

Case 2: Boliden Area Operations at Skellefteå field in Sweden



This good practice case responds to different tools to use to retain a Social Licence to Operate

Minland Good Practice Stream Topic:

G) Assessment of integration of social aspects and civil society involvement

Authors: Anders Forsgren (anders.forsgren@boliden.com) Boliden, Ronald Arvidsson (ronald.arvidsson@sgu.se) Geological Survey of Sweden (SGU)

Part 1: Case Overview

1.1 Executive summary

This case involves the Boliden company and its SLO strategy, which is dealing with remediation of a mining area in Boliden town and stakeholder dialogues and consultations. The Boliden Area is located in the mineral-rich Skellefte field in Västerbotten, northern Sweden, operated by Boliden since the 1920s. The area currently comprises of the Renström, Kristineberg and Kankberg underground mines and the Maurliden open-pit mine. All of the mines in the area, with the exception of Kankberg, produce complex polymetallic ores that contain zinc, copper, lead, gold and silver. The mines supply ore to the concentrator at Boliden, which is also home to leaching plants for gold and tellurium production. The company is active in all stages of mining from early exploration, project development, active mining extraction, remediation and long-term use of land. Mining is done both underground as well as in open pit. The scale of mining effects is from local to regional. Mining has always a local aspect in terms of land use and environmental issues due to the size of operations. The regional aspect is that the operating mines are spread out over a larger area and has effects upon use or construction of infrastructure.

This case is about the company strategy of interacting, consulting and involving with different interests to use of land. The stakeholder interaction involves landowners, hunters, local community, reindeer herders (several local indigenous Sami villages) etc. Particularly the case is about stakeholder consultations and dialogues and how the project is affected and evolved as a response. Presented

are good examples on strategies on how to work and coexist together with other interests. Other examples of company projects are coordination of exploration, transports of ore, changes in construction of new mines. New measures and expansions need a good coordination and relation to other interests, which is in Boliden's focus.

1.2 Overview of Key Good Practice Aspects and suggestions

Good Practice Aspect 1: An extensive and collaborative civic engagement process developing a rehabilitation plan

- **Independent agency facilitating the process:** A landscape design agency led the process for the planning of the rehabilitation plan. A professional design and facilitation team that works as an independent agency guarantees transparency, trust and an un-biased process of the company activity. **(STRATEGIC CHOICE)**
- **Application of multi-method participatory design approach:** Using different methods for feeding results into the design process provide broad opportunities for inhabitants with different user and engagement needs (e.g. elderly people, schoolchildren etc.) requires experienced and professional teams. **(SUCCESS FACTOR)**
- **Early and long-term involvement in the process:** The participatory approach started early in the project and lasted for more than one year with several consecutive phases that allowed to understand local community interests and build up trust for company action **(SUCCESS FACTOR)**
- **Involving a wide range of stakeholders in the design process:** The participatory design engaged a wide range of stakeholders such as local inhabitants, employees, authorities, and paid particular attention to the involvement of underrepresented groups such as schoolchildren and indigenous communities. **(SUCCESS FACTOR)**
- **Wide-spread media coverage and public outreach:** The stakeholder dialogue as public and participatory events drew more media attention as expected that generated supportive framework conditions in a way that it "spread the word" about the project. **(CONTEXTUAL FACTOR)**
- **Company principles for SLO – the Boliden Approach** Company operating principles that lend credibility to the civil society engagement process provide positive framework conditions for its success. **(CONTEXTUAL FACTOR)**

Good Practice Aspect 2: Establishing and Managing Sami relations facilitating SLO and co-existence of land us

- Re-establishment of reindeer grazing areas in rehabilitated mining areas: Research projects and monitoring activities will create better conditions for reindeer herding and grazing. **(STRATEGIC CHOICE)**
- Innovative ICT applications reduce conflict with reindeer herding.
Innovative ICT and web applications enable better monitoring of reindeer movement, and, thus less road accidents and improved information on environmental pollution. **(SUCCESS FACTOR)**

1.3 Mineral resource groups



Metals



Critical Raw Materials



Part 2: Case description

2.1 Case description

Boliden Area (Skellefteå field)

Boliden made the first gold discovery, in the mineral rich Skellefteå field in Västerbotten in northern Sweden, which laid the foundation for the business. Since starting production in the 1920s, Boliden has mined ore in almost 30 mines. Further exploration is ongoing as well as a number of rehabilitation projects. The area currently comprises of the Renström, Kristineberg and Kankberg underground mines and the Maurliden open-pit mine. All of the mines in the area, with the exception of Kankberg, produce complex polymetallic ores that contain zinc, copper, lead, gold and silver. The mines supply ore to the concentrator at Boliden, which is also home to leaching plants for gold and tellurium production.

In this area Boliden has a long history of how to work and coexist with different types of stakeholders such as land owners, hunters, local community, and reindeer herders (Sami). Examples range from coordination of exploration, transports of ore, projects development in construction of new mines, rehabilitation and long term land use.



The company Boliden is operational in the area for almost 100 years and is planning to be operative for a several more decades. This means that there has to be a strong focus on sustainability and local understanding. The communities in the area are dependent on the mining industry and the city of Skellefteå is perceived as the “Gold town”.

Land-use planning and stakeholder involvement is one of Bolidens most important focus areas. Both issues have to be present in all stages of operations from early exploration through operations and into rehabilitation and long-term planning for future land use.

Some of Boliden’s activities on land-use planning and stakeholder involvement encompasses:

- Set aside time and make a personal commitment;
- Adapt to the location and stakeholders;
- Identify stakeholders and get to know each other;
- Talk to each other early on and throughout the project;
- Establish meeting places and informal contacts;
- Arrange visits to operations;
- Participating in community planning;
- Annual meetings with all types of stakeholders;
- Open, credible talks.

2.2 Responsible institutions

- Boliden Mineral AB;
- Cederwall Architects;
- Swedish University of Agricultural Sciences.

2.3 Case stakeholders

- Local Residents;
- Communities of Interest;
- Racial, Ethnic and Cultural Groups;

- Local Community and Voluntary Groups;
- Web Based or Virtual Groups;
- Sami villages;
- Public Authorities.

2.4 Context

Boliden area operations are situated within traditional Sami land (Sapmi).



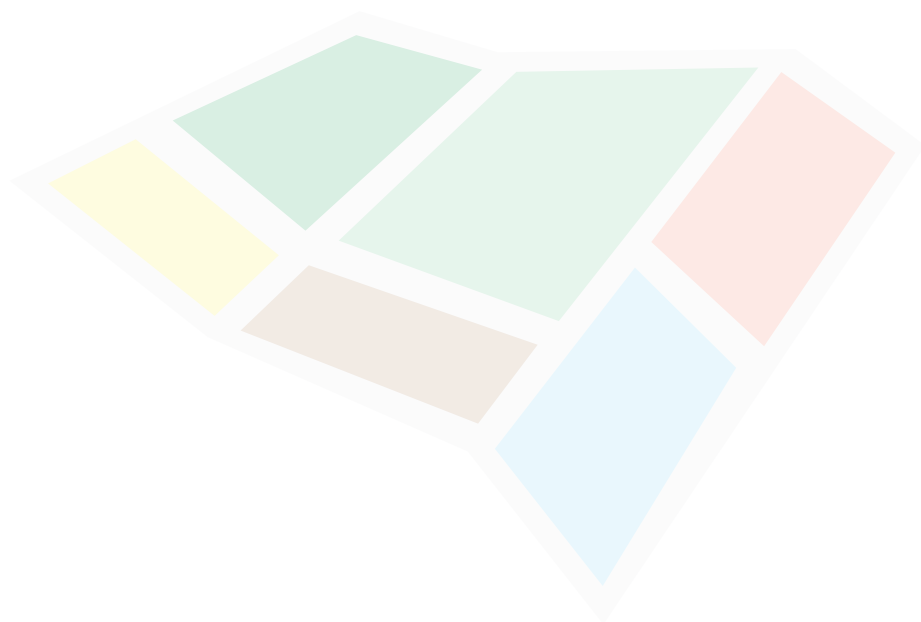
Boliden strives to have an open dialogue with relevant Sami villages at all mines and development projects within Sapmi. When we conduct exploration or mining operations in northern Sweden, we always encounter the Sami community, and our interests overlap each other. Then it is important to have an open dialogue and to cooperate. Then we can build trust and find solutions that are beneficial for both sides. The ambition is that both reindeer husbandry and mining operations can be run side by side in the long term. Boliden are working together with different Sami groups in different development projects.




Part 3: Case Evaluation

3.1 Impact achieved


- IMPACT 1: Increased SLO (mining remediation): Remediation plans that have acquired support by local community via participatory design process.
- IMPACT 2: SLO and improved Sami relations (co-existence of other land uses): Company projects (mining impacts on Reindeer herding) to reduce land use conflicts with nearby stakeholders dependent on reindeer herding (pollution effects on reindeer grazing and local livelihood reindeer herding).
- IMPACT 3: Increased SLO for future mining projects in the regions due to extensive and participatory community engagement in current mining operations.



3.2 Good Practice Aspects: Elements and their transferability

GOOD PRACTICE ASPECT 1:	
An extensive and collaborative civic engagement process developing a rehabilitation plan	
Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Independent agency facilitating the process:</p> <p>Boliden chose a landscape design agency to facilitate a participatory design process for the planning of the rehabilitation plan. The professional design and facilitation team was able to apply a wide array of methods for participatory design. The design team was responsible to translate the stakeholder ideas, needs and civic design proposal into professional plans. However, the design team ensured transparency: They responding to the civil society on how the feedback was considered and implemented in the plans, and how they intended to continue with the design contribution of the local community and its inhabitants.</p> <p>STRATEGIC CHOICE</p>	<p>A professional design and facilitation team that works as an independent agency guarantees transparency, trust and an unbiased process of the company activity.</p>
<p>Application of multi-method participatory design approach:</p> <p>The case illustrates, that the co-design process was consciously designed, facilitating different, suitable methods for different stakeholder groups. The Boliden engagement process was developed as a planning for real consultation. A planning tool for a real consultation approach is where the design team literally plans for real: A design studio is set up in a particular community over several days and local citizens are invited to participate in the consultation through different methods.</p> <p>The application of different methods provides more opportunities for inhabitants to engage, and if one type of action does not fit with personal preferences (e.g. people who do not want to speak in front of groups) or personal needs (e.g. different time slots are necessary to open participation for different groups, e.g. care activities for elderly people, children, or shift work, etc.), also including an evaluation method. The professional design and facilitation team prepared the action in both designing and facilitating the participation process as well as complementing the process with site visits/fieldwork about the Boliden mining project on local context and technical aspects concerning the post-operation treatment, a spatial analysis in order to ensure the local and technical conditions are clear.</p> <p></p> <p>SUCCESS FACTOR</p>	<p>Use multiple methods for information and consultation with stakeholders. Specifically designed for the different categories of stakeholders and personal needs.</p> <p>The involvement of citizens with different backgrounds into the design process of the project, in this case remediation of old mining activities.</p>

GOOD PRACTICE ASPECT 1:**An extensive and collaborative civic engagement process developing a rehabilitation plan**

Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Early and long-term involvement of stakeholders in the process:</p> <p>The participatory approach started early in the project, aiming to engage residents and create an active collaborative setting.</p> <p>After the initial planning phase, the whole participatory design process comprised of one year with different steps:</p> <ol style="list-style-type: none"> 1. The process started with stakeholder identification and continued with information meetings, stakeholder involvement in planning and a three days event that ended up in a feedback session. Rooms were prepared with information, questionnaires and maps on the walls on which feedback could be posted. 2. Online questionnaires were translated into six different languages to make sure to get involvement from inhabitants with different background. 3. In addition, different events for politicians, Sami groups, NGOs and other stakeholder groups were held. 4. A few months after these events a public meeting was held where a plan for the next steps was presented. There were additional opportunities to give feedback at the annual Boliden days. <div style="text-align: center;">  <p>SUCCESS FACTOR</p> </div>	<p>Early and long-term involvement of stakeholders in the project.</p>

GOOD PRACTICE ASPECT 1:**An extensive and collaborative civic engagement process developing a rehabilitation plan**

Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Involving a wide range of stakeholders in the design process</p> <p>The participatory design process engaged local inhabitants, employees, authorities, interested parties and concerned stakeholders and payed particular attention to the involvement of target groups (underrepresented groups) such as school children and indigenous communities. The co-design workshops involved 482 participants, which was complemented by 139 participants that contributed digitally (via Social Media and approx. 1400 visits of the Social Media page). For example, one of the events involved a number of activities in which that younger schoolchildren produced trees with their wishes and dreams; older schoolchildren and the inhabitants in the town Boliden were invited through different channels to a hearing process with active involvement.</p> <p>A participatory design process gives the community a chance to voice their concerns and for the design team to learn from them. As ideas and opportunities are identified the design team develop them into sketches and plans showing how their ideas can be translated into physical realities. These sketches and plans then form the basis for an ongoing conversation with the community. The community can provide immediate feedback on the plans and sketches. Such a two-way communication approach is a critical component during the planning phase.</p> <div data-bbox="488 1462 560 1532"> </div> <p>SUCCESS FACTOR</p>	<p>Involve a broad range of stakeholders, local inhabitants, employee's, authorities, interested parties, indigenous communities, schoolchildren. This gives the affected stakeholders a chance to voice their concerns and contribute to the project.</p>

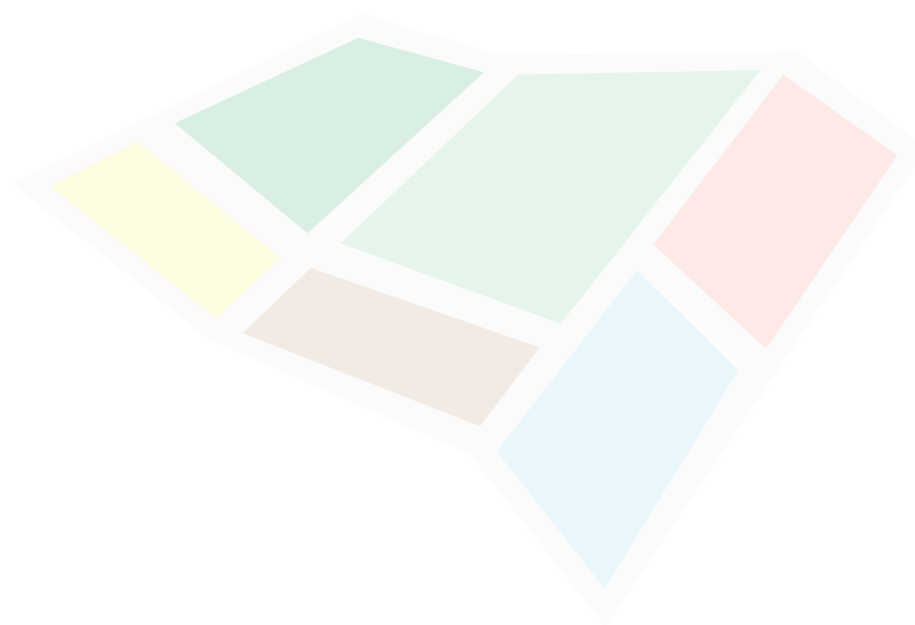


GOOD PRACTICE ASPECT 1:**An extensive and collaborative civic engagement process developing a rehabilitation plan**


Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Wide-spread media coverage and public outreach</p> <p>The participatory design project has generated a big engagement from the school kids, Boliden employees, the municipality and other residents in the society Boliden and the closest villages. The stakeholder dialogue held in November 2017 generated supportive framework conditions in a way that it “spread the word” about the project. Therefore, a lot more feedback-meetings, seminars and dialogue meetings with different stakeholders have been organised late in the project. This also led to a big interest from media (the project has been mentioned a couple of times in the local newspaper) and the municipality.</p> <p>CONTEXTUAL FACTOR</p>	<p>A successful stakeholder dialogue led to spreading of positive news about the project in the media.</p>
<p>Company principles for SLO – the Boliden Approach</p> <p>These are the general underlying company principles applied for the abovementioned participatory design approach:</p> <ul style="list-style-type: none"> • Set aside time and make a personal commitment • Adapt to the location and stakeholders • Identify stakeholders and get to know each other • Talk to each other early on and throughout the project • Establish meeting places and informal contacts • Arrange visits to operations • Participating in community planning • Annual meetings with all types of stakeholders • Open, credible talks <p>CONTEXTUAL FACTOR</p>	<p>A process for communication and consultations has been specified before the project start – necessary with a well planned strategy from the company for a successful stakeholder dialogue.</p>



GOOD PRACTICE ASPECT 2: Establishing and Managing Sami relations facilitating SLO and co-existence of land uses	
Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Co-existence of different land uses: re-establishment of reindeer grazing areas in rehabilitated mining areas</p> <p>Together with researchers at the Swedish University of Agricultural Sciences and the relevant Sami villages Boliden is taking new steps to learn more about re-establishing reindeer grazing areas - an important step in being able to carry out rehabilitation with added value.</p> <p>The collaboration with SLU aims to scientifically demonstrate to reestablish, for example, lichens, but also to investigate which method is best suited. Since we use land for mining areas, we also have to show that we are able to give it back as pasture land for reindeer.</p> <p>STRATEGIC CHOICE</p>	<p>Re-establishment of reindeer grazing areas in rehabilitated mining areas: Research projects and monitoring activities will create better conditions for reindeer herding and grazing.</p>



GOOD PRACTICE ASPECT 2:**Establishing and Managing Sami relations facilitating SLO and co-existence of land uses**

Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Innovative ICT applications reduce conflict with reindeer herding</p> <p>In collaboration with a Finnish company Porokello), Renfors Åkeri and the relevant Sami villages, Boliden will introduce a cellphone app in the Boliden area in the spring of 2019. Through the project, road safety is improved and hopefully we can reduce the number of traffic accidents where reindeer are involved. The idea is to test the system in the Boliden area and to seek partners so that the app can be made available to the public.</p> <p>The application has been used in Finland for several years. The goal is to reduce the number of reindeer incidents on the roads by half. The service is that professional drivers and other frequent drivers register warnings about reindeer that they have observed along the roads. The warning remains for half an hour and others using the application receive the warning in real time as they approach the area.</p> <p>Boliden, in collaboration with SLU (Swedish Agricultural University) and the affected Sami villages, initiated a project where to find out how mining operations affect reindeer and reindeer husbandry use of the pasture. The aim is to evaluate how large the disturbance zone around a mine is and how the grazing path is affected.</p> <p>Since 2017, Boliden has funded GPS necklaces for participating Sami villages and SLU follows the coordinate records of the reindeer movement patterns. The long-term goal of the project is to gather new knowledge about the mining operations' impact on reindeer husbandry in a landscape where there are other land use such as forestry, wind, and hydro power, roads and infrastructure. At the same time, the method wants to give the Sami villages the opportunity to work with improved reindeer husbandry plans with the help of the reindeer herders' own knowledge and GPS positions.</p> <p></p> <p>SUCCESS FACTOR</p>	<p>Innovative ICT applications reduce conflict with reindeer herding:</p> <p>Innovative ICT and web applications enable better monitoring of reindeer movement, and, thus less road accidents and improved information on environmental pollution.</p>