



Arctic Economic Dialogue seminar, Murmansk 24 April 2018

As part of the Arctic Economic Dialogue project, the Ministry of Economic Affairs and Employment organised a Sustainable Mining in the Arctic Region event in Murmansk on 24 April 2018. The event was organised in cooperation with the Murmansk Office of the Consulate General of Finland in Saint Petersburg as part of the Finnish Days in Murmansk.

The mining industry is one of the main providers of employment in the Murmansk region. There are six mining companies in the area employing 30,000 people. Nickel, copper, iron and apatite-nepheline ores are the main minerals extracted. Mines in the area also produce rare-earth elements.

The event dealt with the mining industry business environment and regulation in the Murmansk region as well as mining processes and resource efficiency. Mining was found to be a common denominator for all Arctic States. With global warming and ice melt as well as the simultaneous development of technology, mining in the Arctic may be facing major changes in the foreseeable future.

Besides the environmental issue relating to the development of mining, there are also a number of other challenges that the Regional Government of Murmansk raised in its annual report for 2016. Extraction now takes place much deeper down in the mines, infrastructure development is slow, the production areas are remote and access to skilled labour is limited as the skilled workforce migrates from the region.

The objectives in the Murmansk region

Statements by the Murmansk authorities clearly expressed the importance of the mining sector for the development of the region. The sector is of major importance in terms of growth, employment and investment in the region. The role of mines is also underlined by the fact that, in some cases, the mine may be a town's only taxpayer.

Between 2016 and 2017, the mining industry in the Murmansk region grew by 8.5%. Growth in the mining industry is being further boosted by growing interest in rare-earth elements. More deposits of rare-earth elements have been identified and assessments are now being made as to the extent and amounts of these metals. In addition to a growing mining industry, there has been brisk development of metallurgy in the region and production has grown at the same time as investments have risen by more than 30%.

Besides the economic benefits the mining industry brings to the region, the local authorities have also identified some of the adverse impacts on the region's environment, air and water bodies; 70% of the emissions in the region originate from mines. One common objective in the region is to reduce the amount of emissions. Mines have already made significant improvements and, for example, sulphur dioxide emissions have been reduced as have discharges of metals into water bodies. The direction is towards more stringent environmental control and companies are also seen as having a growing interest in the management of environmental issues.

Research organisations in the region also brought up the problems caused by mining waste including aggregate dust clouds and dust dispersion. The need to introduce new operating methods and technologies was raised, while emphasising, however, that there are no completely clean technologies available. It is always about finding the right balance between social, ecological and economic development. The importance of cooperation was emphasised in achieving the objectives.

Despite improvements in the state of the environment, it was felt there was a need for actions to further enhance the state of the environment in the future. The authorities in the region strongly emphasised the requirement to deploy the best possible technology. Both incentives and sanctions are in use: the most polluting companies are required to modernise their technologies and companies making improvements can expect tax breaks.

The state of the environment is monitored with regard to, for example, air quality and where necessary special measures will be launched if air quality deteriorates to below the target level set. There are 20 measurement stations in the region for monitoring. In addition to air quality, research and international research cooperation is conducted with regard to vegetation. Research is done, for example, on the distribution of alien species and the occurrence of rare plant species.

Environmental improvement and research very much involves the participation of local residents. An understanding of environmental risks is taught to and impressed on schoolchildren. Volunteers are trained and included in thinking about oil spill-related issues and in participating in efforts to adapt oil spill response methods to make them better suited to Arctic conditions. Citizens are also increasingly contacting the authorities with regard to the environmental impacts of mines. There is a desire to broadly develop an increase in residents' own activity and inclusion in a variety of themes, such as planting more urban greenery.

The Kirovsk unit of the Apatit mining company is investing heavily in modernising the mine. Major investments have been made in, for example, the digitalisation and automation of operations as well as modernisation of the enrichment plants. Modernisation of the mine's basic operation is continuing and the aim is to improve ore enrichment and in this way to utilise poorer ore reserves. The mine has significant ore reserves and there are plans to open a new floor as a matter of urgency. Partnership opportunities were seen for example in improving the efficiency of the extraction and enrichment process, promoting digitalisation (including remote control, drilling automation) and in increasing the use of LNG (LNG logistics, heating plants, transportation, drying). It was felt there was a need for dialogue for demand and supply to better meet.

Policy instruments currently in use and being planned:

The process of granting permits for geological exploration has been revised. Permits were earlier awarded in auctions. Nowadays, a permit can be obtained by registering an interest in ore exploration. The process was revised in order to enable also smaller and new companies to operate. The revision of permit practices has greatly increased permit applications. The granting of permits is also subject to nature conservation and defence considerations and permits are not granted in military areas and national parks.

Efforts are made also to grant permits to companies that are committed to carrying out general interest duties and, in particular, to building transport infrastructure (e.g. roads). Infrastructure development is highlighted as an objective since in some cases a lack of infrastructure has prevented the introduction of permits. Development of the railways plays an important role also for the northern regions across the whole of Russia and is on the agenda to develop the Northeast Passage shipping route. In the case of remote regions that are not easily accessible, permit validity has been extended from five to seven years.

The supervisory authority checks the major polluters each year. Mining companies are classified as environmentally high-risk enterprises. If the supervisory authority finds nothing to reprimand in the audit, the company's risk rating will be lowered and inspections may be carried out less frequently. In this way, companies are encouraged to adopt the best possible technology.

The aim is to have an automatic emission monitoring system in use by 2020. This will help to automatically monitor companies' emissions in real time. The environmental awareness of mines has improved a lot in recent years and legislation gives the authority to intervene in the activities of companies. Also companies' own interest in paying attention to environmental issues has increased.

The Russian authorities are interested in discussing the best practices in environmental monitoring and technology with Finnish authorities and actors.

Development of industrial policy in the Murmansk region in general

Despite the central role of the mining industry in the region, the Murmansk authorities also raised the need to diversify the region's economic structure. Diversification largely involves various uses of the region's natural resources. The development strategy for the Murmansk region emphasises the potential of mines, seafood and tourism as well as new growth themes related to the circular economy, environmental protection and wind power.

New demand is being generated around the oil and gas industry and for related services. Work is underway on constructing a shipyard capable of servicing oil and gas industry vessels and building ships suitable for LNG transport. An entire service cluster to serve the industry is being planned around the needs of the oil and gas industry. In the town of Kirovsk, besides development of the mining industry, also on the agenda is the development of tourism in the Khibiny area.

The development of the area also involves the development of transport connections and in particular the enhanced use of the Kola Bay. The plans include the construction of a container terminal and the development of rail connections. This also involves the raising and dismantling of sunken ships in the area.

There is also a desire to invest in the development of green technology. The Arctic region could even serve as a pilot region for green technology. There is interest in this from two fronts: on the one hand the need for nature conservation in the Arctic region and on the other hand Russia's need to develop its own competence in this field. A number of important areas which should be addressed are seen in the green tech theme: sensors, monitoring devices, as

well as the development of competencies and processes. Although the regional government is ordering air quality monitoring services, for example, the speakers, however, pointed out the challenges of funding and productisation.

The partnership opportunities in the big picture were seen as important.

The speeches by the region's authorities also highlighted the region's various strengths on which it is possible to build and diversify livelihoods. The region's particular strengths which can be used to build business activities were highlighted:

- The region is well served in cheap energy in the form of nuclear and hydropower, and wind energy is also being developed
- The region's wealth of natural resources including rare-earth elements
- The region's high level of science and competence
- The region's well-functioning transport infrastructure, with three ports, two airports and well-functioning roads and railways serving the major industrial sites

Generally speaking, a number of partnership opportunities could be identified in the development of mines and in environmental themes, but also in the themes to diversify business activities in the Murmansk region. Partnership opportunities exist both in collaboration between the authorities, for example in environmental monitoring, and in dialogue between companies and the authorities. With regard to research, several themes were raised. One interesting theme involves the better utilisation of mining waste and side streams and assessing their economic value. Also raised were the partnership opportunities for collaboration between businesses and research institutions in cleaning up old mining environments.

Business partnership opportunities are very diverse. Future attention needs to be given to ways of working that can improve the matching and understanding of demand and needs; the needs and context in which the business community works must be understood and the offering must be able to be adjusted accordingly. The questions of diversification of the economic structure between the northern regions offer new opportunities for partnership benefiting all parties.