

# Case 8: Kevitsa mine

## A case of integrated land use planning, environmental commitment and SLO



**This good practice case responds to:**

**Minland Good Practice Stream Topics:**

- B) Identification of actual and potential land uses**
- C) Assessment of whether minerals and other land uses have been introduced on equal footing**
- D) Assessment and extent of integration between minerals and land use policies**
- E) Assessment of transparency in land use planning processes**
- G) Assessment of integration of social aspects and civil society involvement**
- H) Assessment of strategic consideration of safeguarding**

**Authors:** Nike Luodes ([nike.luodes@gtk.fi](mailto:nike.luodes@gtk.fi)) Geological Survey of Finland (GTK)



## Part 1: Case Overview

### 1.1 Executive summary

The case relates to the activity of a mine in Lapland and to the development of the Land use planning (LUP) towards inclusion of minerals into land use. Kevitsa mine is located in an area in Lapland Region that presents environmental, natural and cultural values. Mining activity is an important economical driver in Lapland together with tourism and forest utilization, aiming at a sustainable use of natural resources in a low urbanized, ecological rich environment. The mine has been able to find an agreement in land use conflict with reindeer herder associations. The development of the mine adapted and improved with the progress of legislation in terms of environmental performance and social issues: The mine has been able to operate under a rigorous environmental permit not to damage the natural protected areas located nearby and has also engaged with the community by supporting socio-economic development of the area. Considering the economic and social importance of sustainable exploitation of natural resources, land use planning at regional level included mineral resources into land use planning activity. For example, the mineralization belt has been taken into consideration during discussion of the regional land use planning, and



mine and deposits are visualized for state and private minerals in the land use plans. Moreover, larger areas for possible mine expansion were included (as opposed to previous plans which only contained deposits economically feasible for extraction in the next few years).

## 1.2 Overview of Key Good Practice Aspects and suggestions

### Good Practice Aspect 1: Effective environmental and SLO performance

- **Element 1:** Communication approach between stakeholders since early stages + Guidelines to support mineral exploration and extractive activities.

Early stage communication with diverse set of stakeholders as a success factor and strategic choice for mineral development: Stakeholders are involved in the activities related to land use for mineral utilization since early stages. It is required by the mining act, and it is a common procedure. Land owners, municipality's authority in charge of local land use plans, regional authorities in charge of regional land use plans and stakeholder's groups might be involved already at exploration stage. In Kevitsa's case communication with the stakeholders since early stages combined with slow development, from pre-exploration to mining and subsequently increased production, supported the acceptance of the mine. Guide has been created to support exploration activities in protected areas.

**Success factor:** Mining act refer to involvement of the stakeholders and in this way connect to the building code that rule the land use management. The guide supports in the practical organization in the early stages, during exploration.

- **Element 2:** Higher environmental commitments build trust.  
Requirement for lower emissions and the commitment of the mining company to fulfil the requirements increasing environmental performance allows the activities to continue and builds trust.

**Success factor:** Controlling authorities developing requirements based on the best available technology drives the mining activity to improve its environmental performance and at the same time build trust with the stakeholders.

### Good Practice Aspect 2: Inclusion of mineral resources into land use planning

- **Element 1:** LUP that affects a specific area for a specific case and make changes to the zoning at this site only. Other areas within the same land use plan are not affected.

**Success factors:** The LUP policy considers economical development with other values. This impedes preventive zoning unless the other values are much higher than the economical ones.

- **Element 2:** Evaluation of mineral resources during LU planning process. Included in the LU plan is the potential increase of mining area, and additional potential deposits to be developed. Communication at early stages with different stakeholders and involving them in the planning activity assists the work of the LUP authorities.

**Success factor:** LUP process requires evaluation of economical development. The LUP authority involves the relevant state organization's responsible for mineral assessments and collects information on other developing economical activities during subsequent years.

## 1.3 Mineral resource groups



Metals



Critical Raw Materials – Current list of EU CRM 2018



## Part 2: Case description

### 2.1 Case description

The case of Kevitsa mine describes how mining activity is possible to develop in a land use conflict area and how minerals exploitation aspects are considered in LUP activities in different lifecycle's phases. The exploitation of the deposit of Kevitsa Mine (Ni,Cu), operated by the company Boliden, has been developed since its discovery in 1987. Primary products are Nickel and Copper and sub-product Gold and two CRM: Platinum and Palladium. The company is now operated under Boliden, with a large mineral deposit, operation is planned for several years (166,2 millions tons: Ni 0,22 %, Cu 0,35 %, Au 0,07 g/t, palladium 0,07 g/t, Pt 0,12 g/t). The mine has developed slowly during the years and has been considered an economical resource for the area. The community has accepted the mining activity. Part of the area used by the mine has been addressed for reindeer husbandry and the mine has signed private agreements with the local reindeer association.

The company has been able to adapt to environmental limits not to damage the nearby protected area.

The activity is seen by the LUP authorities (local and regional) as a social economical resource. The municipality of Sodankylä, where the mine is located, has produced a Mining program (see

[home page](#) of Sodankylä). From the program, that refer to Regina Project, where surveys have also been made to monitor the perception of the mine by the society: “According to the survey, the majority of respondents accept mining operations in Sodankylä. The most significant benefit is the employment in mining activity within the community”, even though part of the respondents felt that mining activity has weakened the environment in the neighboring villages. The main positive aspects recognized by the municipality have been: significant number of new jobs, housing market rise, increased mining activities, public and private house construction, increase in service needs in day care, in foreign-language services, to some extent also in social services, the need for additional resources in the municipal environmental services and control regarding permits, the need to develop other industries, the need to develop co-operation with the mining industry in relation to information exchange and community development and service provision.

The municipality refers to the effects of the mining activity on social and economic sustainability. Regarding social sustainability it is aimed to create benefit to nearby villages from mining projects building employment and training paths, compensate and minimize the disadvantages developing different industries so that there is work for the whole family and increase training opportunities, have actions to support local culture, increase road safety promoting the construction of light traffic routes and roads renovations,... Ecological Biodiversity includes protecting nature values and bringing them up to the authorities and mining companies, assuring adequate resources for the municipal environmental protection authority, increase naturalization, involving volunteers and monitor reports from miners and authorities actively, develop cooperation and interaction on environmental impacts information, compensation actions from the mine.

The LUP authority at regional level has taken into account the enlargement of the mine in the LUP processes and it is forecasted in Land Use Plans.

In the specific, Lapland’s LUP planning activity has included mineralization areas, since the regional authority considered sustainable mineral development a resource for the region and values it together with other land uses. In the final Land use plans only known deposits and areas that will go under development in the next recent years will be zoned but land use zoning for extractive activity can be applied by projects according to the needs.

## 2.2 Responsible institutions

- Mining company – Boliden- interested in the specific case, has been taken over the mine implementing its activity fulfilling the environmental performance required by authority
- Stakeholders associations – reindeer association – as land users in specific areas in Lapland and

Northern Finland.

- Land use planning at regional level is a process under Lapin Liitto – Regional council of Lapland with the consultation of large number of stakeholders and authorities. The region is choosing which are regional socio-economical drivers for sustainable development, in this case the region consider mining activity an economical driver but at a regional land use planning stage respects the areas belonging to the Sami homeland, northern most areas, and Skoll community.
- Municipality- in charge of local LUP and development – can affect to the establishment of a mine. In this case the municipality considers the activity important under several aspects and has supported it with a mining program.
- AVI – in charge of environmental permits, discharge permits – ELY center- monitor the emissions. The responsible authorities that increased the environmental performance requirements.
- Tukes – the mining authority- in charge of granting mining permits. It is the national authority that is in charge to permit the establishment of a mine.
- The ministry of environment – in charge of act that rules the LUP process and the environmental requirements. Ministry of environmental defined the acts for EIA and pollution control, as well several others that control the mining activity (see [MINLAND Deliverable 4.2 Land Use Policies and Valuation of Land](#))
- Ministry of economic affairs and employment includes the mineral aspects as a social and economic factor through programs, mining acts, mineral policy. It is in charge of the mining act.

## 2.3 Case stakeholders

The stakeholders involved in the case have an interest in use of the land as for example the reindeer herders associations that see in the mining activity a part of land previously used by reindeers utilized by an extractive activity. The area interested by reindeer herding is covering several regions, is more extended than the Sami homeland and Skoll community area. The effects of the establishment of a mine have been considered in a guide for Environmental Impact Assessment. The community is interested for its social and economic development and for the values attributed to the environment. In the land use planning and mine establishment process, the permit is given by the mining authority Tukes (Finnish Safety and Chemicals Agency), and includes environment permits from the AVI. Construction of a mine needs also permits for land use from the local authority. The municipality can affect the establishment of a mine after due evaluation of the competing land uses and of the values they attribute to those. In this case the municipality has valued the benefits

of the mining activity.

## 2.4 Context

The mine has developed slowly allowing acceptance by the community. It is important the involvement of the LUP authorities (regional and local) at early exploration stages.

The mine is located near natural protection areas already existing on land use maps before the inclusion into Natura 2000. The mine operates in an area that also presents holiday cottages for which the environment is a value.

The mine started its operation with the old mining act but has been already performing EIA. The mining company has changed during the years. In recent times, under Boliden, developed to comply to new stricter water emission limit. The area did not belong to a Sami area, but there has been land use conflict with reindeer herding that found a solution into a private agreement before operation started. Reindeer associations' needs in Finland have been taken into consideration, within normative, as the mining act but also through cooperation between the stakeholders and the creation of a guide for EIA impacting reindeer herding activity. Their area is large but mining companies have reached agreement of land use.

The establishment of a mine requires a land use zoning for the purpose and the process can start during later stages of exploration. The area where the mine developed had already been zoned for mineral extraction and this made the process easier.

Economical deposits can already be considered into LUP. Sustainable exploitation of natural resources, including mineral resources, is an economical value for the region and the country and their evaluation for inclusion into LUP is a part of land use planning activity. Even if there is a possibility to include deposits and enlargement areas in the land use maps, the land use plans allow land use assignment case by case during time. They are flexible and allow assessments of the activities at the time when the activity can start.



## Part 3: Case Evaluation

### 3.1 Impact achieved

The process related to the development of the mine allowed acceptance of the extractive activity by other stakeholders, generated generally a positive image in the community and improved environmental performance. The mine has affected positively economically (job creation from several municipalities and for several activities) and socially (services, increased infrastructure ) the community (Regina project results).

The land use planning is moving in the direction of considering beforehand possible expansion of the mine and including information of mineral resources.

Slow development with the involvement of the stakeholders, experts and LUP authorities at an early stage increase trust and understanding and at the same time improve LU planning that includes minerals extraction.

### 3.2 Good Practice Aspects: Elements and their transferability

GOOD PRACTICE ASPECT 1: Effective environmental and SLO performance	
Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p><b>Element 1: Communication approach between stakeholders since early stages + Guidelines to support mineral exploration and extractive activities.</b> Policy relevant for Mineral development refers to the need of early engagement. The mining act that rules the extraction activities refers to the need to communicate at early stages (exploration phase) with the identified stakeholders. Land use planning authorities, land owners, Sami, reindeers herding associations are some listed by the act.</p> <p>Supporting tool: Guidelines for exploration in specific critical cultural, natural areas pointed out in the mining act have been written to support the activity in respect to the stakeholders and the protected areas (created under the ministry of economy by experts).</p>	<p>The policy on mineral development identify the interested stakeholders and require early engagement within the activities relevant for developing minerals (exploration, exploitation, closure, rehabilitation)</p> <p>Supporting tool: Guide created by relevant authorities and experts support the practical activities.</p>
<p><b>Element 2: Higher environmental commitments build trust.</b> Requirement for lower emissions and commitment of the mining company to increase environmental performance allows the project to progress and adds trust.</p> <p>The authority presents experts in the field that are able to update the emission limits requested by the activities, promoting technological uptake and better environmental performances. The process happen following normal revision procedure of the activities.</p> <p>Supporting tool (In Finland drafted by from Finnish Network for Sustainable Mining): Sustainable Mining Standard” with instructions for sustainable operations to mining companies.</p>	<p>Ability (based on knowledge) of the permitting authority to set adaptive and updated emission limits formulated considering the improvement of technology that the industry can uptake. This can happen during periodical revision.</p> <p>Supporting tool for the companies to evaluate the best available technology: Guide created by cooperation of industry, experts and authorities.</p>

## GOOD PRACTICE ASPECT 2:

### Land Use Plans that allow Inclusion of minerals during time

Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p><b>Element 1: LUP that allows changing of zoning according to a project.</b></p> <p>Land use plans allowing change of zoning denomination that allows the land use to evolve with time.</p> <p>The land is either private or public owned.</p> <p>During preparation of the regional land use plan (no National land-use plan exists), consultation is conducted and, according to regional development strategies, updates to zoning is proposed. Certain areas enter land use plans by other regulations (conservations areas, cultural areas, Sami homeland and Skoll community area, etc.), or can be instigated by other procedures relating to development actions by e.g. the government, or impacted by EU directives (e.g. Natura 2000), or interested stakeholders. Not all land is zoned, zoning is done according to the needs with the ultimate objective to achieve sustainable development.</p> <p>The zoning for a certain activity is the faster and easier step to develop the activity in the certain area, but the non-existence of suitable zoning is not preclusive for its development.</p> <p>Zoning of areas that do not enter the LUP by other regulations means to evaluate the socio-economic effects and trade-off with alternative land-use. The possibility to zone or change zoning allows for flexibility and development of activities over time, including consideration of socio-economic evaluation (over time).</p>	<p>Land use planning process that allows re-evaluation of land use zoning according to new development possibilities (projects) outside the defined re-evaluation periods contributed to the flexibility and success of developing the Kevitsa mine. Normally land use plans go under a revision after 10-20 years, but given the possibility to evaluate new project possibilities in a flexible manner, and to allow the changes to land use plans (through the possibility of company finance), minerals, land-use planning and socio-economic factors are considered continuously given new demands and interests. The change of land use zoning outside the revision periods follow normal procedure for change of the land use plans at a local level, as this is regulated. In practice companies present own plans for the land use to the land use planning authority, follows authority and expert consultation and public consultation. Relatively to minerals the process can start as early as possible when planning to open a mine. Flexibility of LUP procedures and legislated involvement of stakeholders allows for changes over time, and frequent evaluation of land-use trade-offs as well as socio-economic effects.</p>



## GOOD PRACTICE ASPECT 2:

### Land Use Plans that allow Inclusion of minerals during time

Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p><b>Element 2: Inclusion and integration of mineral resources during LU planning process.</b> LU plan includes the potential increase of the area of mining activities, and potential additional deposits to be developed.</p> <p>The upper level of land use planning is at regional level: the regional land use plans, that are renewed every 10-20 years, and are created by the regional councils after several cycles of consultations and public hearing, outline building and environmental development in the coming decades. The land use and building act regulates the land use planning and refers also to participation and expertise. Experts, authorities and stakeholders are involved in the process. The regional land use plans are built considering national land use guidelines and special needs of the regions. In Finland minerals are considered strategic important within the mineral policy and by certain regions where mining is more active. The regions have possibility to decide which are the main aspects to be stressed for own development. The regional council consult experts, in this case geological survey, to include minerals into land use planning.</p>	<p>Following the example of the Kevitsa case study, practitioners interested in the integration of minerals into the land use planning process and LUP maps should consider the following triggers that contributed to inclusion of minerals in to LUP processes:</p> <ul style="list-style-type: none"> <li>-National interest in mineral exploitation -policy (as part of sustainable development),</li> <li>-Regional interest in mineral exploitation (as part of sustainable development),</li> <li>-Participation /consultation of experts in the land use planning process.</li> </ul>

