

Comparative analysis of the mining legislation in certain countries

Suggestions for Estonia

A study for the
Ministry of Economic Affairs and Communications, Estonia

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Background

After an initial contact in early February 2021 the Estonian Ministry of Economic Affairs and Communications requested RMG Consulting (RMG) to submit a proposal for a comparative study of certain aspects of mineral legislations in seven countries including conclusions for Estonia. A formal tender document was developed and submitted by RMG. The tender was declared successful and a contract to perform the proposed study was signed in March.

A project team from the Ministry consisting of Margus Raha and Ene Jürjens was established and from RMG Magnus Ericsson and Olof Löff participated. Work has progressed along the lines of the proposal and a number of project video meetings has been held where the preliminary reports and conclusions have been presented and discussed. The data collection phase of the project was completed in mid-April and the first version of the draft final report presented at a video meeting May 7th. Based on the comments, questions and suggestions discussed at that meeting we have prepared this final report.

Stockholm May 20th 2021

RMG Consulting



Scope

Like several other countries in the European Union and also world-wide Estonia is at present carrying out a process to revise its mineral legislation in order to fully utilise its mineral riches according to the long-term policies laid out in the Estonian document *General principles of Earth's crust policy until 2050*. In Estonia phosphate rock, rare earth elements, magnesium and vanadium, zinc, lead and iron could be of particular interest in the context of the EU's list of critical raw materials. The lime stone deposits are important in a national context. Further also iron, lead, molybdenum and zinc could be of commercial interest (in alphabetical order).

It was agreed to cover the following aspects of mineral legislation in a number of countries:

- Principles for granting exploration and mining licenses.
- Fees, royalties and time frames for granting licenses.
- Tendering process for non-fuel minerals.
- State participation.

Sweden, Finland and Poland were selected for study as major mining countries of Europe. Hungary and Portugal were added as both countries have a tender possibility in their mineral legislations. Finally, Queensland and Western Australia were included as two global leading exploration and mining countries.

The study is mostly based on desk-top research including collection of data from government websites and other relevant sources. A limited number of interviews with industry and/or government representatives from the selected countries was made to supplement the written material.

In order to shed additional light on current status of state participation in exploitation of mineral resources a brief survey of the situation in certain African countries has been made. A summary of the active Japanese state participation in securing access to mineral resources is also included in the report.

The purpose of the study is to give an international background to the Estonian legislative process. Firstly, how to design this process in order to develop a legislation which is suitable considering the geological and historical situation in Estonia. Secondly, in order to make the future handling of applications for mining licenses smooth and predictable.

Sweden

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

Sweden has since 2013 a mineral strategy whose vision is to "create growth throughout the country through a long-term objective of using the country's mineral resources, in harmony with the environment, nature and cultural values. Sweden strengthens its position as Europe's leading mining and mineral Nation". Five strategic objectives identified in the strategy for the vision to be achieved:

- a mining and minerals industry in harmony with the environment, cultural values and other business activities
- dialogue and cooperation to promote innovation and growth
- framework and infrastructure for competitiveness and growth
- an innovative mining and mineral industry with an excellent knowledge base
- an internationally renowned, active and attractive mining and minerals industry.

Key legislation and permits

Exploration and exploitation of concession minerals is regulated by the Minerals Act (1991: 45). The concession minerals referred to, are those usable industrially and of economic importance as well as requiring extensive, systematic and often scientifically based prospecting methods. The purpose of the Minerals Act is to define the preconditions for the exploration and extraction of concession minerals regardless of ownership. It also means that the land owner may be forced to abandon the land for mineral extraction against his will. The Minerals Act is commonly described as a law based on the concessionary system with strong elements from the claim system.

Permitting authority under the Minerals Act is the Mining Inspectorate and decisions are taken by the Chief Mining Inspector. The Chief Mining Inspector can however also refer exploitation concession issues for primary assessment to the government, e.g. in the event of particularly large or controversial mining projects. To get the right to explore minerals an exploration permit is required. Before the actual exploration and survey work may begin, a work plan is drawn up. This plan must be approved by the property owner alternatively be determined by the Chief Mining Inspector if no agreement can be reached. To get the right to extract minerals an exploitation concession is required. An environmental impact assessment under the Environmental Code is an essential part of the decision basis whether or not an exploitation concession can be granted. In order to commence mining which is classified as an environmentally hazardous activity, an environmental permit is required under the Environmental Code. Permission is granted by the Land and Environment Court. To access land above ground which is needed for exploitation, land must be designated. This is done in a special land designation proceeding presided over by the Chief Mining Inspector. For the construction of buildings in the mining area building permits are required. Moreover, a site improvement permit is needed for excavations. These permissions are given by the local municipal building committee.

Figure 1 Permits for opening mines in Sweden (simplified).



Ownership

The Minerals Act does not specify anything about ownership of the concession minerals but regulates only who under certain conditions may dispose of them. The ownership of the minerals that are regulated in the Minerals Act is unclear. There is nothing stated that mineral resources belong to the nation or the people. A property owner's right to dispose of the minerals, governed by the Minerals Act can be said to be limited because someone else can get this right. Even if the state is not seen as the true owner of the minerals covered by the Minerals Act, the state, regardless of ownership, has a decisive influence on the exploration and exploitation of these assets.

2. Fees, royalties/taxes

The Swedish fee system intends to speed up exploration and open up areas for new applicants by increasing fees over time. The system is composed of a fixed fee, which covers the handling costs at the authorities giving the permits. In addition, there is a fee dependent on the area used. There are no work commitments necessary but a work program has to be lodged and adhered to. For a mining concession there is a similar handling fee and in addition to that a mineral compensation under the Minerals Act. The compensation shall be equivalent to two per mill of the estimated value of the minerals covered by the concession and mined during the year. The compensation is divided by three-quarters given to the land owner of the concession area, and one-quarter to the state. The compensation is aimed at giving compensation to the land owners within the concession area. The minor part to the state is earmarked for R&D and is no royalty if understood as a tax on the grant to extract the resource. Mineral compensation is not paid to other right holders such as lessees or reindeer herders. Costs for surveying and land designation proceedings must also be paid by the applicant and referred to as land allocation fee.

Exploration application fee is SEK 500 per area of 2000 hectares. Exploration fee is SEK 20 per hectare, if the application concerns metals and industrial minerals, or an exploration fee of SEK 2 per hectare, if the application relates to oil, gas or diamond. When extending an exploration permit the fee is progressively increased in order to minimize the area under license.

Concession time frames

In Sweden there are no set time frames for granting mineral exploration permits or any other permits. However, in 2015 the average length to get an exploration permit was 82 days for new exploration permits. The average length to get a mining concession was 31 months in 2015.

The complete process for obtaining an environmental permit normally takes approximately two to three years. An application at the Land and Environment Court will normally be processed in approximately 12 to 18 months, but there are cases that has taken much longer time than three years. The application will include all necessary permits except building permits and permits related to cultural heritage. These approximative time frames are valid if no appeals are lodged. It has happened in the past decade that some cases have taken much longer up to 10 years in particular if they end up to be finally settled by the Government. These long lead times are intensively discussed and criticised as seriously impeding the start of new mines in particular in northern Sweden where mining contributes importantly to regional economies. These problems have been additionally highlighted in the present transition to a fossil free energy future where increased supply of so-called battery metals and other elements will be crucial to the possibilities to increase production of green energy.

3. Concession tendering process for non-fuel minerals

Sweden has no tendering process but use the process of first come first serve for metals. There is a concession system for fuel minerals. At present there are discussions to expand the concession system also to the shale minerals of which there are huge deposits in Sweden. They have not been utilised commercially for the past 50 years, but they contain a mix of elements which might become economically interesting in the future, in particular considering the transition to a fossil-free energy supply.

4. State participation

In Sweden there is one active state-owned enterprise in mining, LKAB. LKAB operates the large-scale iron ore mines in Kiruna and Malmberget. LKAB was a private company in the beginning of 20th century but already in 1905 the state took an option to nationalise the company with proper remuneration to the owners. Half the company was acquired directly at the time. The option was finally exercised in 1955 when LKAB was made into a fully state-owned enterprise. The Swedish mineral legislation was transformed in the early 1990's. Until then the state had the right to, with full compensation, take a 50 % share in any mining project. It was also prohibited for foreign entities to hold mining rights etc. All these legal rights and rules were cancelled and Sweden became fully open to foreign investments in this and other areas. LKAB's role has grown in recent years and it has become a key component of the Swedish mineral cluster. It is a major European iron ore producer, a foundation of the regional economy in northern Sweden, a driver of technological innovations and development and a regional exploration company,

Poland

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

There is no mineral policy or strategy *sensu stricto* in Poland. There is an energy policy (Energy Policy of Poland until 2030) including also the important coal industry. De facto the present policy is to a large extent characterised by the practices introduced during the period of centrally planning of the economy. Mining companies are mostly state owned or state controlled. Foreign interests in Poland meet with difficulties and activities abroad by Polish companies are rare. The environmental permitting processes is on the other hand more decentralised than in most other mining countries, as a reaction to the previous centralised way of decision making often without proper consideration of local voices and environmental problems. The lack of mineral policy is a hot topic and already in early 2015 a group of scholars and experts published a discussion paper with the eloquent title: “Polish natural resources policy – A report about something, which does not exist but is badly needed”. According to this report “politicians must realise that raw materials management is a truly long-term and international business”. As far as we are aware no policy has been published until the end of 2020.

Key legislation and permits

Exploration and extraction of minerals are mainly regulated by:

Mining Act 2011, Environment Protection Act 2001, Extraction Waste Act 2008, Act on Disclosure of Environmental Information and its Protection, Public Participation in Environment Protection, and the Environmental Impact Assessment 2008.

The first step in obtaining a permit to explore or mine for metallic minerals in Poland is to get a so called usufruct, which give the right to use a mineral and also sets the fee to use the property of the state (the mineral). A usufruct is issued by the State Treasury. With such a usufruct agreement an application for a concession can be made. There are three types of concessions:
 Exploration licence, this type is used for areas where the geology is not well-known (green field). The concession gives the holder the right to explore according to a plan which has to be relatively detailed already at the start of work.

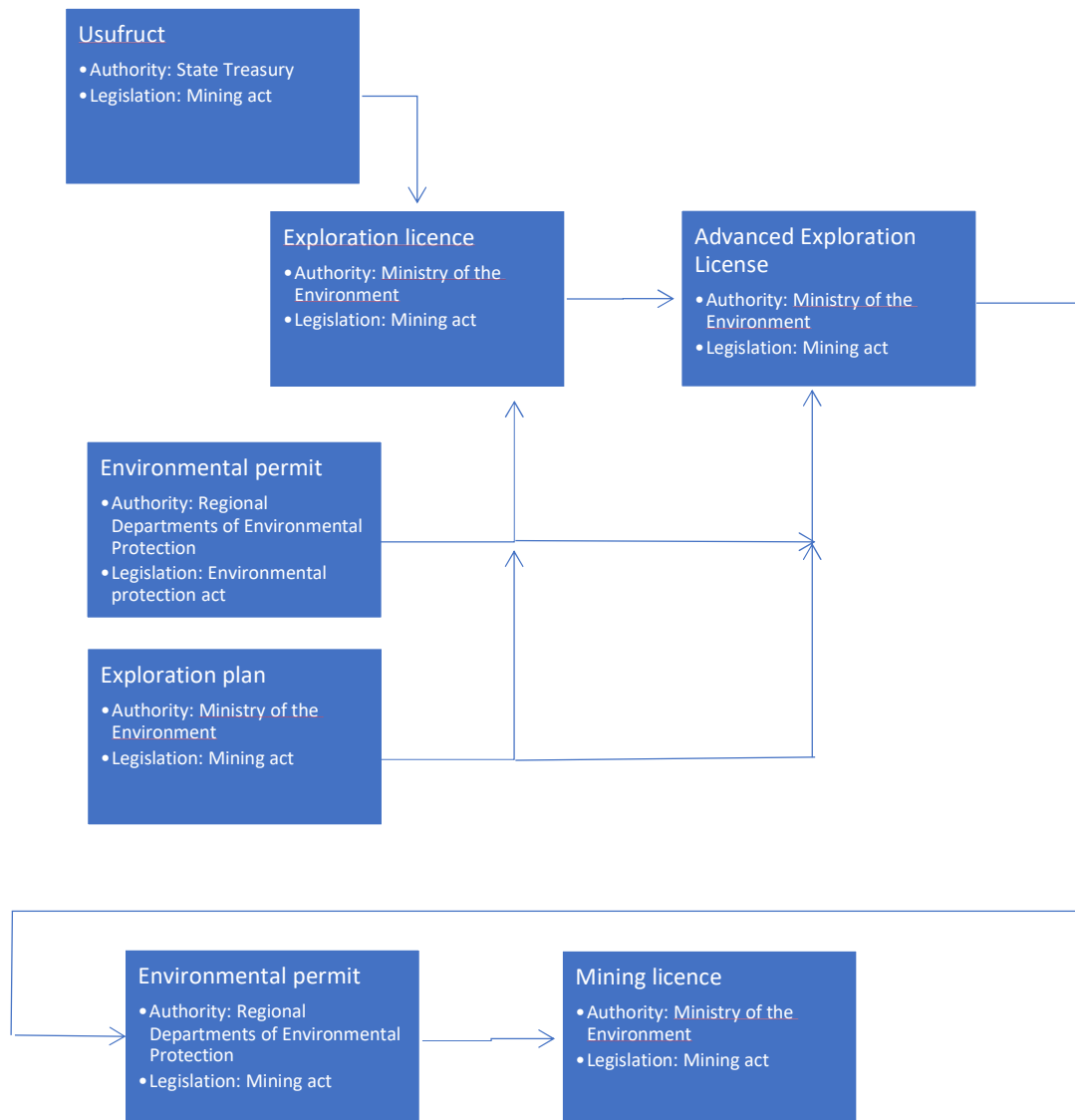
Advanced exploration licence. This type is used for areas where the geology is better known and where a mineralisation is already found. It is the detailed size and distribution of the deposit which is in focus. The license permits continued exploration according to a detailed plan and possibly also test mining of small quantities. Whether an applicant shall start with this license or with an Exploration license is decided by the authorities.

Mining licence is a permit to mine in commercial scale. The process to apply for mineral rights is complicated in Poland, the major steps are described in figure 2 below.

Ownership

Deposits of hydrocarbons, coal, methane together with coal, lignite, metal ores with the exception of bog iron ore, metals in the native state, ores of radioactive elements, native sulfur, rock salt, potassium salt, all other salts, potassium magnesium, gypsum and anhydrite, precious stones, and curative thermal waters and brines are owned by the State. All other minerals are owned by the land owner down to a depth where it is technically and economically feasible to mine.

Figure 2 Permits for opening mines in Poland (simplified)



2. Fees and royalties

The Polish fee system is based on an application fee and an area dependent fee. The fees increase with time. There are severe penalties in the form of raised fees if not 50 per cent of the original concession area is returned at the end of the period the original permit was valid for. There are no formal work commitments demanded but the authorities monitor the work undertaken carefully against the exploration program. If the program has not been fulfilled heavy penalties might apply. For the exploitation phase the system is more complicated than the system in Sweden and Finland and varies depending on mineral owned by the state or the landowner and also which are the minerals, metals explored for or mined. The following fees apply:

- nominal administrative fee
- annual concession fee (mining usufruct fee)
- exploitation fee (royalty) depending on the production levels

- special mining tax (additional royalty) in case of mining of copper and/or silver (see below).

The annual concession fee is composed of a fixed and a variable element.

- The *fixed element* is a percentage of the value of the deposit mined, based on its proven reserves and varies depending on mineral mined from 0.0005 per cent of the deposit in situ value to 0.1 per cent. For metallic ores it is 0.005 per cent. The commodity price used for this calculation is published annually by the Treasury.
- The *variable element* is dependent of the *exploitation fee* paid by the miner in the preceding year and is calculated as a fraction (5-50 per cent) of such royalty paid in the preceding year. For metal mining it is 30 per cent.

The exploitation fee is effectively a royalty. In Poland royalty rates are stated in the Mining Law and are based on the value of the ores produced. If a mine is classified as a gold or copper mine etc. is decided by the Ministry and hence also what is a by-product. By-products are taxed at 50 per cent of the full fee.

The special mining tax, officially known as “Tax on Certain Commodities”, was introduced in March 2012 and originally covered copper and silver mining. In 2014 it was also extended to oil and gas production. This tax is not based on profits of the company but purely on the value of the commodity mined (regardless whether it was sold or not – the tax liability arises once metal concentrate has been produced). As such it could be considered as a royalty rather than tax. The tax rate is progressive and the progression is exponential. There are two formulas depending on the level of the copper price. At present the only company in Poland paying this tax is state controlled copper giant KGHM Polish Copper as nobody else produces copper or silver in Poland. There is a similar formula for silver producers, at present also only KGHM Polish Copper. Exploration companies naturally do not pay this tax as nothing is produced, but the tax has to be taken into account in any scoping or feasibility study for future projects. For further details see the original report.

Concession time frames

In Poland there are certain legal timeframes for authorities to make decisions. It is stated that “a license should be granted without unnecessary delay”. The time periods for decision by environmental authorities with respect to the environmental permit are fixed. The law determines a legal timeframe for deciding on the approval or dismissal of building-, water-, waste-, and mining waste permission within 60 days. All such permissions can be granted in parallel. For land-owner minerals (not metallic minerals) the average length to get an exploration licence is estimated of 4 months. For very small deposits, less than 2 ha, mining permission is obtained generally within 3 months. For large deposits it may take up to three to five years.

3. Concession tendering process for non-fuel minerals

Poland has no tendering process but the first come first served principle is applied.

4. State participation

KGHM Polska Miedz SA is the leading Polish copper and precious metals producer. In world terms, it ranks among the top-ten copper producers. KGHM was created in 1991 as a state-owned joint stock company to continue the operations of the former Kombinat Górniczo-Hutniczy Miedzi, which had

been producing ore from copper deposits located in southwestern Poland since 1961. The company was part-privatised in 1997 and was listed on the London and Warsaw stock exchanges, with the state retaining a 44.3% share. In early 2010, the Polish government sold part of its holding in the company, reducing its stake from 41.8% to 31.8%. The political influences over Polish Copper are still very strong.

Finland

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

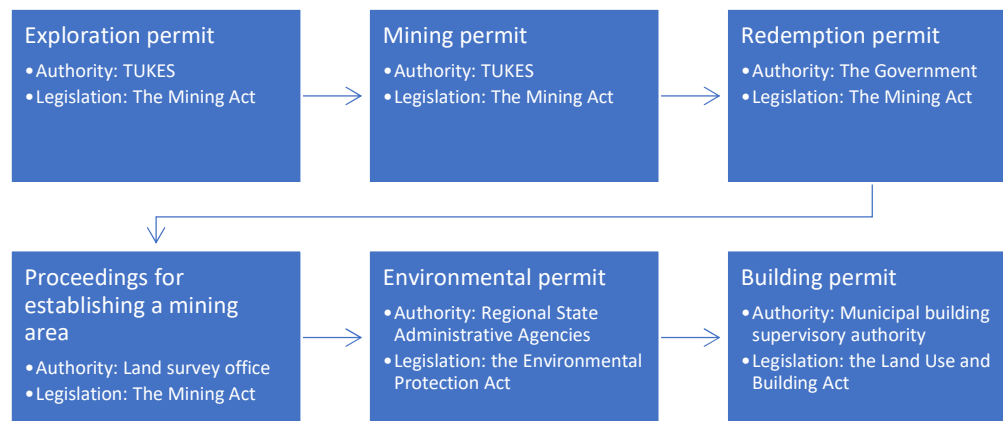
Finland has since 2010, a mineral strategy whose long-term goal is "a viable mineral area of global competitiveness, which ensures the Finnish raw materials, increases the vitality of regions and promotes the responsible use of natural resources". The objectives of the mineral strategy are to promote growth and prosperity in Finland, tackling global challenges in the mineral supply chain and reduce environmental damage. According to the vision of the mineral strategy, Finland, in 2050, is a global pioneer in the sustainable exploitation of minerals and the mineral sector is one of the mainstays of the economy. The mineral strategy is part of the development of the natural resource strategy for Finland.

Key legislation and permits

Exploration and extraction of so-called mining minerals is governed by the Mining Act (621/2011). Since 2018 there is a process running to up-date and revise this legislation. The process has slowed down due to the Covid-pandemic but has recently gained momentum again and is expected to be finalised during 2021. The purpose of the act is according to the opening paragraph to promote mining and ensure that the use of the areas needed for the operation and mineral exploration is arranged in a socially, economically and ecologically sustainable way. The Mining Act shall, on the one hand, ensure the conditions for ore exploration and mining and on the other hand, ensure environmental aspects, civil rights and freedoms, landowner rights and municipalities' ability to influence. The Mining Act applies to such mining minerals and rocks that are rare and occur randomly, and therefore requires professional exploration and significant financial risk-taking. The Mining Act, like the older legislation, is based on the claim system which means that regardless of who owns the property it is the one who finds a discovery that has preferential rights to extract it. The property owner can not prohibit the deposit to be mined.

Licensing authorities pursuant to the Mining Act, is the Mining Authority and for some cases the Government. The Finnish Safety and Chemicals Agency (Tukes) is the mining authority. Moreover, certain matters which are to be decided by the Government, is prepared by the Ministry of Employment and the Economy. To explore and initially develop a mine an exploration permit is required. Minor activities so called prospecting can be carried out without the permission of the property owner which includes geological measurements, observations as well as smaller sampling. The samples must however be notified in advance. To establish a mine and undertake mining activities a mining permit is required. The Government may grant the right to the mining area using an area that belongs to someone else, which is called redemption permit for a mining area. This decision forms the basis for the land survey office to issue an order for proceedings establishing a mining area. Construction of the mine also requires a mining safety permit given by the mining authority. Mining is subject to authorization under the Environmental Protection Act and requires an environmental permit granted by the Regional State Administrative Agencies.

Figure 3 Permits for opening mines in Finland (simplified)



Ownership

The property owner in principle is entitled to the mining minerals found in the ground and governed by the Mining Act. It does not mean that landowners have discretion regarding the right to extract minerals. Anyone who finds a deposit has preferential rights to extract it. The state has not declared that minerals belong to the state. For minerals that are not mining minerals and therefore not included in the Mining Act, the property owner has the right to decide how the deposits will be utilized although permission may be needed under the Land Extraction Act to extract them.

2. Fees, royalties/taxes

The fee system in Finland is in its intentions and structure similar to the Swedish system. This applies both to the exploration and the mining phases even though the amounts to pay differ considerably. There is however one important difference: In Finland the Mining Act, requires the holder of the exploration permit also to pay all land owners within the exploration area an annual compensation, the exploration fee. For both an exploration and a mining permit, there is a basic fee and in addition a surcharge of 95 EUR/hour if the handling of the application takes longer time than normal. The land owners within the mining area are paid an annual compensation, excavation fee. This fee is composed of an area dependent part and a part equal to 0.15 per cent of the estimated value of the mined production. Costs for the proceedings for establishing a mining area (surveys etc.) must also be paid by the applicant. In contrast to Sweden the state of Finland still carries out some exploration programs through the Geological Survey even if on a more limited scale than previously. Potential deposits found in connection with basic geological research are sold in state auctions and may include royalties within the purchase agreements. There are no statutory royalties in Finland.

An exploration permit may be extended for a maximum of three years at a time, in total, the permit may remain valid for a maximum of 15 years.

The annual amount of the exploration fee per property shall be:

20 euros per hectare for each of the first four years of validity of the exploration permit;
30 euros per hectare per year for the fifth, sixth, and seventh year of the exploration permit;
40 euros per hectare per year for the eighth, ninth, and tenth year of the exploration permit;
50 euros per hectare for the eleventh and for further years of validity of the exploration permit.

The prerequisites for extension of the validity of an exploration permit are that:

- exploration has been effective and systematic;
- further research is necessary in order to establish the possibilities for exploiting the deposit;
- the permit holder has complied with the obligations laid down in the Mining Act as well as the permit regulations;
- extension to the validity will not cause an undue burden to public or private interests.

Concession time frames

In Finland, Tukes and other authorities have no set time frames for granting exploration permits or mining concessions. Statutory time frames are included in the Nature Conservation Act and the Environmental Protection Act. A decision on Natura 2000 assessments must be made within 6 months. In Finland the average legal timeframe for granting an exploration licence is 120 days. In Natura 2000 areas it is one year - as long as no appeals are made.

3. Concession tendering process for non-fuel minerals

The Geological Survey of Finland (GTK) collects and disseminates geological information. GTK is an expert organisation accountable to the Ministry of Employment and the Economy. GTK promotes mineral exploration and mining in Finland. GTK (the Finnish state) also carries out prospecting and exploration work. GTK identifies and documents areas with mineral potential, in order to encourage follow-up exploration and exploitation potential by the private sector. Prospecting results are reported regularly, and possible new mineral indications with commercial potential are offered to the private sector through an open tendering process arranged by the Ministry of Employment. Except for these tenders for prospective exploration areas there are no tender processes in the Finnish mining legislation.

In Finland a legislation which gives the opportunity to auction mineral deposits which have originally been discovered by the exploration funded by government (through the Finnish Geological Survey (GTK) have been in place since the 1940s. This legislation was created to find a way to ensure the continued development of deposits explored by the GTK, which was one of the few active exploration organisations in Finland for many decades. However, the exploration activities by the GTK have been gradually reduced as it has been considered too risky an activity to be funded by taxes and the state. It has been reasoned that exploration should be a responsibility of the private sector. Hence the number of new deposits which could potentially be auctioned off has decreased and the last auctions were held some 10 years ago. The possibility to have auctions in the future still remains but the likelihood of new ones in the near future is low.

4. State participation

Finland has a long tradition of major state shareholdings in mining and smelting industries. The major, also in an international comparison, Outokumpu exploration and mining company was initially

fully state owned. The reason for this was initially a lack of capital in Finland in the early 20th century. A gradual privatisation process was started in the 1990s and in early 2000s it was decided that Outokumpu should withdraw from mining and exploration and focus on stainless steel. The Talvivaara nickel/zinc mine in Sotkamo in eastern Finland, was owned by Talvivaara Mining Company. The mine started production in 2008 as an open-pit operation. In 2014 Talvivaara Mining Company filed for bankruptcy in a time with low nickel prices. The state-owned company Finnish Minerals Group funded the Terrafame Oy which took over the operation and now operates the mine. Today Finnish Minerals Group owns 67% of Terrafame Oy with trading company Trafigura being a minority shareholder.

Finland has set targets to be in the forefront of the EV-battery industry and the state has become a major driver for this by the investment arm of Finnish Minerals Group and the acquisition of the Talvivaara mine. Terrafame is building a battery chemicals plant to further process its nickel and cobalt sulphide products. The mission of Finnish Minerals Group is to responsibly maximise the value of Finnish minerals and aim at creating an integrated electric vehicle battery value chain in Finland. The value of Finnish Minerals Groups shareholdings was in 2020/21 at 486 million EUR. The state-owned group also owns a 26.3% stake in the lithium exploration company Keliber, which aims to produce high-purity lithium hydroxide, especially for the needs of the lithium battery market. At the end of 2020 Finnish Minerals Group signed a deal with Yara Suomi Oy for the rights to Sokli phosphorus and iron mining project located in Northern Finland, and created the company Sokli Oy, fully owned by Finnish Minerals Group. The strategy of Finnish Minerals Group is based on co-investing, with the aim of attracting investments in the production of battery materials and cells, and for recycling solutions.

Hungary

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

There is no explicit minerals policy in Hungary. There have been attempts to write one but so far without success. There are some passages in the existing energy policy which applies to minerals and there is a sort of policy for the use of aggregates but not on a national level. This latter policy is mostly a tool for land use planning. There is a need for a policy to form the foundation for future legislation.

Key legislation and permits

Exploration and extraction of minerals is mainly governed by the Mining Act (XLVIII/1993) as amended and applicable Government Regulations (HU-L6; HU-L7). There are a number of other laws regulating details of the processes to obtain exploration and exploitation permits and on the environmental permits and studies necessary. Hungarian legislation is frequently amended in response to outcomes of court cases.

There have been some abrupt 180 degrees swings in Hungarian mineral legislation since the fall of the Soviet Union. In 1993 a concession-based legislation was introduced only to be abandoned in 1998 and later reintroduced in 2010! Such frequent changes to the legislation have proven very detrimental to the development of the mining industry. In the past years no exploration has been undertaken and there are only a few small metal mine operations running. The previously important bauxite mining has stopped, the promising Recsk copper/gold deposit was on tender a few years ago but in the end no bids were made. Most probable reason is that the conditions set by government were too harsh to make the potential mine an attractive proposition.

Areas "open" and "closed" for exploration are key concepts in the Hungarian mining legislation. In an "open area" exploration permits are granted by the regional "Government Office" but in a "closed area" permits, in the form of a concession following a tendering process, are only given by the central authority the Hungarian Office for Geology and Mining (MBFH)/Hungarian Geological Survey (MBFZ). In 2010 all of Hungary was declared as a closed area for exploration and mining of metallic minerals, fuel-minerals and using of geothermal energy.

Since 2015 the MBFH is hence, in effect, the responsible central authority acting as a one-stop-shop agency responsible for administering the Mining Act and all permitting procedures for metallic minerals. For other minerals (aggregates and industrial minerals) decision making is decentralised to the 20 (19 counties and Budapest) regional so-called Government Offices. They are responsible for permitting of all exploration and exploitation applications for these raw materials. These offices are responsible for mining, environment, cultural heritage and all other legislation relevant to an application for an exploration permit.

If a decision from one of the regional Government Offices is appealed the MBFH and other relevant central authorities such as the National Inspectorate for Environment, Nature and Water step in and are included in the process. The right to appeal a decision made by a regional Government Office is granted to a wide group of persons and entities not only the directly involved. Appeals of the decision made by the regional Government Offices are very common. In a third step the decision made by the MBFH can be appealed in the judicial system's three levels.

The procedure for obtaining a permit to explore for and exploit deposits in "open areas" i.e. aggregates and industrial minerals is at least in theory relatively simple and straight forward and could start within 2-3 months. The permitting process has two steps: an initial exploration permit which requires a minimum of data such as the area where work is planned. The second step is to submit a Technical Operation Plan, a work plan, when this plan is approved exploration work can start. A similar two staged process is used also when applying for an exploitation permit. The final exploration permit is given for four years with a possibility to extend for maximum 2+2 years.

The process to obtain an exploration permit and exploitation permit for metallic minerals are described below. It is important to note that an application for a permit can only be lodged after the tender process has been concluded. This adds, of course, considerable risks for a tendering company: In spite of winning the tender the project might not get all necessary permits and it will not be possible to go ahead.

Ownership

All mineral resources in Hungary belong to the state.

2. Fees, royalties/taxes

To hold the right of a concession a certain fee must be paid, or an alternative compensation must be provided to the state. In the concession tendering process, the minister shall set the minimal amount of concession fee, but the applicant may offer a higher amount. The following figures give the "usual" rates. The fee for exploration permit is: 100 EUR; exploration approval: 170 EUR; exploration final report approval: 170 EUR; drilling permit: 450 EUR. A mining plot permit: 400 EUR (300 EUR for open pit); extraction approval: 300 EUR (170 EUR for open pit); remediation plan approval: 140 EUR; mine waste management plan approval: 120 EUR; mine waste management facility permit: 200 EUR; other mine facilities (incl. processing plant) construction permits: 100 - 400 EUR.

In exchange for exploiting any mineral resource upon a concession contract, the Hungarian State shall be entitled to mining royalty. The lowest rate of the mining royalty payable on the basis of the concession contract shall be fixed individually in accordance with the decision of the responsible minister for each tendered area. The minister shall publish the lowest rate of the mining royalty both in the Call for Tender and the tender announcement. The tenderer may overbid the royalty rate set by the minister in the tender. A royalty of 2 % applies for mineral ores for non-ferrous metallic minerals from underground extraction and 5 % for non-ferrous metallic minerals from open-pits. Values often used are provided by the Government Regulation (HU-L8): aggregates: 3-40 EUR/m³, industrial minerals: 4-130 EUR/m³, metallic ores: 150- 200 EUR/m³.

Concession time frames

If the entire process runs smoothly and according to all rules, applicants for aggregates and industrial minerals in open areas may start exploration within 2-3 months, and extraction within 1-1.5 years. For ore minerals in closed areas subjected to a tendering process another 1.5-2 years is needed for the concession procedure.

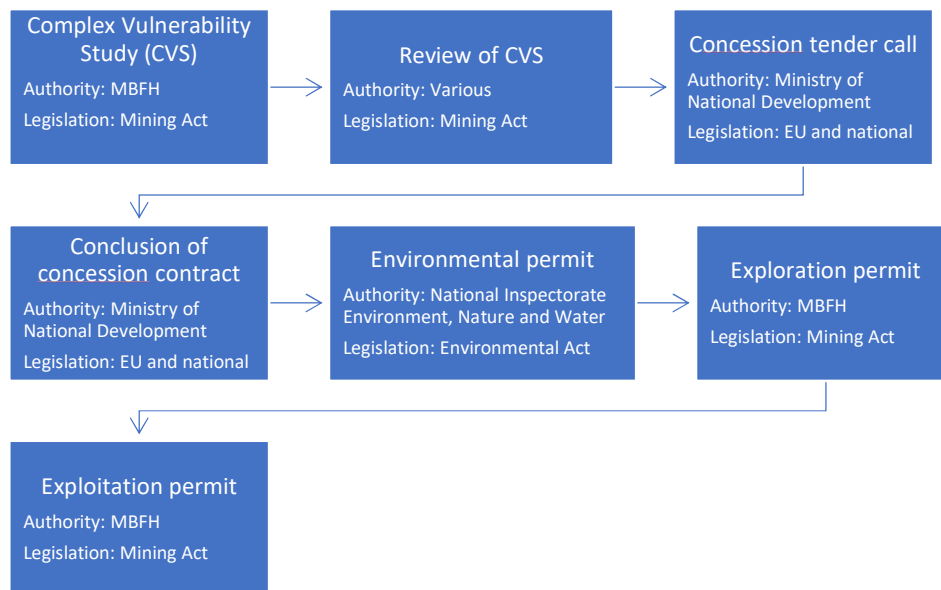
3. Concession tendering process for non-fuel minerals

The concession tendering process is much more complicated than the application process for "open areas" and very few if any concessions have been granted for metallic minerals in the past decades. The process can be initiated either by government or by an applicant (company or private person).

The first step is to prepare a so-called Complex Environmental Vulnerability Study (CVS), which gives an overview of environmental, land use, health and safety and other impacts in a process including a range of government agencies and also public input before being finalised. This study is done by the MBFH. When the CVS is completed, tender documents are prepared by the relevant authorities and a call for tenders is published. The tender process itself is regulated in detail. When the negotiations of the tender contract are finalised, a similar process as described above for "open areas" starts for the concessionaire to obtain all necessary permits for exploration and later exploitation. The concession is given for 35 years and can be extended for another 17.5 years.

Permits for exploration for metallic ores are subjected to a tendering process. The closed areas of the country are reviewed every fifth year in respect of potential mineral resources and qualify them as closed. The Minister of Innovation and Technology is responsible for mining affairs. In closed areas, it is the minister who grant the right for exploration of mineral resources in the concession contract. Concession tenders are prepared by MBFH/MBFSZ.

Figure 4 Permits for opening mines in Hungary (simplified).



The submission of a tender proposal shall only be possible after purchasing the tender documentation and depositing a bid bond. In evaluating the tenders, the minister shall set up a committee. The Committee shall review the tender applications and suggests the winner of the tender for the minister. The minister will grant the concession based on the suggestion of the Committee. As outlined above the tender process has not been applied successfully in recent years, at least not for metallic minerals. The system has worked a little better for coal. But in summary it seems as if the intention with the present complicated tender system might not have been to stop all exploration and exploitation of metals but that has been the practical effect.

4. State participation

There are no demands nor legal provisions for state participation in mining projects. The Hungarian bauxite mines owned by the state aluminium company were privatised in 1995. In 2013 the mines were nationalised again after the private company went bankrupt. Bauxite mining operations were gradually closed down and all bauxite mining was stopped in 2018.

Portugal

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

The Portuguese National Strategy for Geological Resources – Mineral Resources was launched in 2012. The strategy aims to promote a mining sector which is:

- Dynamic, ensuring continuing investments and proper exploitation of the resources
- Sustainable at economic, social, environmental and territorial levels
- Capable to promote the growth of the national economy, by ensuring supply of essential raw materials and reinforces its contribution to the national Gross Domestic Product and exports growth.
- Capable to promote regional development, ensuring the economic revenues and employment for local people and development of local communities.

Key legislation and permits

The main regulatory framework for exploration and exploitation of mineral resources is:

- Constitution of 1976.
- Law no 54/2015
- Minerals Law decree law no 88/90 which sets out the detailed regulations of mineral deposits.

These laws apply to metallic minerals of "high economic interests". Aggregates and some industrial minerals are called "mineral masses" and follow other legislations as is also the case for fuel minerals.

The Mineral Law decree of 1990 is about to be replaced by new regulations in order to fit better with the new Law from 2015. The introduction of these new regulations has been delayed for some years but is expected to be adopted in Cabinet in May this year. The new regulations are expected to give the mining and exploration sector in Portugal a boost.

The Directorate General of Energy and Geology (DGEG) is the responsible authority for issuing permits for exploration and extraction of mineral deposits. DGEG is organised under the Ministry of Economy. DGEG is a so called "one stop shop". However, for the mining phase specific competencies governed by other authorities regarding for example health and safety, nature conservation and cultural heritage may also apply. DGEG is also the controlling instance and monitor the exercise of the operations covered by the contracts. The municipal authorities of the area covered by the application are involved in the environment and spatial planning. Local authorities' comments will be taken into account, but the Minister of Economy (DGEG) is the sole granter of mineral licenses. The Portuguese Environmental Agency (APA) issues environmental permits for exploitation contracts. No specific environmental permit is necessary for exploration.

The exploration contract contains details of work commitments including investment amounts, time frames and possible annual fees. The contract is usually valid for no more than five years including an initial 1-2 years followed by maximum three extensions of one year each. At each extension the licensee shall reduce the area of exploration by a minimum of 50 %. To continue operations the licensee must submit progress reports twice every year. When an area is abandoned all results will

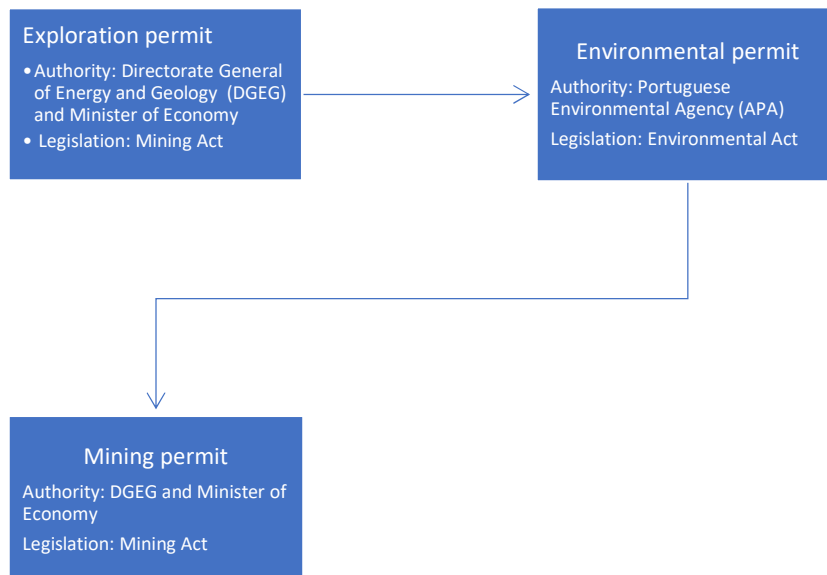
immediately become publicly available to promote further exploration. There is a prescribed public consultation process for all projects.

If there are more than one company applying to explore the same area, the DGEG can decide to open a public tender. This procedure is however very unusual, even though the mining law includes this possibility. A successfully concluded exploration contract will automatically give the licensee the possibility to apply for an exploitation contract. There is also the possibility of a public tender if understood as strategic for the national economy, a mineral deposit can be made available through competitive bidding, for which it will be published in national and local newspapers where deadlines for proposals are set. Please see below.

An application for an exploitation contract is also handled by the DGEG. The application should contain an environmental impact assessment which will be scrutinised by the APA and the internationally usual plans such as mine plan, health and safety plan, a landscape recovery plan, waste management plan and an economic pre-feasibility study. For operations with an extraction rate of 200,000 tonnes or more or larger than 15 hectares an EIA and a protection plan must be submitted to be approved by the Environment Ministry as a condition for the award of the contract. The extraction application will be advertised through a public consultation but the decision, if the environmental impact study is approved by the APA the DGEG alone makes the final decision.

Matters related to mining permitting were previously handled by the Ministry of Economy and Industry but were in 2018/19 handed over to the Ministry of the Environment. From industry this has been seen as unfortunate and they have requested a switch back to the previous organisation. It is not known today what will happen. Some observers are worried that the new Law Decree will make it more difficult to get exploration and exploitation permits in the future.

Figure 5 Permits for operating mines in Portugal (simplified)



Ownership

All metallic and minerals and industrial minerals are owned by the state. Construction minerals including limestone belongs to the landowner.

2. Fees, royalties/taxes

For an exploration license there is a annual fee levied which is based on the surface area of license. In some cases an exploitation contract may include payment of annual or otherwise fees. However, an applicant will have to cover the following costs:

- Publication of the DGEG's decision in the official journal
- A provisional bond to ensure that the applicant will execute the concession as agreed
- All costs associated with the execution of the concession contract.

Royalties and other financial compensation are negotiated on a case-by case basis and included in the concession contract. The rates usually vary between 2-5 % of the value of production at the mine gate.

Concession time frames

There are no fixed legal timeframes for the authorities to make any decisions or answer questions. In practice, exploration permits and mining concessions are granted on average in 7 and 11 months respectively, if no appeals are made. The main reason for these low timeframes is the “one-stop-shop” system. The last 30 years Portugal has only had minor court cases, and only at local courts, challenging decisions made by the DGEG.

To receive an extraction permit takes about 5 months after the approval of an environment impact study. This study is evaluated by a steering committee coordinated by the environment authority during 4-6 months. On average, it takes any project eleven months to get necessary permits.

3. Concession tendering process for non-fuel minerals

If a mineral deposit is defined as strategic for the national economy there can be a public tender. Recently there has been a strong interest from Government in the lithium industry. Portugal is the top producer of lithium in Europe and the lithium resources are considered to be of national interest and Portugal has prepared for a tender process. In 2018 the government approved a resolution known as the “Lithium strategy” envisaged to boost Portugal's lithium industry, but not only in mining but also in processing lithium. However, the tender process has been delayed for several years because of uncertainty of a new law clarifying “new environmental requirements”.

The importance of local communities will probably increase in the new Law decree soon to be adopted. Demands for a preliminary environmental study to be done already before applying for a license will most probably be part of the new regulations. It is now expected that the tender process for lithium will start later in the year.

4. State participation

There are no demands nor legal provisions for state participation in mining projects.

Queensland (Australia)

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

According to the national strategy for exploration, which applies to Australia as a whole, the vision is to see the potential of the deposits that have not been investigated effectively because of protective layers of sand and sediment. Creating trusting relationships with the community and stakeholders in the regulation of the sector is also a priority as well as building a culture that can manage risks in different ways.

Queensland's most prospective part is its so-called North West Mineral Province. In a document from 2017 *A Strategic Blueprint for Queensland's North West Minerals Province* is a platform for the Queensland Government to facilitate a strong future for the region that builds on its economic strengths and supports strong communities. The strategic blueprint leverages existing initiatives and focuses on three strategic priorities:

1. Facilitating continued resources sector development
2. Diversifying the regional economy and creating employment opportunities
3. Working with businesses and communities to deliver integrated and appropriate services.

Most importantly, the strategic blueprint aims to provide a strong foundation to galvanise integrated and ongoing partnerships with federal, state and local governments, business, industry and local communities, to support strong and prosperous regional communities in the Province.

Key legislation and permits

Exploration and extraction of minerals is regulated in the Mineral Resources Act 1989. The various states in Australia have their own laws on mineral that is found on land. A mining project may still be subject to federal legislation in areas such as trade, fiscal, indigenous people and environmental protection. Mining Act applies to minerals owned by the Crown (State of Queensland) which is the most common situation. If the minerals are privately owned, the law does not apply. Mineral rights are granted by the state on the basis of a claim system ("first come first served"). The law has a broad definition of minerals, including all natural substances. There are a number of substances defined as minerals only when they are on land owned by the Crown. If sand, gravel, limestone or shale are located on private land the rules of the local authorities instead apply. Besides the Mining Act, State Agreements are used to regulate large-scale, capital-intensive mining projects. These contracts may, in addition to granting rights to the deposit, include provisions on the development of infrastructure, housing and finance.

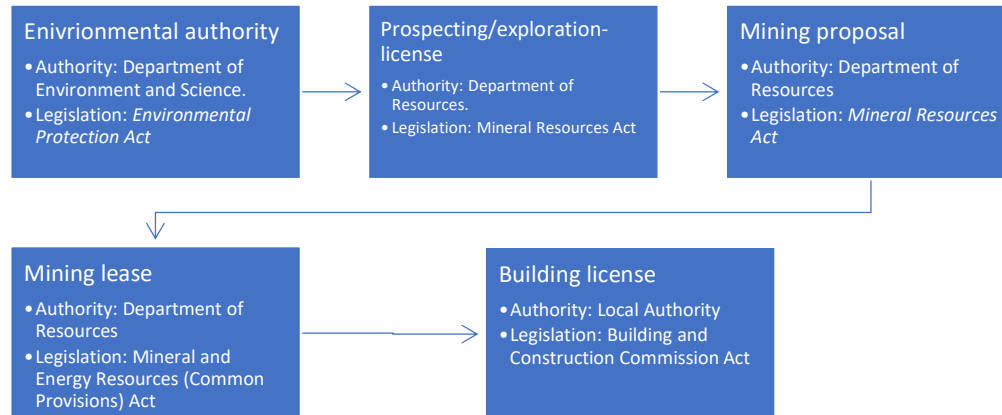
The Department of Resources is the responsible department/ authority for the granting of mineral rights (mining tenements or mineral titles) under the Mineral Resources Act. The Mineral Resources Act is administered by the Minister. Before any exploration activity or resource production can take place in Queensland, the appropriate resource authority needs to be obtained. Either there is a direct application, which is the case for most metals and minerals, or through a competitive tendering process in some cases. Competitive tendering applies to petroleum and gas, coal and, where appropriate, mineral exploration. When applying for any resource permit, applicants need to apply for an environmental authority to be covered for the activities that will be carried out. Depending on the resource project's level of environmental risk, the project needs an environmental authority, a variation application, or a site-specific application. The Department of Environment and Science

(DES) grants environmental authorities for mining and exploration under the Environmental Protection Act 1994.

Ownership

Generally, all mineral and coal resources in Queensland are owned by the state.

Figure 6 Permits for operating mines in Queensland (simplified)



2. Fees, royalties/taxes

Depending on the mineral, the royalty rate payable under the Mineral Resources Regulation 2013 is either a percentage of the value of the mineral or a flat rate per tonne. The value of a mineral (other than coal seam gas) is calculated by determining the gross value of the mineral and deducting certain permitted expenses. Royalty rate for base- and precious metals, which includes cobalt, copper, gold, lead, nickel, silver and zinc, varies between 2.50% and 5.00% (varying in 0.02% increments) of value, depending on average metal prices. The rate for each period for calculating the royalty is published in an official gazette. Processing discount applies (except gold and silver), royalty-free threshold applies as follows:

- No royalty is payable on the first AUD 100,000 of the total value of a relevant mineral, mined under a mining operation, that is sold, disposed of or used in a financial year.
- If more than 1 relevant mineral mined under a mining operation is sold, disposed of or used in a financial year—
 - the person by whom the royalty is payable under the Act for the minerals must nominate one of the minerals (the nominated mineral); and
 - no royalty is payable on the first AUD 100,000 of the total value of the nominated mineral that is sold, disposed of or used in the financial year.
- However, if less than AUD 100,000 of value of the nominated mineral is sold, disposed of or used in the financial year, the person may repeat the process under subsection (2) until the combined value of the relevant minerals nominated by the person and sold, disposed of or used in the financial year reaches AUD100,000.

A mineral development licence (MDL) is issued so that a company can evaluate the development potential of the defined resource. An MDL can be granted if the company hold an exploration permit where there is a significant mineral occurrence of possible economic potential.

The MDL allows companies to conduct geoscientific programs (e.g. drilling, seismic surveys), mining feasibility studies, metallurgical testing and marketing, and environmental, engineering and design studies. A mining lease allows you to machine-mine for specified minerals and conduct other activities associated with mining or promoting the activity of mining. Mining leases cannot be granted or renewed unless compensation for landholders has been settled, either through a compensation agreement or Land Court determination. A mining lease application may be refused if it doesn't have an agreement or haven not applied to the Land Court within 3 months of:

- the day the Governor in Council consented to your application
- the last objection day for the application (if no one objected to your application)
- the day the Land Court issued a recommendation about the grant of the mining lease.

Concession time frames

The Department of Resources has detailed data on how long-time different applications take. In 2020 the median application duration for new exploration permit applications was 9 months. 75% of the exploration permits were handled within 12.8 months. For renewal of exploration permits the median was 2.3 months and 75% were handled within 3.5 months. For a mining lease in 2020, the median application duration was 28.7 months while renewal was 11.5 months. The Department of Resources aims to complete 80% of targets within the timeframe. There are certain targets for different steps in the permitting for exploration applications and mining leases. The targets for exploration mining applications are: Initial assessment 2 business days, technical assessment 40 business days, decision summary 30 business days. For production mining leases the targets are: Initial assessment 2 business days, technical assessment 5 months, decision summary 3 months. The time taken for each individual application may be influenced by tasks outside the control of the department, such as native title and environmental assessments, hence the discrepancy between the targets of the Department and the actual time for approving applications.

3. Concession tendering process for non-fuel minerals

A tendering process applies to petroleum and gas, coal and, where appropriate, mineral exploration. In general, there are no tendering process for minerals in Queensland. For example, the most recent tender was on a greenhouse gas storage exploration.

Competitive tendering ensures Queensland's resources are responsibly managed by allocating exploration rights to companies that have the greatest exploration and development capacity for these resources. It also provides a fair and transparent process for awarding a preferred tenderer. The tendering process comprises two stages- the tender itself, where applicants tender for the right to be an applicant for a tenure, and the actual application process. It takes in average 3.6 months for to be awarded successful tendering status, after that the applicant proceeds to stage two, the application. To commence a call for tenders the Minister will publish a gazette notice (a call for mining lease tenders) inviting tenders for an eligible person to apply for a mining lease.

A rigorous process is in place to assess tender applications and select a preferred tenderer. The process and criteria are outlined in each call for tender document and typically include consideration of the applicants' financial and technical capabilities and their strategy for engaging with the community. Preferred tenderers must meet environmental and other approval requirements (e.g. land access and compensation) before the resource authority is granted.

The selection of tender areas is based on a range of factors including:

- environmental, regional and state planning interests (e.g., constraints such as priority living areas and national parks).
- the area's potential for GHG storage.
- commercial and market considerations.
- competing land uses.
- current geological knowledge.

4. State participation

There are no demands nor legal provisions for state participation in mining projects in Queensland.

Ontario (Canada)

1. Principles for granting exploration and mining licenses

Mineral policy/strategy

Ontario has since 2015 a mineral strategy that replaces the first strategy from 2006. The vision for the province's mineral sector is to become a global leader. Four strategic priorities for the industry are highlighted in the strategy. The industry should be kept competitive and innovative, safety and environmentally responsible, efficiently and effectively regulated, growing and prosperous by enhancing aboriginal voices and meaningful participation, and building a highly-skilled workforce.

Key legislation and permits

Exploration and extraction of minerals is regulated in the Mining Act. The vision behind the first mineral strategy led, inter alia, to a modernisation of the Mining Act in 2009. The various provinces in Canada have their own laws on mineral that is found on land. A mining project may still however be subjected to federal legislation regarding trade, indigenous people, environmental protection and the impact on fisheries and navigable waters. The Mining Act applies to minerals owned by the Crown. Minerals under the Act is defined as any naturally occurring minerals (metals and non-metals) including gas, petroleum, coal, salt, quarry, gold, silver and precious metals but does not include sand, gravel and peat. Sand and gravel are regulated in the Aggregate Resources Act. For some minerals such as limestone and marble provisions are in both the Mining Act and the Aggregate Resources Act. The purpose of the Mining Act is to encourage prospecting, staking and exploration for the development of mineral resources that is consistent with the aboriginal rights, including a duty to consult, and to minimize the impact of these activities on public health, safety and the environment. Mineral rights are granted through a claim system.

Indigenous rights are protected under the Constitution. Many Aboriginals in Ontario (First Nations and Métis) have aboriginal rights or treaty rights. Contacts with these groups should be maintained throughout the process of opening a mine. To support that the aboriginal rights are recognized during exploration and mineral extraction, a number of guidelines (policies) has been developed within the ministry responsible for mining.

The first step to get exclusive rights to explore is to claim an area. However, to gain access to land that is open for claiming a prospector's license is required. This right is not exclusive but is a prerequisite for claiming land. The most common way of claiming land is that the selection is done in the field (claim staking). Detail rules on staking applies and marking should be done in a square or rectangular shape. Besides claims there is also a permit called exploratory license of occupation (ELO) which allows the exploration of land and water areas more desolate located and where the minister can impose various conditions adapted to each case.

To get a right to extract the minerals it is required that a mining claim is transferred to a lease (land acquisition). The right to transform a claim to a lease is predetermined according to the Mining Act provided the legal requirements are followed. A mining lease is granted by the Ministry of Natural Resources. A lease can be issued for mining rights and surface rights or mining rights only alternative surface rights only. Unless the Crown holds the surface rights, such rights cannot be obtained other than that agreed with the owner. All deposits and minerals taken from the soil obtained according to the Mining Act must be treated and refined in Canada unless an exception is made. A lease is transferable after permission.

In order to perform certain exploration activities on both claims and leases an exploration plan must

be submitted to the Ministry of Northern Development and Mines (MNDM) before work can begin. The plan is used to inform aboriginal communities, government, land owners and other rights holders. Depending on the activities to be carried out an exploration permit can also be required. The system of exploration plans and exploration permits are used early in the exploration phase for activities that cause minimal to low impact on the environment. Prior to a more advanced exploration work, a closure plan must be submitted to the MNDM. A financial assurance is part of the plan and must also be handed in to ensure that the restoration work will be carried out.

The number of mining projects that involves an environmental assessment process (EA) and the extent of these vary by the type of permit required and size of the project. Sometimes a project is also required to be examined under federal law. Several environmental permits may also be required. If surface water or groundwater are affected a permit to take water is required. Emissions into the air require an environmental compliance approval. For the construction of a building a building permit is required from the municipality. For structures and buildings located on Crown land a work permit is needed which is given by the Ministry of Natural Resources. Work permits are also required when roads are constructed on Crown land and when water crossings are affected.

In order to streamline the permit process there are mineral development officers within MNDM whose role under the Mining Act is to coordinate and facilitate communication with the industry, the public and government departments and agencies.

Figure 7 Permits for opening mines in Ontario (simplified)



Ownership

Since the Crown controls most of the land areas, ownership of minerals is also often linked to the state or Crown. Since the early 1900s, the Crown also reserved the mineral rights in most new land concessions or grants but historically there have been different approaches. If the Crown has not reserved the mineral rights on the land granting the minerals are privately owned. A distinction is made between the mineral rights and the surface rights. Mineral rights are defined as rights to minerals located in, on and under a piece of land.

2. Fees, royalties/taxes

In Ontario the fee to register a claim varies depending on the number of units, 1 unit (16 ha), applied for. In addition, there is a requirement for annual work to be performed. If no work is performed the claim might be lost. The application fee for a lease is 75 CAD and the annual lease (rent) is 3 CAD per hectare. Since 1907 a tax on land (mineral rights) used for exploration and mining (mining land tax) is levied. The tax is 4 CAD per hectare per year.

Royalties are payable for diamonds on a portion (percentage) of the net value of the output according to the Mining Act. Large areas are held in public ownership. The Crown can here be seen as a landowner in addition to an owner of the minerals with demands on payment for land (rent) and minerals (royalty or tax). For further details see the original report.

3. Concession tendering process for non-fuel minerals

Ontario has no tendering process but use the process of first come first served.

4. State participation

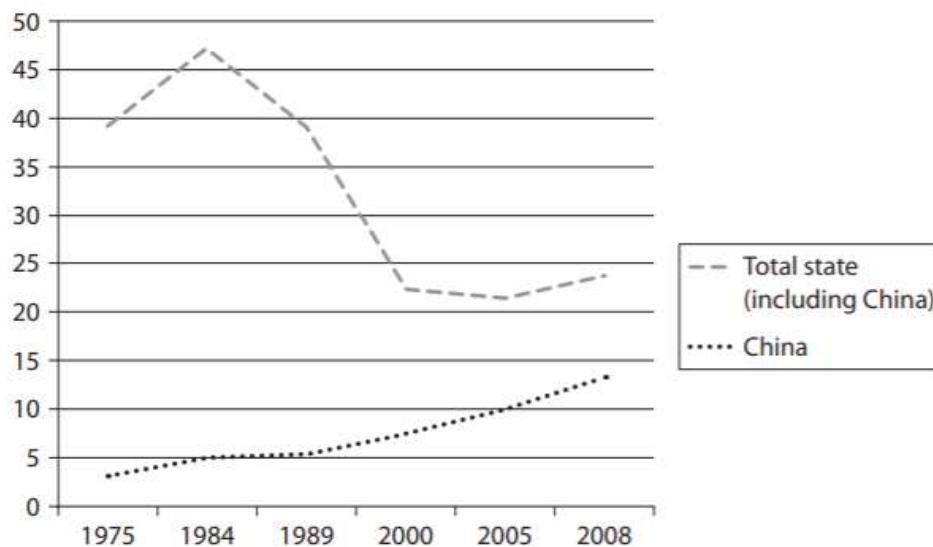
In Ontario there are no state participation in mining.

State participation

The mining industry has since centuries been in focus for government control in mineral rich countries. The supply of metals and minerals is vital to economic and social development and hence politically important. Taxation of the mining industry has also generated direct income to governments. Metals and many of the most valuable minerals in the ground belongs to the state in almost all countries. Sand, gravel and rock often belong to the landowner. But in all countries the state regulates exploration and mining of all minerals in detail in order to meet a number of politically set goals: facilitate mining and production of metals, reduce risks and damage to the environment and workers' health and safety, generate income to the state, create jobs and economic development, minimise wasteful use of non-renewable resources and others.

Another frequently used way of securing benefits from mining is through state ownership of mines and smelters. State control over global mine production has varied considerably over the past 50 years as shown in Figure below. After a peak in the early 1980s and a trough in early 2000s the level is nowadays growing with increased mine production controlled by Chinese state-owned mining companies in China and elsewhere.

Figure 8 State ownership of global metal production
(% of total global value of mine production)



Source: Overview of State Ownership in the Global Minerals Industry

In the early 2010s triggered by the high metal prices during the so-called "super cycle" the discussion restarted over increased state ownership in the mining sector. State participation as owner in mining companies was seen a means to capture some of the high profits made by mining companies and through seats on the company board to gain insight and some control over the running of the company and its strategy. This discussion was particularly lively among African countries and in many of them legislation was introduced to guarantee governments, most often, free-carried access to 10-15 % of the share capital in all mining ventures. In some countries there is a possibility for the state to take up to a 50 % share in mining projects with compensation. For an overview of the situation among African countries please the next section.

African states and state participation in mining projects, a few examples

Angola

The Mining Code provides that, in consideration for granting mining rights, the Angolan state shall be entitled to compensation. Such compensation shall be in the form of a participation of not less than 10% in the company that conducts activities and/or in-kind allocations of the minerals to be extracted.

Burkina Faso

Concession of an exploitation permit entitles the state 10% free of charge participation in the share capital of industrial exploitation companies.

Botswana

Upon the issue of a mining licence, the government shall have the option of acquiring up to 15% working interest participation and shall inform the applicant as to whether or not it is exercising its option. If the government does decide to exercise its option, it shall be issued a single special share, which shall carry the right to appoint up to two directors, with alternates, and to receive all dividends or other distributions in respect of its working interest percentage and shall be obliged in the same manner as other shareholders to contribute its working interest percentage.

Cameroon

The state shall hold 10% of the total share capital of the small-scale mining company. As resource owner, the state shall be entitled to the said shares free-of-charge and without any encumbrances. Shares held by the state shall not be subject to dilution in the event of share capital increase. However, the state may increase its shares in the capital for profit purposes, by mutual consent of the parties, in proportions not exceeding another 10% and the remaining shares shall be open to subscription by national foreign investors.

DRC

In the DRC the mandatory free state participation in the equity increased recently from 5 % to 10 % and a new requirement for at least a 10 % mandatory participation of DRC individuals in the equity of newly constituted mining companies.

Kenya

Under the new law, the state can acquire 10% free carried interest in the share capital of large scale mining operations and/or those relating to strategic minerals, and reserves the right to obtain further interests at arm's length prices. Regulations stipulating the exercise of this provision will be developed and published.

Lesotho

The government may, through the Ministry of Natural Resources, acquire not less than twenty percent shareholding in a proposed mine, and is required to inform an applicant of a mining lease as to whether the government is taking up shareholding in the proposed mine.

Senegal

The government is to be awarded for free 10% of the equity of the resource company that will have to operate the exploitation. The government can also negotiate for him and/or the private national sector an additional 25% equity interest.

Mozambique

In August 2014, the Mozambican parliament approved Mining Law No. 20/2014 along with a new Specific Regime of Taxation and Fiscal Benefits for Mining Operations Law. These laws provide for the right of the state to progressively increase its participation in all mining projects, a 32 % tax on capital gains arising from the direct or indirect transfer of mining rights, and a 10 % income tax on revenues arising from services provided by non-resident entities to mining companies located in Mozambique.

Tanzania

The government shall obtain not less than 16% non-dilutable free carried interest shares from a mining company/person holding a mining license or special mining license. The government may acquire up to 50% of shares in a mining company/person holding a mining license or special mining license equal with the total tax expenditures incurred by the government in favour of such mining company.

Japan and JOGMEC

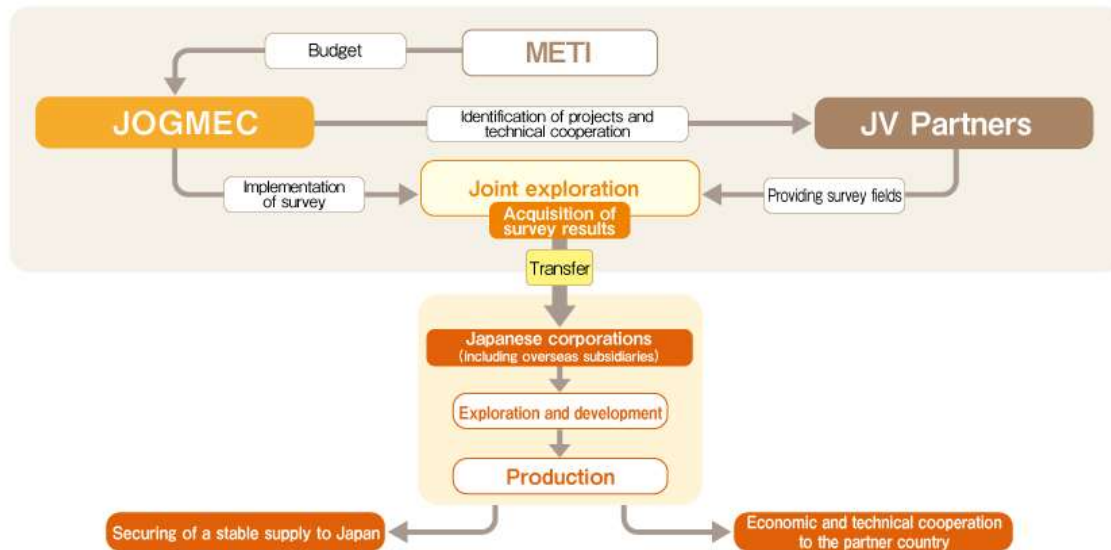
Japan Oil, Gas and Metals National Corporation (JOGMEC) was established in 2004. JOGMEC integrates the functions of the former Japan National Oil Corporation, which was in charge of securing a stable supply of oil and natural gas, and the former Metal Mining Agency of Japan, which was in charge of ensuring a stable supply of nonferrous metal and mineral resources and implementing mine pollution control measures.

The purpose of the merged organisation is to secure a stable supply of mineral resources to Japan, which are indispensable for Japanese industry. JOGMEC contributes to a wide range of fields including surveying, exploration, development, production and stockpiling to recycling and environmental protection. The agency has over 600 employees mainly in Japan but also overseas all around the world. Annual budget is around 15 billion USD. The agency works in close cooperation with Japanese industry and forms joint ventures also with foreign companies and governments. On its web page JOGMEC says:

" While implementing and assisting geological exploration in prospective areas for metal resources, JOGMEC also supports exploration and development by Japanese companies by providing equity capital and liability guarantees. JOGMEC also actively carries out technological development and provides technical support in each stage of metal resource development, and operates national stockpiling programs as a safeguard against disruptions to the supply of rare metals, which are unevenly distributed by region. In addition, JOGMEC is working on environmental protection including projects for mine pollution prevention and associated project development, as well as proactively providing related technology and knowledge to resource-rich countries."

JOGMEC has developed a model how to cooperate with, mostly Japanese but also foreign, commercial companies shown in the figure below.

Figure 9 Japanese model of state support for exploration



Source: Jogmec website.

JOGMEC offers an interesting model for a country how to engage more actively in mineral exploration and development. It is a rather unique entity world-wide. It is to a large extent based on the fact that the dependency for Japan on imported mineral resources whether energy resources or minerals is almost 100 % and the country has in general a more vulnerable supply situation than both the EU and the USA. The close cooperation between the Japanese state and Japanese companies and between the companies has long traditions both in the Sogo Shosha system and the understanding of the security of supply aspects since the Japanese economic wonder in the 1960s.

Proposals for Estonia

Introduction

Mining is a global industry. Mining companies compete internationally and prices are set on world markets and are often highly volatile. Development of the mining industry in any country is heavily dependent on global trends not only in demand and prices for specific metals or minerals but also in mineral legislation and regulations. Politically decided mineral strategies and policies in mineral-rich industrialised countries, not least the European Union, are becoming increasingly comparable and related legislation more similar than has been the case historically.

During the past decade many countries are reviewing their mineral policies and legislations in order to maintain the competitiveness of their mining industry and their attractiveness to investors, both foreign and domestic and to improve the public acceptance of the mining sector. Industry's demand for stability, predictability and continuity in legislation and fiscal regime must also be considered and not least the cost and time necessary to review legislation and possibly introduce a new one. It has become more important and difficult to strike a balance between the different and often conflicting political goals such as environmental protection and social acceptance of mining operations and increasing demands for in particular elements necessary for the green transition.

To find workable models to balance these interests often striving in different directions will become more important for all countries, including Estonia, hoping to use their mineral resources for economic and social development into the future. Transparent processes with clear routines for stakeholder participation will be absolutely necessary and mechanisms to balance local, national and possibly international interests will be required for success.

Principles for granting licenses

The mineral strategy of Estonia is set in the document *General principles of Earth's crust policy until 2050*. It is stated that "the natural resources found ... are explored and used in a way which creates as much value for Estonia as possible, at the same time considering the environmental, social, economic, geological and security aspects of these activities". The state will actively try to attract investments necessary to develop the resources and implement mechanisms to ensure maximum benefits from exploration and exploitation. At the same time these activities should support positive socio-economic changes and mitigate negative environmental and socio-economic risks. These clear long-term goals for the mining sector form a solid basis for future developments and without such outspoken political will the mineral legislation and regulations as well as the fiscal regime will not be sufficient to attract investments into exploration and mining. Uncertainties and risks perceived by investors, whether national or international, increases and the interest to make investments is reduced.

The details of a tendering process will be discussed further down in this section. Suffice it here just to mention that perhaps the best option would be to introduce an auctioning regime for areas and/or minerals which are well known and where a sufficient interesting geological basis for a tender is available. For other areas and/or minerals where the unknowns are dominating a first come first serve process might be less costly but still generate sufficient exploration to meet the long-term goals for the mining industry.

To obtain a *social license to operate* is becoming increasingly important for the timely and successful implementation of an exploration and later mining project. There are experiences from many countries, also among the ones studied in this report, of various options to create a cooperative environment. Giving transparent information at an early stage to all stakeholders seems to be the foundation of most of these experiences. To learn from these will be crucial to both the acceptance of the present attempt to revise the legislation and the fiscal regime and more importantly for the success chances of future exploration and mining projects. Among other aspects it will be necessary to strike a balance between local and national interests. There is often strong local demands to get a share of the profits of a mine or "our geological patrimony" as it is often stated. But it must be clear that a deposit in the ground has no value and a local community has not done anything to "create" a mineral deposit. It is only when geological exploration is carried and finds are spent on investigating and delineating the deposit that value is created. Another frequent demand is that corporate taxes paid should flow back to the community. This is also double edged because then other industries should also contribute directly to the communities where they are located. And this is not normally the case. Certainly, a local community shall have a fair and reasonable share of the profits and benefits from a mining operation and that has often historically *not* been the case but there the balance between local and national interests must be finetuned in order to make all stakeholders content.

In Finland there is at present a proposal in parliament which introduces a new holistic view trying to include a wider range of aspects into the permitting process than today. Not only the economics of the proposed mine itself and its environmental impacts are to be measured but also the socio-economic effects. This will be an entirely new approach and it has spurred intensive discussion in Finland: While it is clear the approach will give landowners opponents to exploration and mining projects more influence it has also opened questions such as: Will the permitting process get overly difficult and how will it affect the willingness to invest? It is recommended that this idea should be studied in more detail by Estonia. Either to avoid this route or to benefit from the work already done. A study, commissioned by the Finnish Ministry in charge of the development of a new mining legislation, will be completed in the end of May and should be of particular interest also to Estonia.

The permitting process should be transparent and predictable provided all information and required studies have been made and all regulations and protocols been followed by the applicant. In Sweden, for example, the permitting process, sometimes involves multiple appeals, can last as long as 10 years only in the end to obtain a rejection of the application. Such cases have contributed to a deteriorated investment climate in Sweden as perceived by international investors.

It seems as if it is important to create a situation where the positives of a mining industry and its potential problems are handled by two separate authorities, one proponent and one opponent in order to have both aspects clearly highlighted. Although outside the scope of this study we have noted that in countries where the permitting process is handled by an environmental agency (in Poland for example) there is a risk that the future of the mining industry is curtailed when compared to other countries where environmental and social aspects are handled by one agency separate from an agency in charge of economic and employment aspects.

Time frames, fees, royalties

Time frames

Some countries among those studied have in their legislation set maximum response times for the authorities responsible for the various steps in the permitting process for exploration and mining licenses. Depending on which step of the process the times are set in weeks or days. It seems however as if this does not always guarantee that the handling of an application is swift and correct.

In a recent case in Sweden a regional Land and Environmental court several times requested the concerned regional authority to hand in their mandatory response and comments to an application within a time limit set by the court. Nothing happened and as there are no sanctions against the regional authority nothing further could be done but to wait and the process was delayed 8 months. Instead of just over one year the initial part of the environmental permitting lasted 2 years.

In Queensland the time spent by the authority responsible for permitting is continuously publicly presented in order to put some pressure on the agency.

It seems as if the most important action to avoid delays and appeals is to make sure that all stakeholders are part of the permitting process already from the beginning and are given required and necessary information at an early stage. This is a fairly basic observation but still difficult to transform into a smooth process. It is certainly important for an applicant to get permits and responses in as short a time period as possible, but no doubt a predictable process, at least in terms of its time frames, without surprises and unforeseen delays is more important to an investor.

Fees and royalties

The contribution to Estonia from mining of metals and minerals from its underground consists of two major parts:

- The element itself, which is indestructible and can be recycled infinitely.
- The mineral rent created when mining and beneficiating the metal.

The purpose of the fiscal regime is to capture a suitable part of the mineral rent for the benefit of all Estonians while allowing the investor to retain a share big enough to create an economic incentive to make an investment. The principal instruments theoretically available to governments to address the general objectives of a fiscal regime for the mining industry are:

- Mining royalties – a percentage of production or gross revenue.
- Income or profit-based taxes – mainly corporate income tax.
- Mineral rent tax – taxes that target profits in excess of those generally required to attract investments.

As there is no corporate tax the two other possibilities are the ones open to Estonia.

A mining royalty is strictly speaking not a tax but a compensation for minerals extracted owned by somebody else, whether a private owner or state. Ad valorem royalties are most widely used. An ad valorem royalty is transparent and easy to administer and are well known to investors. This would be a non-controversial alternative for Estonia but a profit-based system or a mineral rent tax, could be an alternative which should be evaluated in detail. Such taxes are only used by a few countries and hence there are only limited experiences of its use and effects. One of the most important reasons why the royalty system has been dominating is the ease by which it is operated. There is no need for a sophisticated tax authority which can control that the profit and loss statements of a mining company gives a fair picture to the company's competitiveness and profitability. In many mineral rich countries primarily among the emerging economies this is not the case and a royalty regime is often the only realistic alternative.

The approach that is most appropriate as the basis for determining a royalty regime is one that is transparent, easily monitored, provides an appropriate level of return, is stable and meets other administrative and parameters which the national mineral policy sets. It is not been within our scope

to suggest taxation regime. If a royalty regime is chosen it is important to consider the two variables, royalty base and royalty rate, together when comparing and choosing royalty regime.

In addition to royalties, administrative fees for exploration and mining permits are levied by most jurisdictions to cover costs incurred by regulators when administering permits and overseeing the regulatory regime. In addition, the fees should cover costs to make sure that exploration and mining is carried out effectively, continuously and sustainably.

Like mineral legislations mineral tax regimes of mineral rich countries are converging and constantly changing to be competitive. It will hence be necessary for Estonia to be able to adjust and revise the fiscal regime when market and other conditions change in the future.

Tendering processes

The first come first served principle is still the one most generally employed around the world when giving permits for exploration for non-fuel minerals. This system is usually linked to a preferential treatment when applying for a mining permit, provided certain conditions are fulfilled, to exploit a deposit which has been discovered during the exploration phase. For oil and gas an auction system has been successfully employed for many years and in many countries. There are two main differences between metal mining and petroleum exploration:

- An oil field is often of much larger economic importance than a metal deposit and it is hence possible to justify the higher cost of an auction compared to first come first served model.
- The geological site information necessary to make an area sufficiently interesting for companies to participate in a bidding process is in general lower for petroleum resources than metallic minerals. The cost of identifying a potentially interesting area for bidding is hence higher compared to the future economic gains for a mineral deposit than for an oil field.

In spite of these difficulties to organize a successful auction for minerals, the interest globally has been growing in the past decade and it seems as if it continues to develop. India, for example has introduced legislation requiring auctions to be held for several reasons one interestingly being to avoid corruption (see Appendix). The experiences in India are mixed and they emphasize the need to develop the tendering process carefully to avoid misusages.

An auction process is not the solution to all problems. In Portugal the possibility to auction particularly interesting mineral deposits has been in place for many years but so far no such auction has been held, mainly because the entire mineral legislation is being reworked and not yet in place. In Hungary a complicated auction mechanism has not managed to attract any bidders for deposits which have been put out to tender, possibly as the general political attitudes towards mining have been relatively negative. In Australia a change to an auctioning system was considered in the early 2000s but for various reasons these plans were abandoned and did never materialise. One of the main reasons being that there was only a limited number of deposits with sufficient geological data and hence high enough value to justify the expense of a bidding process. In Lithuania the first tender for amber in 2016 was not successful due to lack of participants.

In no country that we know of has the environmental permitting process and how it is run been part of the bidding process.

Hungary highlights how important it is to have a simple and predictable process both for the tender itself but also in the following permitting process both for exploitation and environmental permits. If the bidders cannot, before they hand in their tenders, make a reasonable estimate of the environmental demands for the mining operation and the time necessary to obtain these permits, the risks might be perceived too big to submit a bid at all. To guarantee environmental and exploitation permits in advance of the bidding process would not be recommended. An alternative would be to do an environmental impact assessment before the tender process starts which would increase the costs to government and there is also a risk that the permit obtained would not fit the final mining process selected by the winning tender.

The experiences from these countries underline the most important conditions for a successful auction:

- Sufficient geological information is available.
- The process is transparent and objective.
- There is a number of competing bidders.

An auctioning process must be designed carefully to make it attractive and at the same time not too costly and time consuming to hinder development of suitable deposits. The objectives of the auction must be clearly defined as for example: maximizing long-term rent, generating short term cash, develop infrastructure, foster downstream value addition, create employment etc. The bidders should meet with certain predetermined minimum requirements as exploration and mining experience, financial capacity, providing economic guarantees etc.

The biddable factors should be very carefully selected and clearly spelled out as well as the criteria to evaluate the bids upon. In Finland a combination of three factors has been used:

- Cash payment up-front.
- Work plans and financial and technical commitment and capability for executing a successful exploration program.
- Royalty system including royalty rate and base.

In the Finnish case the second point has been given priority when evaluating bids. It has been the government's main goal to make sure that interesting deposits are brought forward as soon as possible and with the best available technology and skills. The up-front payment is to cover the exploration costs which the previous owner (in Finland GTK or the state) has had in order to find and delineate the deposit. In Estonia where the auction is primarily to be used for the exploitation phase of a mining project other criteria obviously have to be chosen. These can include for example the speed at which the deposit is developed and certainly also down-stream value addition in further processing after the initial mining step. The key is to set transparent rules for evaluating tenders in advance of the tender process starts so bidders can focus on what government finds important.

In-country value addition is in focus of many governments in particular among emerging economies. The historical examples from Finland and Sweden show how important the mining sector can be for national economic and social development. At the same time, it is important to note that Sweden together with other industrialised countries such as Canada and Australia export much of its mineral resources without much value addition. The benefits of value addition must be carefully studied for each specific country and mineral in order to avoid value addition turned into value destruction. This could be the case if the mine stage operation is competitive and profitable but the value addition step is not.

Recently more focus has been on the possibility to create horizontal linkages and develop upstream capital goods and service industries. Again, Sweden and Finland are examples of globally leading suppliers of mining equipment and technologies to study. The possibility to create a cluster around a mine, including research, training, suppliers of goods and services and possibly customers for the minerals mined should be carefully examined.

There are other areas than exploration such as obtaining wave lengths bands for mobile telecommunications where auctioning models have been frequently, innovatively and successfully used. Such cases could be useful to study in addition to experiences from other countries auctioning mineral licenses. There are commercial operators organising tender processes with considerable experiences which could be useful.

In the Estonian case we recommend a careful evaluation of the potential to continue to develop deposits by the Geological Survey, at a reasonable cost to society, which are suitable for a tendering process. It is obvious that the rare earth potential in the phosphorites could attract great interest but the potential for economic gains and the inherent geological risks should be weighed against each other to make sure that the state does not take on costs without obtaining later appropriate gains to give finally an overall positive outcome.

State participation

State ownership as a means to secure income from mining projects and companies is most frequently used in developing countries where the state's capacity to ensure full compliance with mining and tax regulations is limited due to lack of resources whether experienced staff, transport facilities or other factors. It has however also been used in many European countries during earlier economic development phases. There are still many successful state-owned mining companies operating in many countries. Swedish LKAB was nationalised in steps beginning in 1907 in completely different economic and political situation than today, Polish Copper started during the era of planned economy in the early 1960s and Finnish Outokumpu was set up before the second world war when there was acute lack of capital in the Finnish economy. Although these companies were founded in times when economic and political conditions were radically different than today, they are all thriving and playing important roles in particular in regional economic and social development in both Sweden and Finland. Swedish LKAB is an economic anchor in the northern part of Sweden and seen by many as a guarantor of continuity and sustainability in spite of its operation being based on a non-renewable resource. The engagement in the relocation of the towns of Kiruna and Gällivare/Malmberget after more than 100 years of mining are examples of the societal responsibility shown by LKAB. At the same time, the company is operated as a normal publicly listed entity with outside directors and full economic reporting.

At present there are state engagement in the European mining sector mainly in order to spur innovation and to secure access to metals necessary for the transition to a fossil free energy future. Some of these efforts are channelled through the EU's innovation initiatives, other such as the Finnish Minerals Group are also nationally funded. The Finnish Minerals Group is an interesting object for further study as an example of an active way of engaging in and supporting the mining sector by the Finnish government. This group of companies includes the bankrupt Talvivaara nickel mine (nowadays Terra fame) taken over by government to avoid capital destruction and now again profitable, projects to mine lithium (Keliber) and also other steps in the battery value chain. The company is a vehicle to support innovations and to support a battery industry in Finland and not only a commercial venture.

It is clear that all shareholdings directly into a company also brings responsibilities even if acquired without cash costs as a free-carried interest. What happens if the performance of a company is poor and a rescue operation has to be made? A government might have to pump in fresh capital, even if the first shares were free carried, in order to save jobs and perhaps also the environment in particular as political pressures to do so might mount in election times.

One additional aspect of state participation in a mining project, which should not be overlooked is the stability, economic power and long-term views which a government can contribute. Under certain conditions public participation in the exploitation of a country's mineral patrimony can be seen as a guarantee for an appropriate and sustainable way of operation.

Our recommendation is to look at the Nordic and possibly Japanese (JOGMEC) experiences of government activities in the exploration and mining industries. When doing so the important differences in Estonian history and scale of economy and mineral prospectivity compared to these countries, must be taken into account. There are several examples of how governments can engage through ownership and in other ways, in its national mining sector, to balance risk of commercial short-term profit motives becoming too important.

Development of a suitable legislation

The process of developing a suitable mining legislation will take considerable time and necessitates careful planning in particular in order to involve all relevant stakeholders. The purpose of such involvement is to create a common understanding, interest and commitment to the future legislation and to the mining projects this legislation hopefully will spur. In parallel a communication plan should be established in order to build interest and awareness also among the wider public.

All relevant national, regional and local stakeholders from various interest groups should be involved and engaged, such as government and its agencies whether proponents or opponents of mining, the mining industry and its organisation, trade unions, civil society groups, academia, other businesses, local authorities and parliamentarians, media, and not least colleagues from responsible authorities in the Nordic countries which have been dealing with similar issues, etc. The initial steps would be to map all the stakeholders to engage with and to develop a time plan to do so in a suitable way. In Sweden a broad and relatively successful such process was started in the early 2010s when a new mineral strategy was developed. In recent years discussions are underway about a revised mineral legislation but the participation is not as wide as at that time. The lessons learnt are doubtless that the time spent on such efforts to involve and engage a broad selection of interests pays off in the long run even if it might take an additional year before a new legislation can be completed.

Without repeating the points raised earlier and the recommendations made it should be underlined that there are several processes to create new mining legislations on-going at present also in the close neighbourhood of Estonia. The situation and developments in both Finland, Sweden and Norway could serve both as important sources of inspiration and signals of warning for the Estonian process.

Appendix

Mineral Auction Regime in India: Challenges and Future Outlook

The Mineral Laws (Amendment) Bill, 2020

The Mines and Minerals (Development and Regulation) Act, MMDR Act regulates the overall Mining Sector in India. The MMDR Act regulates the overall Mining Sector in India. The MMDR Amendment Act, 2015 has ushered in the regime of transparent and non-discretionary grant of mineral concessions and thereafter all the concessions of major minerals are granted through auction. The court observed that a first-come, first-served process to allocate natural resources was unconstitutional as it violated the principle of equal opportunity. The court further averred that "While transferring or alienating natural resources, the State is duty-bound to adopt such method that which serves three essential causes transparency, equal opportunity for all those interested in acquiring that asset and protection of the public interest.

The Court's observation reads: "Natural resources belong to the people but the State legally owns them on behalf of its people and from that point of view natural resources are considered as national assets. However, as they constitute public property/national asset, while distributing natural resources, the State is bound to act in consonance with the principles of equality and public trust and ensure that no action is taken which may be detrimental to public interest."

The Court added that auction was the best way to allocate natural resources, be it oil and gas, spectrum, minerals and coal. Auction thus came to be a benchmark method for allocation of natural resources.

This Court has repeatedly held that wherever a contract is to be awarded or a licence is to be given, the public authority must adopt a transparent and fair method for making selections so that all eligible persons get a fair opportunity of competition. To put it differently, the State and its agencies must always adopt a rational method for disposal of public property and no attempt should be made to scuttle the claim of worthy applicants.

A duly publicised auction conducted fairly and impartially is perhaps the best method for discharging this burden and the methods like first-come-first-served when used for alienation of natural resources/public property are likely to be misused by unscrupulous people who are only interested in garnering maximum financial benefit and have no respect for the constitutional ethos and values. The conclusions that could be drawn from all these decisions are:

- (i) It is not obligatory, constitutionally or otherwise, that a natural resource (other than spectrum) must be disposed of or alienated or allocated only through an auction or through competitive bidding;
- (ii) Where the distribution, allocation, alienation or disposal of a natural resource is to a private party for a commercial pursuit of maximising profits, then an auction is a more preferable method of such allotment;
- (iii) A decision to not auction a natural resource is liable to challenge and subject to restricted and limited judicial review under Article 14 of the Constitution;
- (iv) A decision to not auction a natural resource and sacrifice maximisation of revenues might be justifiable if the decision is taken, inter alia, for the social good or the public good or the common good;
- (v) Unless the alienation or disposal of a natural resource is for the common good or a social or welfare purpose, it cannot be dissipated in favour of a private entrepreneur virtually free of cost or for a consideration not commensurate with its worth without attracting Article 14 and Article 39(b) of the Constitution.

The decision of the State of Goa was justified in not adopting the auction route for the grant of mining leases and simply granting a second renewal. For a better understanding of this issue, it would be worthwhile to again refer to the Goa Mineral Policy, the report of the EAC, the Grant of Mining Leases Policy and the decision of the Bombay High Court, which documents were relied upon by the learned Additional Solicitor General. The matter is still sub judicious in apex court. Acknowledging that “the auction regime had not achieved the desired success”, the committee, said “the focus must shift from revenue maximisation to production maximisation”. It also recommended that production rate be given high weightage for auction of mineral concessions. The lapsing of these merchant mines, 334 in total and 44 working ones in particular, could cause a significant disruption to domestic supply of iron ore, manganese and chromite. To avoid this, the committee has suggested that the leases be auctioned by January 31, 2020—two months before they lapse.

This should also mean that the Government will get an increased share from the mining sector. Unlike in the 1957 Act, there would be no renewal of any mining concession. The tenure of the mineral concession has been increased from the existing 30 years to 50 years. Thereafter, the Mining Lease would be put up for auction and not for renewal as in the earlier system.

Excerpts from article in Mineral Economics by Dr Pradeep Kumar Jain

For full article please see:

<https://link-springer-com.proxy.lib.ltu.se/content/pdf/10.1007/s13563-020-00244-1.pdf>

Sources

Interviews

Ferenc Madai, Hungary
 Riikka Aaltonen, Finland
 Luis Martins, Portugal
 Eva Liedholm Johnsson, Sweden
 Saul Kavonic, Australia

General

Ali, S.A., Giurco, D., Arndt, N., Nickless, E., Brown, G., Demetriades, A., Durrheim, R., Enriquez, M.A., Kinnaird, J., Littleboy, A., Meinert, L.D., Oberhänsli, R., Salem, J., Schodde, R., Schneider, G., Vidal, O., Yakovleva, N., 2017. Mineral supply for sustainable development requires resource governance. *Nature* 543, pp. 367–372.

Baker McKenzie Global Mining Guide 2020.
<https://resourcehub.bakermckenzie.com/en/resources/global-mining-guide>.

Cooney, J. (2017) Reflections on the 20th anniversary of the term ‘social licence’ in *Journal of Energy & Natural Resources Law*, 35:2, 197-200, DOI:10.1080/02646811.2016.1269472.

Guj, Pietro (2012) Mineral royalties and other mining-specific taxes, International Mining for Development Centre. http://im4dc.org/wp-content/uploads/2012a/01/UWA_1698_Paper-01_Mineral-royalties-other-mining-specific-taxes.pdf.

Hojem, P. (2015) *Mining in the Nordic Countries. A comparative review of legislation and taxation*. Köpenhamn, Nordic Council of Ministers.

Johnson, Ericsson & Löf (2016). Tillstånd och miljöprövning för att öppna gruvor – en internationell utblick. PM 2016:05. Myndigheten för tillväxtpolitiska utvärderingar och analyser. Östersund.
https://www.tillvaxtanalys.se/download/18.62dd45451715a00666f1ff87/1586366202694/pm_2016_05_Tillst%C3%A5nd%20och%20milj%C3%B6pr%C3%B6vning%20f%C3%B6r%20att%20%C3%B6ppna%20gruvor.pdf.

Liedholm Johnson, E., Ericsson, M. (2015) State ownership and control of minerals and mines in Sweden and Finland in *Mineral Economics*, DOI 10.1007/s13563-015-0063-2. Springer.

MIN-GUIDE – D1.3 The MIN-GUIDE Policy Guide: Guidance for EU and MS mineral policy and legislation
<https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5bf9b150c&appId=PPGMS>

MinPol and partners, Study – Legal framework for mineral extraction and permitting procedures for exploration and exploitation in the EU 2017.
<https://op.europa.eu/en/publication-detail/-/publication/18c19395-6dbf-11e7-b2f2-01aa75ed71a1/language-en>

Williams, J.P. (2012) Global Trends and Tribulations in Mining Regulation in *Journal of Energy & Natural Resources Law*, 30:4, 391-422, DOI:10.1080/02646811.2012.11435304.

Sweden

Legislative Bill (1989) *Ny minerallagstiftning mm.* Regeringens proposition 1988/89:92.

Ministry of Enterprise Energy and Communications (2013) *Sweden's Minerals Strategy*, Sweden.

<http://www.bergsstaten.se>
(Bergsstaten/Mining Inspectorate of Sweden).

<http://www.lagrummet.se>
(Portal for Swedish public administration legal information).

Finland

Legislative Bill (2009) *Regeringens proposition med förslag till gruvlag och vissa lagar som har samband med den.* RP 273/2009, Finland.

Ministry of Employment and the Economy (2010) *Finlands mineralstrategi*, Finland
<http://mineraraalistrategia.fi>
(Finnish mineral strategy)

Ministry of Employment and the Economy (2013) *Making Finland a leader in the sustainable extractive industry – action plan.* Publications of the Ministry of Employment and the Economy Concern 22/2013.

Ministry of Employment and the Economy (2011) Mining Act, unofficial translation.

Pokki J. (2016) Finland: Mineral Policy. In: Tiess G., Majumder T., Cameron P. (eds) *Encyclopedia of Mineral and Energy Policy*. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-40871-7_45-2

Rinne, Tomi; Simonen, Ari (2020-09-23) Termination and after-care measures covered by collateral under the Mining Act
<https://julkaisut.valtioneuvosto.fi/handle/10024/162444>
(not directly related to our topic but interesting example of work initiated by Finnish government)

Vihervuori, Pekka (2019-06-17) Assessment of the effectiveness of legislation on mining operations
<https://julkaisut.valtioneuvosto.fi/handle/10024/161756>

<http://www.finlex.fi>
(Database of Finnish laws)

<https://www.finlex.fi/fi/laki/ajantasa/1940/19400174>
(Law on tenders for certain mineral deposits)

Poland

MINLEC Country Report Poland
https://rmis.jrc.ec.europa.eu/uploads/cprofiles/MINLEX_CountryReport_PL.pdf

“Daniny i Podatki płacone przez górnictwo w Polsce” in *Wspolne Sprawy*, Nr 3 (263), March 2015 (Biuletyn Zarządu Głównego Stowarzyszenia inżynierów i techników górnictwa).

“Podatki i opłaty w polskim górnictwie” (Taxes and fees in Polish mining industry) in PRZEGLĄD GÓRNICZY, Issue 5/2016, accessed 1 June 2020.

Infrastructure, Environment Geology II, No 212, April 20, 2015.

<https://www.mos.gov.pl/srodowisko/geologia/informacje-dla-przedsiębiorców/>
(Archive of the Ministry of the Environment)

<https://www.mos.gov.pl/srodowisko/geologia/informacja-geologiczna/>
(Ministry of the Environment, geological information)

<http://www.mf.gov.pl/en/ministry-of-finance/news/about-mf>
Ministry of Finance (Ministerstwo Finansów)

<http://www.mf.gov.pl/pl/ministerstwo-finansow/dzialalnosc/baza-wiedzy#>
(Ministry of Finance)

<http://opis.sejm.gov.pl/en/index.php>
Polish Parliament (Sejm)

<http://isap.sejm.gov.pl/KeywordServlet?viewName=thasG&passName=geologiczne+prawo>
(Portal for Polish public administration legal information).

- *Prawo geologiczne i górnictwo 2011* (Mining Act)
- *Prawo ochrony środowiska 2001* (Environment Protection Act)
- *Ustawa o odpadach wydobywczych 2008* (Extraction Waste Act)
- *Ustawa o udostępnianiu informacji o środowisku i jego ochronie, udziale społeczeństwa w ochronie środowiska oraz o ocenach oddziaływania na środowisko 2008* (Act on Disclosure of Environmental Information and its Protection, Public Participation in Environment Protection, and on Environmental Impact Assessment).

Niec, M., Galos, K., Szamalek, K. (2014) Main challenges of mineral resources policy in Poland. *Resources Policy* 42, pp. 93-103.

Polityki energetycznej Polski do 2030 roku, Uchwała Rady Ministrów nr 202/2009.

T. Smakowski, S. Speczik, *Kierunki polityki surowcowej Polski*, „Gospodarka Surowcami Mineralnymi”, 2008, t. 24, z. 4/4, s. 383 (s. 381-394); J. Hausner (red.) *Polityka surowcowa Polski, rzecz o tym czego nie ma a jest bardzo potrzebne*, Wyd. Fundacja Gospodarki i Administracji Publicznej, Kraków 2015.

Hungary

MINLEX_Country Report Hungary

https://rmis.jrc.ec.europa.eu/uploads/cprofiles/MINLEX_CountryReport_HU.pdf

Hungarian Mining and Geological Survey (MBFSZ)

<https://mbfsz.gov>

Closed areas

<https://mbfsz.gov.hu/en/closed-areas>

Concession tenders

<https://mbfsz.gov.hu/en/concession-procedure>

Hungarian Official Journal no. 66 2018
Communique of the Hungarian Mining and Geological Survey defining the set of concession-obliged minerals.

Portugal

MINLEX Country Report Portugal

https://rmis.jrc.ec.europa.eu/uploads/cprofiles/MINLEX_CountryReport_PT.pdf

Direção Geral de Energia e Geologia (DGEG)

<https://www.dgeg.gov.pt/pt/areas-setoriais/geologia/depositos-minerais-minas/>
(Portuguese Geological Survey)

M. Santos Vitor, Mining in Portugal: overview

[https://content.next.westlaw.com/Document/I95e1f2bb3ad811e9adfea82903531a62/View/FullText.html?productData=categoryPageUrl%3aHome%2fPracticalLawGlobal%2fCountries%2fPortugal&ScopedPageUrl=Home%2fPracticalLawGlobal%2fCountries%2fPortugal&navId=F1498BAFB989C708F3A0F3D6B7FBFEB4&transitionType=CategoryPageItem&contextData=\(sc.Default\)&firstPage=true](https://content.next.westlaw.com/Document/I95e1f2bb3ad811e9adfea82903531a62/View/FullText.html?productData=categoryPageUrl%3aHome%2fPracticalLawGlobal%2fCountries%2fPortugal&ScopedPageUrl=Home%2fPracticalLawGlobal%2fCountries%2fPortugal&navId=F1498BAFB989C708F3A0F3D6B7FBFEB4&transitionType=CategoryPageItem&contextData=(sc.Default)&firstPage=true)

Portugal to launch tender of lithium exploration licenses this year Commodities News
September 25, 2018

<https://www.reuters.com/article/us-portugal-lithium-exclusive-idUSKCN1M5199>

Overview of the mineral resources policy in Portugal (2014)

<https://www.cobalt-fp7.eu/pdf/2014%20-%20regional%20dialogue%201/presentations/2-DGEG.pdf>

Ontario

Ontario government. <https://www.fin.gov.on.ca/en/tax/cit/index.html>.

Natural Resources Canada. <https://www.nrcan.gc.ca/home>.
(responsible federal ministry)

Natural Resources Canada (no year) Provincial and Territorial Mining Taxes and Royalties Deduction.
<https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/mining/taxation/mining-taxation-canada/mining-specific-tax-provisions/8892#a1>.

Government of Canada, PDAC, The Mining Association of Canada, Canadian Aboriginal Minerals Association (2013) *Exploration and Mining Guide for Aboriginal Communities*.

Ministry of Northern Development and Mines (2008) *A Practitioner's Guide to Planning for and Permitting a Mineral Development Project in Ontario*.

Ministry of Northern Development and Mines (2009) *One Window Coordination Process for Mineral Development Projects in Ontario*.

Ministry of Northern Development and Mines (undated) *Project Definition Template for Advanced Exploration and Mine Development Projects A guide to the information needed to plan for permitting and approval of a mineral sector project in Ontario*.

Ministry of Northern Development and Mines (undated) *Regulatory Requirements Outside of MNDM Affecting Mineral Exploration and Development Activities*.

<http://www.mndm.gov.on.ca>
(Ministry of Northern Development and Mines)

www.e-laws.gov.on.ca
(Legislation Province of Ontario)

Queensland

Mineral resources Act 1989, Mineral Resources Regulation 2013:
<https://www.legislation.qld.gov.au/view/pdf/inforce/current/sl-2013-0170>.

Australian Government, Australian Taxation Office, Company tax rates,
<https://www.ato.gov.au/Rates/Company-tax/>.

Queensland Government, Business Queensland, <https://www.business.qld.gov.au>.

Queensland Government (2020) Environmentally relevant activities Summary of fees for environmentally relevant activities (ERAs)
https://environment.des.qld.gov.au/__data/assets/pdf_file/0025/88702/era-is-summary-annual-fees.pdf.

Guj, Pietro (2015) Outline of the Australian Mining Taxation Regime.
<https://www.imf.org/external/np/seminars/eng/2015/natrestax/pdf/guj.pdf>.

PwC (2019) Worldwide Tax Summaries – Australia. <https://taxsummaries.pwc.com/australia>.

State participation

Johnson E., Ericsson M. State ownership and control of minerals and mines in Sweden and Finland, Mineral Economics vol 28 no 1-2 pp 23-38 2015.

Radetzki, Marian State Mineral Enterprises – AN investigation into their impact on international mineral markets, Resources for the Future 1985.

World Bank Raw Materials Group (2011). *Overview of State Ownership in the Global Minerals Industry. Long Term Trends and Future*. Extractive Industries for Development Series #20.

Japan Oil, Gas and Metals National Corporation (JOGMEC)
<http://www.jogmec.go.jp/english/>

African state participation in various countries
<https://www.lexafrica.com/wp-content/uploads/2019/02/LEX-Africa-MINING-GUIDE-DIGITAL.pdf>

Proposals for Estonia

African Minerals Development Centre, A country mining vision guidebook – Domesticating the Africa Mining Vision, no year pp. 37-38

UNECA United Nations Economic Commission for Africa, Minerals and Africa's development: The International Study Group Report on Africa's mineral regimes, 2011, pp. 1-3 and Appendix L pp. 206-210.

Fraser Institute, Annual Survey of Mining Companies 2020
<https://www.fraserinstitute.org/studies/annual-survey-of-mining-companies-2020>

Jain, PK, Mineral Auction Regime in India: Challenges and Future Outlook
Mineral Economics <https://doi.org/10.1007/s13563-020-00244-1>

“Sectoral Licensing Studies: Mining Sector” was prepared under the Global Business Operations
Product Line by consultant Charles Krakoff

MIN-GUIDE Minerals policy guidance for Europe (2018)
<https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5bf9b150c&appld=PPGMS>

Min Pol and partners, Study – Legal framework for mineral extraction and permitting procedures for
exploration and exploitation in the EU 2017, op. cit. p. 498.

Vijay Kumar, S and R K Sinha. 2020. Mineral Auctions in India: Winner’s Curse or Owner’s Pride? TERI
Discussion Paper. New Delhi: The Energy and Resources Institute.

S Vijay Kumar, Distinguished Fellow, TERI Email: SVijay.kumar@teri.res.in R K Sinha, former
Controller-General, Indian Bureau of Mines Email: sinhark57@rediffmail.com

A Strategic Blueprint for Queensland’s North West Minerals Province: supporting strong and
prosperous regional communities
State of Queensland, July 2017.
https://www.statedevelopment.qld.gov.au/__data/assets/pdf_file/0009/12231/nwmp-strategic-blueprint.pdf

Assessment of the effectiveness of legislation on mining operations
Publications of the Ministry of Economic Affairs and Employment Enterprises • 49/201
<https://julkaisut.valtioneuvosto.fi/handle/10024/161756>

Industry commission mining and minerals processing in australia volume 3: issues in detail
Report No. 7 25 February 1991 Australian Government Publishing Service Canberra
<https://www.pc.gov.au/inquiries/completed/mining/07miningv3.pdf>

Australia Government Productivity Commission Inquiry Report Mineral and Energy Resource
Exploration No. 65, 27 September 2013
<https://www.pc.gov.au/inquiries/completed/resource-exploration/report/resource-exploration.pdf>