO continues, it is becoming more apparent, that in Europe, confidence in governance underlies SLO, and without it, building trust is impossible. But the framework allows companies' self-regulatory practices to flourish, and we will see that much of the SLO research in Lapland has focused on the interplay between regulation and self-regulation, as well as the role that company initiated strategies play in building trust with communities and government.

3.2. INDIGENOUS RIGHTS AND INTEREST ARE A SIGNIFICANT PART OF SLO IN LAPLAND

3.2.1. SÁMI CULTURE AND BASIC FACTS

The Sámi are indigenous peoples that inhabit an area with its own languages and cultures. The Sámi live in an area called Sápmi, which is thousands of kilometres wide stretching from the Kola Peninsula in Russia to Southern Scandinavia (Lehtola, 2015, 22). The Sámi are a minority in four countries, Finland, Norway, Sweden and Russia (Lehtola, 2015, 22) and they are the only indigenous people in the European Union (Laukkanen & Heikkilä 2016, 20) with their rights and interests protected in the Finnish constitution and through international agreements (Sami Parliament).

The Sámi population is 75 000-100 000 people, depending on the calculation (Laukkanen & Heikkilä 2016, 20). There are 10 000 Sámi in Finland of which 60% live outside their traditional homeland (Sami Parliament). Utsjoki is the only municipality in Finland with a Sámi majority (Laukkanen & Heikkilä 2016, 16), but also Inari, Enontekiö and northern parts of Sodankylä belong to the Sámi homeland. Hence, the Sámi homeland could be considered a mixed-community of indigenous and non-indigenous peoples. There are three culturally rich Sámi cultures in Finland, Northern Sámi, Inari Sámi and Skolt Sámi (Lehtola, 2015, 23-25).

The traditional Sámi livelihoods are fishing, gathering, handicrafts, hunting and reindeer herding and the modern ways of practising them (Sámi parliament), and they are important also for the cultural well-being of the Sámi. Today Sámi livelihoods face challenges, especially in terms of land use and conflicts with reindeer herding. (Although it should be noted that in Finland, reindeer herding provides a livelihood to both indigenous and non-indigenous peoples, so there are many mixed-communities in Lapland.) The Sami Parliament oppose even small-scale machinery gold-panning, so it is likely that the Sámi will continue to oppose any large-scale mining in their Homeland" (Koivurova & Petrétei 2014, 132). Early dialogue with the Sámi parliament is highly recommended when there are issues related to land use planning in the Sámi homeland or adjacent areas since impacts may negatively affect Sámi livelihoods and culture. For example, challenges to reindeer herding would impact the well-being of the Sámi and impacts to rivers in Northern Finland could impact Sámi rights and interest.

During the time of writing this report, there is increasing tension in the Sámi homeland concerning the plan of the Finnish Ministry of Transportation and Communications to build a railway to the Arctic Ocean, across the Sámi homeland. Some view the proposed railway as another form of industrial exploitation of the Sámi homeland, and as one of the purposes of the Arctic railway is to transport raw materials, it is becoming inextricably linked to mining and other natural resources utilization, such as forestry. There are significant local demonstrations against the Arctic Railway in the Sámi homeland that have gained international attention. Some of the key opposing actors are local grass root activist groups, the Indigenous Sámi youth organization (Suoma Sámi Nuorat), Suohpanterror 'Artivist' collective and Greenpeace. From the perspective

of SLO, there is a need to consider multiple and varied local interests, including the fact that despite much support for the exploitation of natural resources in Lapland, there is also significant opposition to this utilization in the Sámi homeland.

3.2.2. Sámi Legal Status

In Finland Sámi people have clear rights and legal status, as stated in the Finnish Constitution and in international agreements.

> "Sami have the right to maintain and develop their own language, culture and traditional livelihoods. There is also a law regarding the right to use the Sámi language when dealing with the authorities (…) The Sámi have constitutional self-government in the Sámi Homeland in the spheres of language and culture. This self-government is managed by the Sámi Parliament, which is elected by the Sámi. The Skolt Sámi also maintain their tradition of village administration, under the Skolt Act, within the area reserved for the Skolt Sámi in the Sámi Homeland. The Sámi Homeland is legally defined and covers the municipalities of Enontekiö, Inari and Utsjoki as well as the Lappi reindeer-herding district in the municipality of Sodankylä" (Sami Parliament).

The new Finnish Mining Act of 2011 incorporated fundamental changes in the legislation and included the stronger protection of Sámi rights. (Koivurova & Peterei 2014, 119)

> From the Sami viewpoint however, the legislation was prepared in such a way that enabled Finland's only indigenous people to inject their views and influence the preparation of the Mining Act. As discussed, the March Draft Mining Act version was significantly revised and improved from the viewpoint of Sami rights, and this was mainly due to the Sami parliaments active contribution in the stakeholder consultations. It seems obvious that the legal protection that the Sami people now enjoy against mining and its adverse environmental and societal impacts is very strong, especially in their Homeland region and also elsewhere. It will be interesting to see what will happen with the applications to commence machine gold panning in the Sami Homeland region, given that the Supreme Administrative Court may well follow the Human Rights Committees interpretation and decide that the consent of the Sami indigenous people is required. (Koivurova & Peterei 2014, 132)

Sámi people are active members of global indigenous organisations via the Sami Council [represent Sámi people of four countries] and therefore have a strong role in United Nations indigenous work, such as the Permanent Forum on Indigenous Issues (Lehtola 2015, 30). The Sami Council has influenced, and has interest in continuing to influence, national legislation through the international law (Lehtola 2015, 30). In addition to the Sami Council, the Sami Parliament influences national decision-making and legislation processes.


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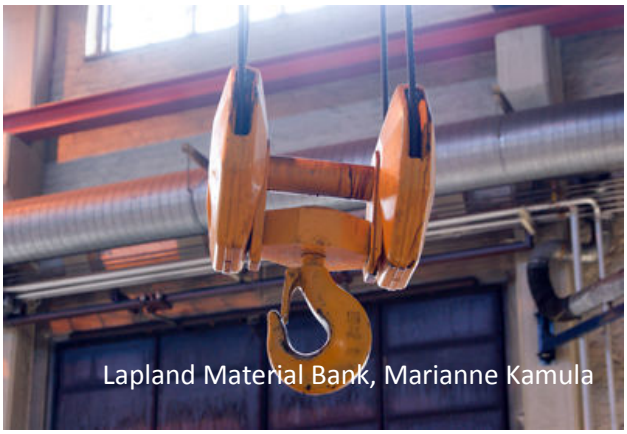
Lapland Material Bank, Marianne Kamula

4. KEY FINDINGS FROM SOCIAL LICENSE TO OPERATE RESEARCH AT THE UNIVERSITY OF LAPLAND

University of Lapland is one of the forerunners in Social Licence to Operate-related research in Finland. In the following chapters, SLO research and articles from the University are summarised and those practices and tools potentially most useful to Kaivosvastuu are highlighted.

In the following chapters there are summaries and key findings about the SLO research done by the University of Lapland. A web page of SLO and SLO-related projects at the University of Lapland has also been created and these can be found at the web page of the Arctic Centre, University of Lapland https://www.arcticcentre.org/EN/research/governance/slo.

4.1. LAWS AND REGULATIONS

4.1.1. THE INTERDEPENDENCY OF LAW AND SELF-REGULATION IN KOLARCTIC AREA

The article *Law and self-regulation – Substitutes or complements in gaining social acceptance?* studies how self-regulation operates in the mining industry in differing circumstances in the Northern parts of Sweden, Finland and Russia, also called the Kolarctic Area.

Researchers: Soili Nysten-Haarala, Elena Klyuchnikova & Heidi Helenius.

Published: Resources Policy 45 (2015) 52–64.

Key findings:

- The study of six different mining companies shows that adjustment to local circumstances is emphasized in the mining sector of the Kolarctic Area as the means to gain the Social Licence to Operate.

- -Understanding local circumstances in the Kolarctic Area requires an international company to first understand both local and national legislation and secondly go further and network itself with local business and meet the needs of all kinds of stakeholders to gain the SLO.
- The pressure for mining to enjoy a good reputation is increasing at the global level. Global self-regulation is an underused asset, which could offer a fruitful basis for cooperation with multiple stakeholders. Coping with regulation at multiple levels utilising multiple sources can be a competitive advantage to companies, but it requires good relational skills and access to resources.

Practical tools from the article:

Companies: At best, legislation and self-regulation support each other. Strong efficient legislation is the best starting point for sustainable mining, but self-regulation is needed at least to facilitate implementation of sustainable mining practices. One of the greatest concerns of the mining industry should be the existence and actions of poor performers and free riders.

Local stakeholders: Mining companies are usually interested in gaining a strong Social Licence to Operate and self-regulation itself is important for mining companies as negative publicity would hurt the reputation of any company. Self-regulation measures in mining are not as standardized as for example in forestry industry, so there are possibilities to local stakeholders to negotiate with companies' local actions.

Public authorities: Case studies shows that unrecognized legal pluralism is a challenge for mining companies in the Kolarctic Area. There exists a complicated web of local, national and global regulation, which is not easy to control and use. It might, however, offer opportunities for stakeholder cooperation at all levels. The article claims that the state is not and cannot be the only source of regulation in any of the studied countries. Yet, strong efficient legislation is still seen as the best starting point, and self-regulation only facilitates implementation of sustainable mining practices.

4.1.2. Sustainable Mining and the role of regulation

The article *Sustainable mining, local communities and environmental regulation* describes how sustainable mining is an objective as well as a tool for balancing economic, social, and environmental considerations.

Researchers: Kai Kokko, Arild Buanes, Timo Koivurova, Vladimir Masloboev and Maria Pettersson

Published: Barents Studies: Peoples, Economies and Politics VOL. 2, ISSUE 1, 2015.

Key findings:

- Sustainable mining is an objective as well as a tool for balancing economic, social, and environmental considerations in mining in the Kolarctic area.
- All aspects of sustainability are deeply interconnected in terms of social impact assessments (SIA), social licence to operate (SLO), corporate social responsibility (CSR), and the cultural rights of Sámi as well as in the policy instruments relating to environmental regulation.
- Ecological sustainability protected by smart environmental regulation and minimum standards sets an essential boundary that leaves no space for compromises without endangering the whole idea of sustainability. Economic and social sustainability are ultimately possible only within ecological limits.

Practical tools from the article:

Companies: To gain social licence to operate, self-regulation is needed to ensure the interaction with local communities. To earn social licence to operate throughout the lifecycle of mining projects, intensive interaction with local actors is necessary. It seems that smart environmental regulation alone cannot guarantee ecological sustainability in the Kolarctic area, so institutional changes in both governance and management are needed.

Local actors: All aspects of sustainability are deeply interconnected, and local actors should consider them when evaluating the lifecycle of mining projects. For example, even advanced social and economic sustainability cannot replace insufficient ecological sustainability.

Public authorities: Improvements in the law and company self-regulation are needed to reconcile the economic interests of the mining industry with indigenous rights in a socially sustainable way. An important initiative in this regard is the Nordic Sámi Convention. Strict standards are not problematic in terms of foreign direct investment, but the study suggests that there is a need to extend the time horizons of regulations as well as to emphasize a simple, rule-based process for granting permits that, as far as possible, minimizes investor uncertainty and enhances predictability.

4.2. THE RIGHTS OF INDIGENOUS PEOPLES

The article *Enacting a New Mining Act in Finland – How Were Sami Rights and Interests Taken into Account?* describes the recent mining reforms in Finland and analyses how Sámi rights were considered during the processes that lead to a new Mining Act in 2011.

Researchers: Timo Koivurova, & Anna Petrétei.

Published: Art Nordisk miljörättslig tidskrift 2014:1 Nordic Environmental Law Journal.

Key findings:

- -Sami Rights and Interests in the Sami Homeland were taken seriously into account in the new Mining Act. The Sami Homeland has strong legal protection against the potential negative effects from mining activities.
- Mining companies are interested in the potentially significant mineral deposits underlying the Sami Homeland despite the strong legal protections applicable there. Mining companies wish to have more dialogue with the Sami parliament and to share information regarding mining impacts.
- -Most of the interviewees agree that the ambiguous language in many parts of the Mining Act poses challenges and results in the unpredictability of permitting outcomes. Mining companies aim to act in full accordance with the rules, especially in sensitive mining-issues with indigenous peoples, and would rather not risk long and insecure procedures.

Practical tools from the article:

Companies: To gain acceptance from the Sami peoples within the Finnish Sami Homeland, it would be important to start an open dialogue with local stakeholders at the earliest possible stage, especially given the fact that no mining activities yet exist and there is no precedent for true dialogue. Companies could learn from successes and mistakes in mining projects within the Swedish and Norwegian Sami Homeland. If mining actions are planned in the Sami Homeland, it is clear that decisions cannot be made solely on the basis of

scientific facts, as there are strong traditions, emotions and politics that serve as the foundation of the Sami's culture and heritage.

Local Stakeholders: In the new Mining Act, Sami indigenous rights are protected in broader terms as mining causes social, cultural and economic impacts. The Sami have rights as an indigenous people both in their Homeland and in near-by areas as mining activities have the potential to weaken the overall basis of Sami culture. The Sami, as an indigenous people, have a strong legal protection against undesirable mining activities in their Homeland, and this should be noted in possible future negotiations.

Public authorities: The new Mining Act and international indigenous legislation offer strong legal protection within the Sami Homeland against potential undesirable mining activities. As the Sami will accept only traditional gold-panning activities in their Homeland, gaining social acceptance for larger-scale mining in the Sami Homeland would be at the very least extremely challenging or even completely out of reach. If both national and international legislation concerning mining activities and indigenous rights would be clarified, that might provide the opening for the Sami and Sami Parliament to reconsider allowing mining in their Homeland. The other side of this is that if legislation was clarified and the Sami begin to consider allowing mining activities, albeit strictly regulated, companies would feel more secure and be less hesitant to plan their activities in Sami areas.

4.3. SOCIAL SUSTAINABILITY AND SOCIAL LICENCE TO OPERATE

4.3.1. SOCIAL SUSTAINABILITY IN SUSTAINABLE MINING

The article *Social Sustainability in northern mining communities: A study of the European North and Northwest Russia* expands the concept of social sustainability through a qualitative study of mining projects in the European North and Northwest Russia. The article suggests that as one of the tenants of sustainable development, social sustainability holds significance both from a theoretical standpoint and a practical one.

Researchers: Leena Suopajärvi, Gregory A Poelzer, Thomas Ejdemo, Elena Klyuchnikova, Elena Korchak and Vigdis Nygaard.

Published: Resources Policy 47 (2016) 61–68

Key findings:

- Ensuring social sustainability of mining is important for those living in mining communities in the North, and social sustainability should not be seen only as an issue of developing countries in the South. Special attention should be paid to the local people's empowerment when extracting natural resources in the North.
- Too often a social sustainability perspective emphasizes the expectations and needs that the local people have for mining, instead of studying actual impacts of mining processes.
- While the everyday implications of living near a mine matter, the article claims that global and over-generational perspectives should be considered in more detail. People influenced by mining consider larger perspectives and for example cumulative contamination and the possibility of sudden environmental risks are seen as a burden for next generations living in the North.

Practical tools from the article:

Companies: Many of the prominent debates on sustainable development focus on the challenge of managing economic and environmental issues, leaving the social side of the equation less well-defined. Procedural social sustainability is felt, for example, if there is continuous, open and reliable information of environmental monitoring reported to the local community. The mining company is expected to act transparently in dialog with different interest groups so that their concerns are identified and met. This is an even more important issue where nature-based industries such as reindeer herding, fishing or nature tourism are important.

Local stakeholders: The interconnectivity of environmental, economic and social sustainability is often underscored in the North. For example, if the operation of the mine is not on a solid economic ground, it causes uncertainty experienced especially at the local level. Local stakeholders should be seriously concerned about these interconnectivities given their proximity to, and potential dependence on, the future mine.

Public authorities: The article suggests that a major problem of the social sustainability perspective is that it emphasizes the expectations and needs local people have concerning mining instead of studying actual impacts. In this sense public authorities should be concerned about the actual impacts of mining. Both the future and the past of communities should be considered when the uses of natural resources are discussed and evaluated. When mines face problems, people have difficulties in planning their future lives and municipalities cannot estimate the need for services, among other undesired consequences.

4.3.2. Social licence to operate: a relevant term in Northern European mining?

The article *Social license to operate': a relevant term in Northern European mining?* describes how the concept of social license to operate (SLO) is being used throughout the Northern European mining sector. The article teases out the key elements of the SLO concept and examine the degrees to which mining companies and communities respond toward one another.

Researchers: Timo Koivurova, Arild Buanes, Larissa Riabova, Vladimir Didyk, Thomas Ejdemo, Gregory Poelzer, Päivi Taavo & Pamela Lesser.

Published: Polar Geography (2015), 38:3, 194-227.

Key findings:

- -Social Licence to Operate (SLO) will be increasingly important in the European North mining processes. Even SLO is widely used in Northern Europe only in Finland, similar concepts such as Corporate Social Responsibility (CSR) are widely recognized and seen as prerequisites for social licence.
- -The way the institutional and regulatory structure operates shapes the way SLO-type of issues are handled in each of the study countries.
- -At the moment SLO and Corporate Social Responsibility (CSR) are understood different ways in different Northern European countries. Anyhow demands are all the time growing stronger towards companies acquiescing as communities continue to learn from one another how to best benefit from the increasing number of development projects in their localities.

Practical tools from the article:

Companies: The article sheds light on how communities view company behaviour, which behavioural attributes they are willing to reward or penalize, and how malleable community acceptance can be. Evidence from the case studies shows that the framework postulated by Thomson et al. (2010) can be used for understanding how SLO is gained or not, and in what ways.

Local stakeholders: It is a good idea for local stakeholders to compare companies' varying SLO practices (i.e. active public engagement, sponsoring community projects, etc.) in other Northern European countries. Demands are all the time growing stronger towards companies acquiescing as communities continue to learn from one another how to best benefit from the increasing number of development projects in their localities.

Public authorities: It is the National legal framework that provides the basis for social licencing. During mining processes in the later stages (e.g. discharge permits), national-level institutions are more important in every studied country. The cases demonstrate that whether we speak of SLO or CSR, these must be seen as continuous processes, and the level of acceptance can vary over time, especially when we talk of a fluctuating industry like mining. It is evident that the way the institutional and regulatory structure operates shapes the way SLO-type of issues are handled in each of the study countries.

4.4. SOCIAL IMPACT ASSESSMENTS IN MINING PROCESSES

4.4.1. DESIGN OF SOCIAL IMPACT ASSESSMENTS IN MINING PROJECTS

The article *Social impact assessment in mining projects in Northern Finland: Comparing practice to theory* discusses social impact assessments (SIA) for mining projects in light of the international principles and guidelines for such assessments and the academic literature in the field.

Researcher: Leena Suopajärvi

Published: Environmental Impact Assessment Review 42 (2013) 25–30

Key findings:

- There seems to be clear shortcomings in the research design that social impact assessments are based on. The principal problem seems to be that there is no effort to describe the diversity of local communities and to analyse the distribution of the benefits and disadvantages experienced among local people.
- The need to develop SIAs should be taken seriously among all the actors with interests in the field and specific cases. Otherwise the significance of the assessments for planning and decision making in practice will remain low.
- It can be claimed that knowledge always has an interest. Social impact assessment seems to present hypotheses as facts, which could be seen as "misleading" predictive knowledge. For example, social impact assessments might claim that opening a mine will create general vitality in the region or that the well-being of the local residents will increase because of better employment possibilities when those are just conclusions not predicated yet on actual data and outcomes.

Practical tools from the article:

Companies: Social impact assessment in Northern-Finland does not meet the high standards of the international principles and guidelines set out for them. Problems are found in data collection, research methodology and conceptual premises in the SIAs. The role of the SIAs in the EIA programmes and reports studied is also quite minor: measured in number of pages four percent of the total. By improving the SIA processes companies could improve their social sustainability.

Local stakeholders: Article concludes that the social impact assessments do not fully meet the high standards of the international principles and guidelines set out for them: for example, elderly men are over represented in the data and no efforts were made to identify and bring to therefore vulnerable groups. Local stakeholder could contribute to SIA processes by setting focus to vulnerable groups, such as minorities.

Public authorities: Even though SIA has been developed, there are still shortcomings in the research design that the assessments are based on. Perhaps the principal problem is that there is no effort to describe the diversity of local communities and to analyse the distribution of the benefits and disadvantages experienced among local people. If no changes are made, the significance of the assessments for the planning and decision making in practice will remain low.

4.4.2. Social Impact Assessment in Lapland – favouring the mining industry or creating opportunities for communities?

The article *The right to mine? Discourse analysis of social impact assessments of mining projects in Finnish Lapland in the 2000s* analyse social impact assessments (SIA) made in Finnish Lapland and claim that SIAs in Finland are focusing more to possibilities than challenges of mining. By doing this, SIAs seem to over-all give the right to mine in Lapland.

Researcher: Leena Suopajärvi

Published: Barents Studies: Peoples, Economies and Politics VOL. 1, ISSUE 3, 2015

Key Findings:

- Article suggests that, in Finland, the concept of a social impact assessment is misleading, as it does not tell about real impacts in the daily lives of people and communities throughout the different phases of mining projects. Instead SIAs describe more about local people's expectations of the mining project and their hopes and fears of the possible changes caused by the project in local life.
- Social impact assessments from Finnish Lapland seem to legitimatise and to give the right to mine in Lapland. Dominant storylines in social impact assessments claim that using the riches of the soil would bring a prosperous future for communities in rural Lapland and that mining would also supports the regional development of Lapland in general.
- "General interest" is a label that prevents political discussion about the burdens and benefits of mining by evoking a simple dichotomy between small local and broad general interests.

Practical tools from the article:

Companies: It would be beneficial for companies to consider self-regulation to fulfil the gaps that existing social impact assessments leave. Existing protocols of social impact assessments seem not to consider broadly enough the real social impacts of mining.

Local stakeholders: Social impact assessments might be misleading about the impacts in different phases of the mining projects. It is important to understand the differences between the real impacts and possible impacts. For example, hopes and fears toward mines impact considerations. Local stakeholders should consider the risks of discussing "general interest" of mining, as this might prevent important political discussions about acceptance of mining.

Public authorities: In Finland, the concept of a social impact assessment can be misleading as it does not address the real impacts in the different phases of mining projects. Instead SIAs seem to describe more about local people's expectations of the mining project. From this perspective it seems that in social impact assessments there should be more consideration about negative social changes during the decades of mining processes. Wider considerations would strengthen the long-term Social Licence to Operate.


Lapland Material Bank, Outokumpu

5. PRACTICAL APPLICATIONS OF SOCIAL LICENSE TO OPERATE RESEARCH

In conclusion, it is clear there is an increasing need to build relationships with communities based on trust that continues throughout the life of a project. Mechanisms such as impact and benefit agreements could be one way to accomplish deeper trust. Indigenous people's rights and interests are one of the aspects that make Finland special in its mining sector.

Future research should look at more 'culturally appropriate' approaches that work in Finland for the company-community relationship. There is also a knowledge gap in research with respect to resolving land use conflicts, especially with the tourism industry and traditional livelihoods, such as reindeer herding.

This report analyses how Social License to Operate literature from the University of Lapland contributes to and benefits Kaivosvastuu in its goal to be an open and trustworthy network that has advanced the mining

industry's reputation as a caring and responsible partner. One of the key findings from the SLO work in AMIC is that the University of Lapland could offer a much deeper and richer understanding regarding indigenous issues to Kaivosvastuu, especially given the lack of official representation from indigenous representatives. Also, with strong Arctic and legal expertise, the University could contribute knowledge about the profound and multi-dimensional challenges of climate change, the law and SLO, particularly given the need for more adaptive ecological, legal and social structures.

With the unification of the Lapland University of Applied Sciences and the University of Lapland in 2018, there is now more capacity to cope with future challenges. The University of Applied Sciences has, for example, technical expertise that could contribute to the needs Kaivosvastuu's membership and other mining related actors, in addition to the strong academic expertise offered by the University of Lapland.


Lapland Material Bank, Agnico-Eagle Finland Oy


Lapland Material Bank, Outokumpu


Lapland Material Bank, Agnico-Eagle Finland Oy


Lapland Material Bank, Outokumpu

ANNEX I: DIGITAL TOOLS FOR SLO

ARCTIC CENTRE
University of Lapland

- Different types of data available in different phases of the mine.
- Phases and data

1. Exploration – Potential, predictions
2. Development – Plans, estimations
3. Main production phase - Real-time data
4. End of lifecycle - Cumulative data
5. Closure - History

→ Story of a Mine

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University of Lapland

Narrative Visualization

Storytelling

- Narrative communication is inherently conxtext dependent; fitting for mining.
- ”Narratives are intrinsically persuasive.” [2]
- Narrative communication is generally considered as efficient too for increased information processing in non-expert audiences. [2]
- Narratives rise ethical questions
  - ✓ Describes experiences, not generalizations.
  - ✓ Social influencing and trust.

→ What to plot and when?

[2] Dahlstrom, M (2014) Using narratives and storytelling to communicate science with nonexpert audiences

Narrative Visualization

- Possibilities for Storytelling:
  - Visualizations
  - Infographs
  - Augmented Reality (AR) and Virtual Reality (VR) toos

ARCTIC CENTRE
University of Lapland

Tools for Storytelling

Old School Plotting

- Standard visual representations of numeric data; charts, plots, histograms, timeseries, networks...
- Increased focus in interactive web-design.
- Cost-effective.
- Difficult to build highly engaging statistical graphs with narrative elements.

- Examples:
  - ✓ R Shiny
  - ✓ Graph Gallery

ARCTIC CENTRE
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Tools for Storytelling

Infographics

- Visual representations of data; Basically advanced plots of dense multivariate data with narrative elements.
- High visual content: Easy to understand and approach
- Easy and efficient to communicate and spread
- Cost effective

- Examples:
  - ✓ Happify.com
  - ✓ Accurat.it

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Tools for Storytelling

Augmented Reality(AR)

- Plotting computer generated graphics over physical environment via digital tools.
- From static plots over physical environment to interactive, real-time data.
- Location specific: AR overlays computer generated graphics over physical reality via camera and display.
- Remote AR possibilities: Link

- Examples:
  - ✓ Pokemon GO
  - ✓ Wikitude World Browser
  - ✓ Google Sky Map
  - ✓ FieldTripper
  - ✓ MapTek for Mining

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Tools for Storytelling

Virtual Reality(VR)

- Generated sensory data of real or imaginary settings via virtual reality headset.
- ”Technology intesive”: Requires state-of-the-art equipment for development AND use.
- Currently used in small range of fields:
  - Gaming
  - Education
  - Industrial design

- Examples:
  - ✓ Oculus Rift
  - ✓ Samsung Gear VR
  - ✓ Eon Reality
  - ✓ VR tools for VR design

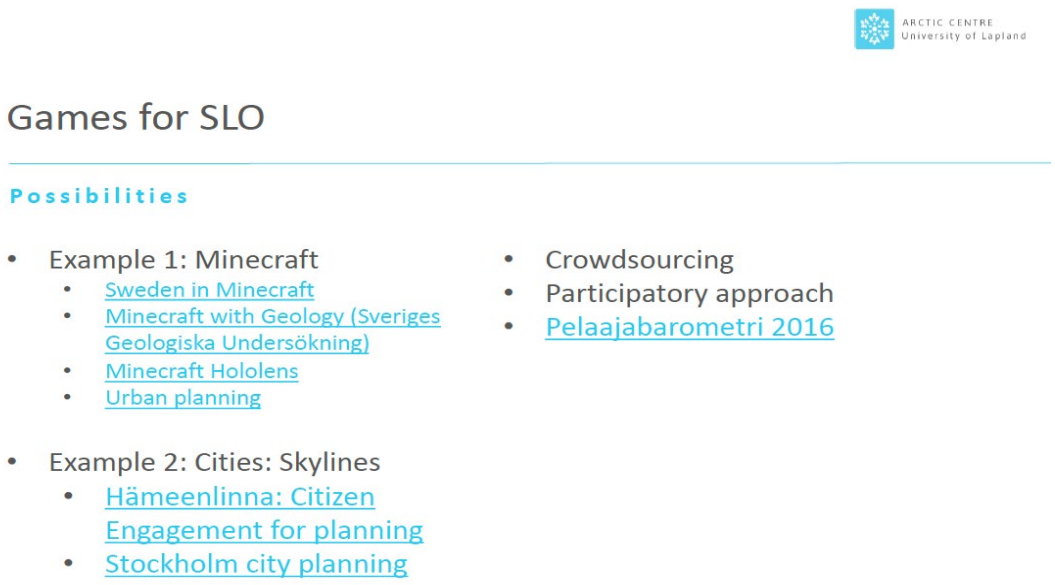
ARCTIC CENTRE
University of Lapland

The State-of-the-Art in VR

Gaming Industry

- Gaming Industry as a spearhead of VR business. Rapid growth.
- Example: Oculus Rift raised 2,5 million dollars from Kickstarter campaign. Two years later Facebook bought the company for over 2 billion dollars.
- Next step: Mixed Reality (Holographic Computing)

- Examples (games):
  - ✓ Elite Dangerous
  - ✓ Resident Evil 7 (Game-play video)
  - ✓ Microsoft Hololens



ANNEX II: SLO EXPERTS IN LAPLAND

Arctic Smart Mining Cluster (AMIC) Partners

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Kaivosvastuu/Finnish Network for Sustainable Mining

Mining Industry

- *Agnico Eagle Finland Oy*, Kittilä. Anita Alajoutsijärvi, anita.alajoutsijarvi@agnicoeagle.com +358 (0)40 511 1508. Gold https://s21.q4cdn.com/374334112/files/doc_downloads/sd_reports/11239_AEM_2016-SDR_Typeset-Complete_v5b.pdf
- *Anglo American Exploration Finland Sakatti*, Sodankylä, Kittilä. Joanna Kuntonen-van't Riet, Joanna.kuntonen@angloamerican.com +358 (0)40 865 0090. Nickel, copper and metals in the platinum group. http://www.angloamerican.com/~/media/Files/A/Anglo-American-PLC-V2/documents/annual-reporting-2016/downloads/2016-sustainability-report.pdf
- *Boliden Kevitsa* Mining, Kevitsa, Sodankylä. Tommi Lehtilä tommi.lehtila@boliden.com +358 (0)44 330 7005. Searches for metal minerals such as nickel, copper, platinum, palladium and gold. https://vp217.alertir.com/afw/files/press/boliden/201703089998-1.pdf
- *Outokumpu,* Outokumpu Kylylahti in North Karelia (other mines in Koillis-Savo, Kaavi and Polvijärvi). Jarmo Vesanto jarmo.vesanto@boliden.com +358 (0)50 410 9552. Copper-gold and zinc.
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- *FinnAust Mining Finland Oy owned by the Australians and Finns* Joensuu, Outokumpu and Enonkoski in North Karelia. Urpo Kuronen, ukuronen@finnaust.com +358 (0)40 483 8510. Copper, nickel, zinc, gold and silver. http://fem.lappi.fi/c/document_library/get_file?folderId=506958&name=DLFE-10267.pdf
- *Gold Fields Arctic Platinum Oy/CD Capital/CD APP* Ranua, Rovaniemi, Tervola, Keminmaa and Simo. Juha Rissanen, juha.rissanen@gfexpl.com +358 (0)40 844 6671. Platinum metals, copper, nickel and gold.
- *Keliber Oy (not in Lapland or North Karelia)* Kaustinen, Kokkola. Kari Wiikinkoski kari.wiikinkoski@keliber.fi +358 (0)50 375 3204. Lithium.
- *Mawson Oy* Ylitornio and Rovaniemi (Rajapalot and Rompas in Ylitornio/Rovaniemi). Noora Ahola nahola@mawson.fi +358 (0)50 521 3515. Gold, diamonds. http://mawsonresources.com/assets/docs/governance/mawson-environmental-health-and-safety-policy.pdf

- *Nordic Mines Oy (nearby Oulu)* Raahe. Peter Finnäs peter.finnas@nordicmines.com +358 (0)50 338 5870
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- *The Kemi Mine owned by Outokumpu Chrome Oy* Keminmaa. Samuli Nikula, samuli.nikula@outokumpu.com +358 (0)40 536 4023. Only chromium mine in the European Union. http://www.outokumpu.com/SiteCollectionDocuments/Policy%20on%20Sustainable%20Development%20and%20Corporate%20Responsibility_revised%2009122011.pdf
- *The Pyhäsalmi mine Canadian First Quantum Minerals Ltd (south from Oulu***)** Pyhäjärvi. Raija Urpelainen, raija.urpelainen@fqml.com +358 (08) 769 6111. Chalcopyrite (CuFeS2), 4% zinc blend (ZnS) and 66% pyrite (FeS2). http://s1.q4cdn.com/857957299/files/doc_downloads/Reports/2016-Sustainability/2016-Sustainability-Report.pdf
- *SMA Mineral Oy* Kalkkimaa in Tornio (and Pieksämäki) Johanna Holm johanna.holm@smamineral.com +358 (0)44 583 7176 . Limestone & dolomite. http://smamineral.se/en/sustainability/
- *Sotkamo Silver Oy* Sotkamo Arttu Ohtonen arttu.othonen@silver.fi +358 (0)40 415 6857. Silver. http://www.silver.fi/sivu/en/financial_reports/?show=one&lang=en&id=69304FE4FE6148C3
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