The licensing system for Mining and Quarrying works in Greece, 2018

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Land-Use Planning and Particularities of the Greek system reflecting in the permitting procedure. The mining and quarrying industry is a very specific sector, concerning not renewable resources and unlike other forms of land use, it is important to acknowledge that minerals can be worked out where they are found (with the exemption of the aggregates which are considered abundant and can be excluded from the general exploitation pattern) . Also there is the well known scarcity of minerals and metals, some are not equally abundant throughout the Earth's crust. Especially in Greece there are some more particularities:

Deposits are usually fragmented and dispersed, so the areas required for extraction are numerous and small-sized. Also there is a fragmentation of properties and a competing interest of different activities at the same small property. All this result in conflicts of land use and generally in an increase of the number of the extraction areas. Moreover, the Greek Land Registry has not been completed yet, resulting in the fact that there are many areas around the country where the land ownership is not clear (included Public).

The Greek companies investing in quarrying are generally small sized and especially for marble quarrying there are enterprises of a very small size (75% is of 3-5 employees). We have more than 1000 quarries in the whole country area. Moreover, distances between the urban, highly populated or industrial areas and mineral deposits are often very small causing problems in spacial and land use planning.

Quarry Type	< 10 employees
Aggregates	59%
Marble	75%
Industrial Minerals	60%

Greece is a country with long historical and archaeological heritage, therefore there are many archaeological sites, areas of historic or architectural importance and a relevant strict legal network for their protection by the Ministry of Culture and its authorities (Ephorates of Prehistorically and Classic Antiquities, Byzantium monuments, etc). Also, there are a lot of special protected areas of environmental interest (Natura 2000, Special protected zones, Habitats Directive, Birds Directive, etc). With the latest expansion of the natura 2000 network in Greece in 2017, a 27% of the country's total expanse is listed under natura 2000 network and the percentage of sea area under Natura protection has come up to 22% of national territorial waters, much higher than the pre-existing 6.12%. Greece is now seventh in the 28 EU Member States in terms of coverage, exceeding the EU average by 9 percentage points.

Unfortunately, a great deal of deposits that are to be mined or places to be explored have been discovered in Environmentally Protected Areas. Actually, 30-35% of the reserve potential of mineral raw materials in Greece is within the Natura 2000 network, not including the areas related to the hydrocarbon deposits. As comes from both European and Greek legislation and the relevant Commission Guidance documents for Natura 2000O, there should be no automatic exclusion of extraction activities in the surrounding of the sensitive areas but there is a considerable delay in getting a license in these areas.

Finally the factors of the public awareness and social perception that are important factors nowadays taken into consideration for the exploration and assessment of mineral resources. Nowadays a "social license" is strongly needed. Unfortunately, the syndromes Not in my back yard (NIMBY) or Not in any back yard (NIABY) are well established in Greece for mining extracting sector causing more delays in permitting procedures.

The Greek Mining/Metallurgical Industry (GMMI). Greece continues to maintain leading positions worldwide in the production and export of many key note (metallic and quarry) minerals and thus maintaining a strong comparative advantage over other EU countries. Greek mining and metallurgical industry (without taking into account the hydrocarbon sector) constitutes an important sector of the economic activity of the country as it supplies essential raw materials for primary industries and various downstream users. It covers metals (bauxite, nickel, lead, zinc, gold, copper, etc.), industrial minerals (bentonite, perlite, magnesite, pumice, gypsum, calcium carbonates, huntite and industrial clays), marbles, ornamental stones and aggregates. The Greek mining industry at-a-glance:

- Accounts for almost 3% of the Greek GDP
- Generates a total value of more than €2 billion annually, roughly 50% of which is exported
- Constitutes almost 5% of total Greek exports
- Employs directly roughly 20,000 individuals and indirectly 80,000 individuals

Legislation. The Greek Legislation (the Mining Code, namely L.210/1973) distinguishes mineral raw materials into two main categories:

a) "Metallic Minerals", the right of which, either on the surface or underground, belong either to the state, and is leased or, in most cases, it is conceded, with a "Presidential Decree", under which the right of mine ownership is established (the so called concessions or private mines). The mining concession establishes an independent mineral ownership right on the mine and the metallic minerals extracted from it, which is separate and unaffected by any title and ownership rights on the mining area. However, in order for the concessionaire to be able to actually mine the mining area, including the deployment of related facilities, he must first reach an agreement with the land owners concerned regarding the use of the surface of that area. and

b) "Quarry Minerals", which belong to the landowner of the area they occur in, the owner being exclusively entitled to exploit them, either himself or through an agreement with a third party.

This classification is mostly legal/conventional and is not always based on scientific data, but rather into mainly economic criteria. For example, many ores such as talc, fluoride, asbestos, feldspar, magnesite ("leukolithos"), are classified by the legislator into ores, taking into consideration their economic importance but also tradition. However, from a scientific, but also from a usage, point of view they are considered as industrial minerals.

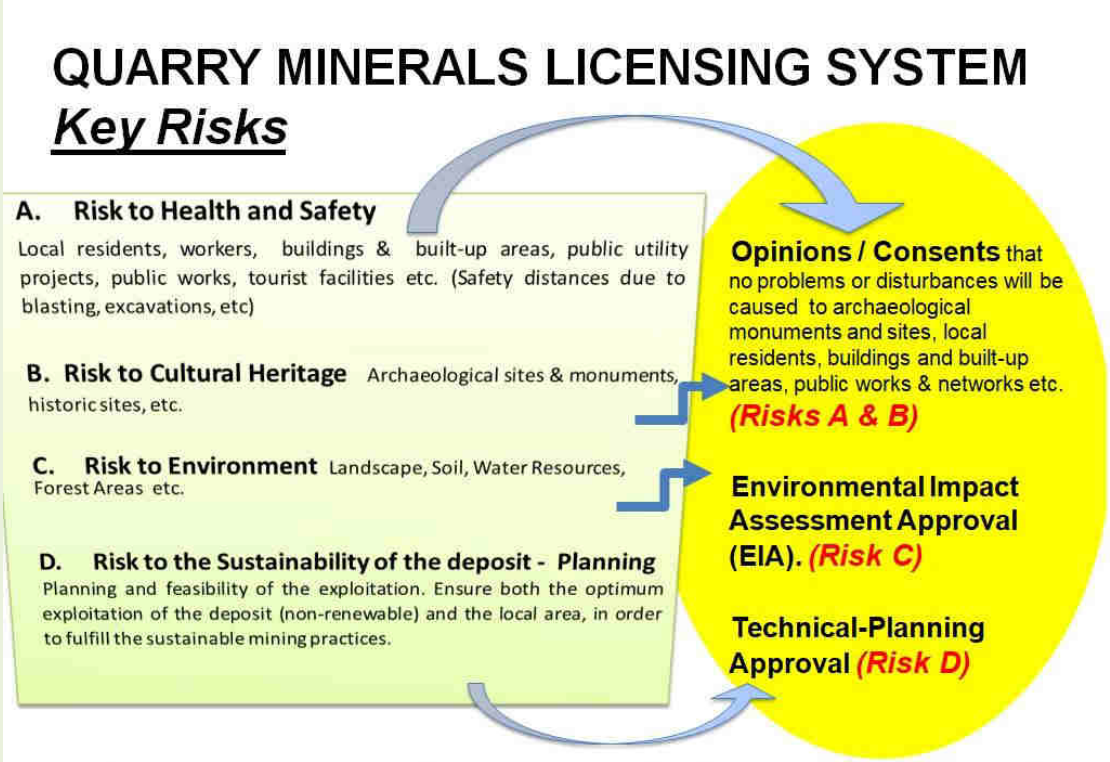
The "Metallic Minerals" include (native) metals, all metallic compounds, precious stones, radioactive and energy minerals, sulphur, talc, fluoride, asbestos, dolomites with MgO content > 21 %, feldspars, mineral salt, organic sediments, and others, as well as those "Quarry Minerals" that may be treated in order to produce "Metallic Minerals".

"Quarry Minerals" comprise three sub-categories: i) aggregates, ii) marbles and other ornamental rocks, and iii) almost all industrial minerals, with major exceptions being feldspars and magnesite, which fall in the "Metallic Minerals' group.

Based on the Mining Code, exploration or/and exploitation rights of all "Metallic Minerals", other than those exempted by the State (e.g. energy and radioactive minerals, emery, mineral salt, natural gases and organic sediments, ores that are being discovered in the Greek submarine area or the bottom of lakes) can be conceded to anyone (EU nationals) interested under the presumptions of this law. The State also belongs the right of exploration and exploitation for some certain areas that are called "public mining areas", and which have come to the State's jurisdiction through various ways (donations, enemy fortunes after the German occupation, forfeited mine owners before 1973 etc.)

The Mining Code of 1973 (Legislative Decree, L.210/1973, as extensively amended in 1976, by L.274/1976 and in 2018, by L.4512/2018) is still the principal legal instrument regulating mining activities in Greece. Additional important legislation includes L. 4512/2018 on the exploration and exploitation of Quarry Minerals (that has substituted the following laws: L. 669/77 for marbles, ornamental rocks and industrial minerals, L.1428/84 and L.2115/93 on the exploitation of aggregates).

Field operations are regulated by the Mining and Quarrying Works Regulation (KMLE) of 2011, Ministerial Decision 2223-FEK1227/14-6-2011. The KMLE is setting the rules applying for all Mining and Quarrying Sites during the activities of exploration, or extraction, or exploitation, or treatment of mineral raw materials, as well as rehabilitation activities, concerning the following: rational activity, health and safety of the working staff and the citizens of the surrounding areas and protection of the environment.



AFTER: Regular on-site inspections are carried out ex post by the Greek Mining Inspectorate on the basis of a risk assessment.

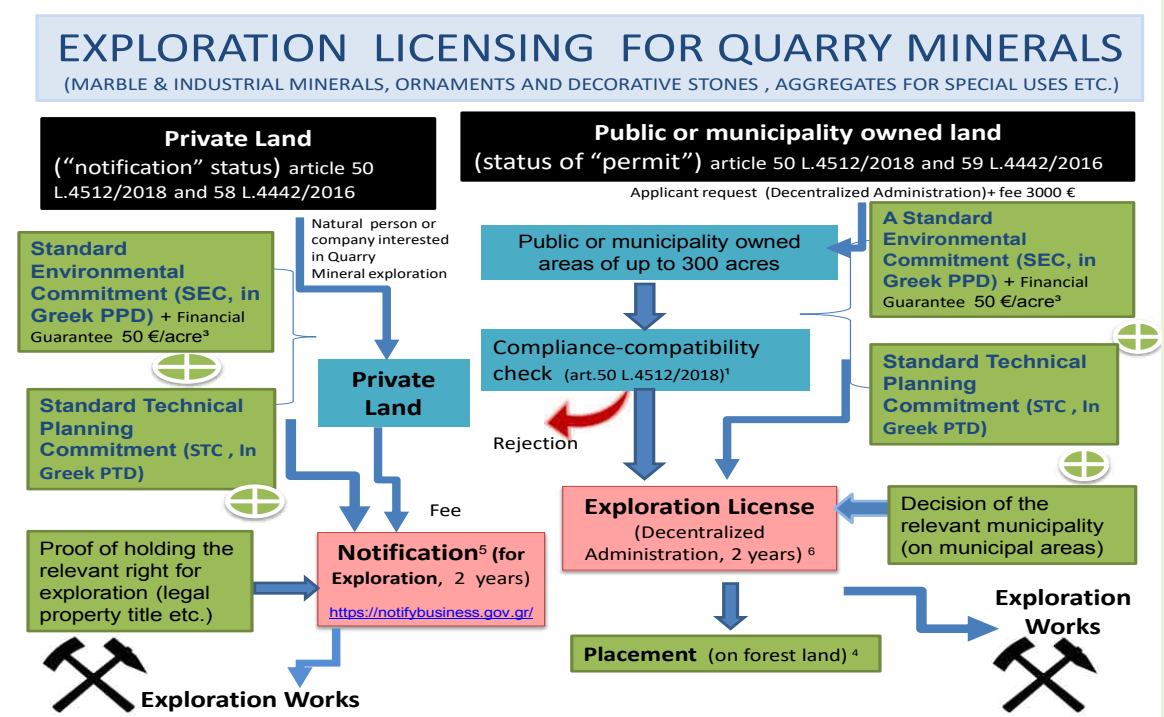
In Greece all mining and quarrying projects are classified as projects that may have significant impact on the environment and therefore an environmental impact assessment (EIA) is required through an environmental impact study (EIS), in order for the relevant environmental terms approval (ETA) to be granted. In addition, an extractive waste management plan must be drawn up by the concessionaire and approved by the environmental authorities. The management of waste from mining and quarrying operations are regulated by the Extractive Industry Waste Regulation of 2009, adopted in transposition of the EU Directive 2006/21. A financial guarantee is also required from the concessionaire, in order for the State to secure the respect of all obligations arising from the relevant ETA (including those concerning the after-closure of the mining site or

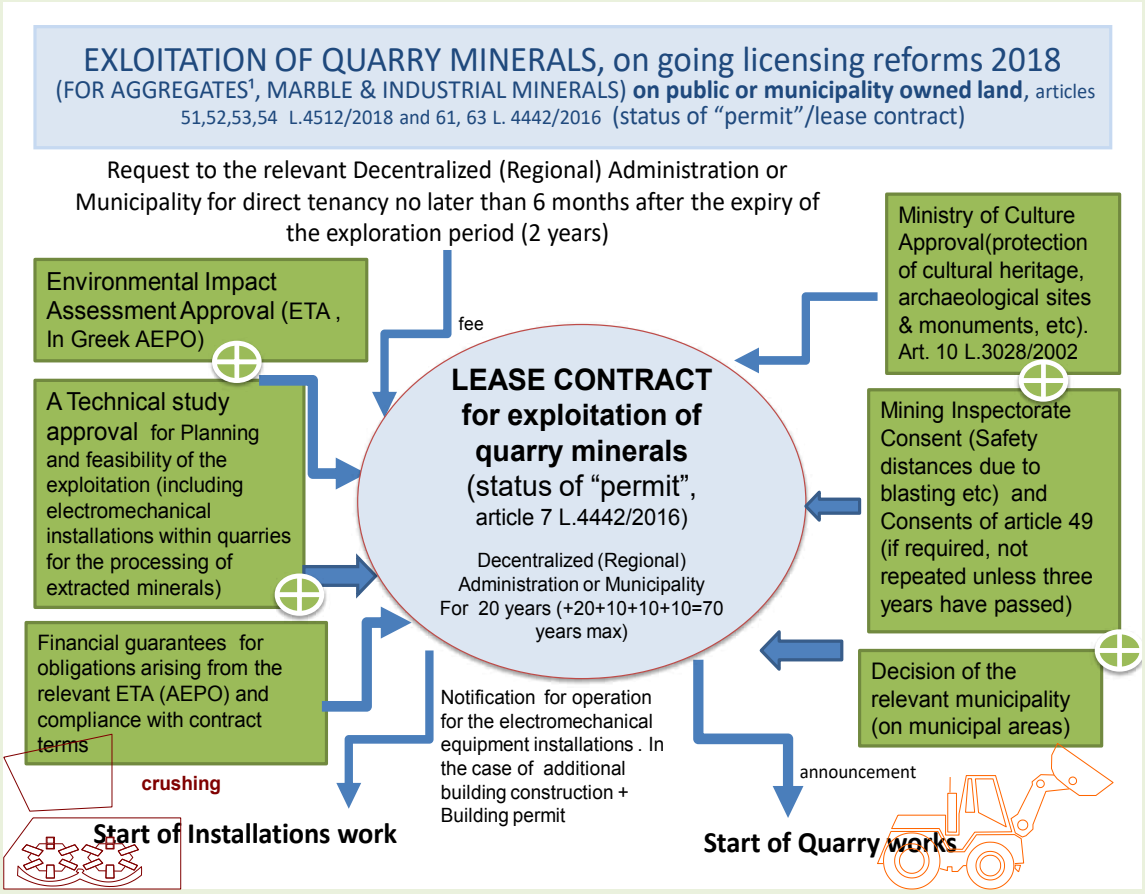
the quarry) and the availability of funds at any given time for the rehabilitation of the land affected by such extractive operations and waste management.

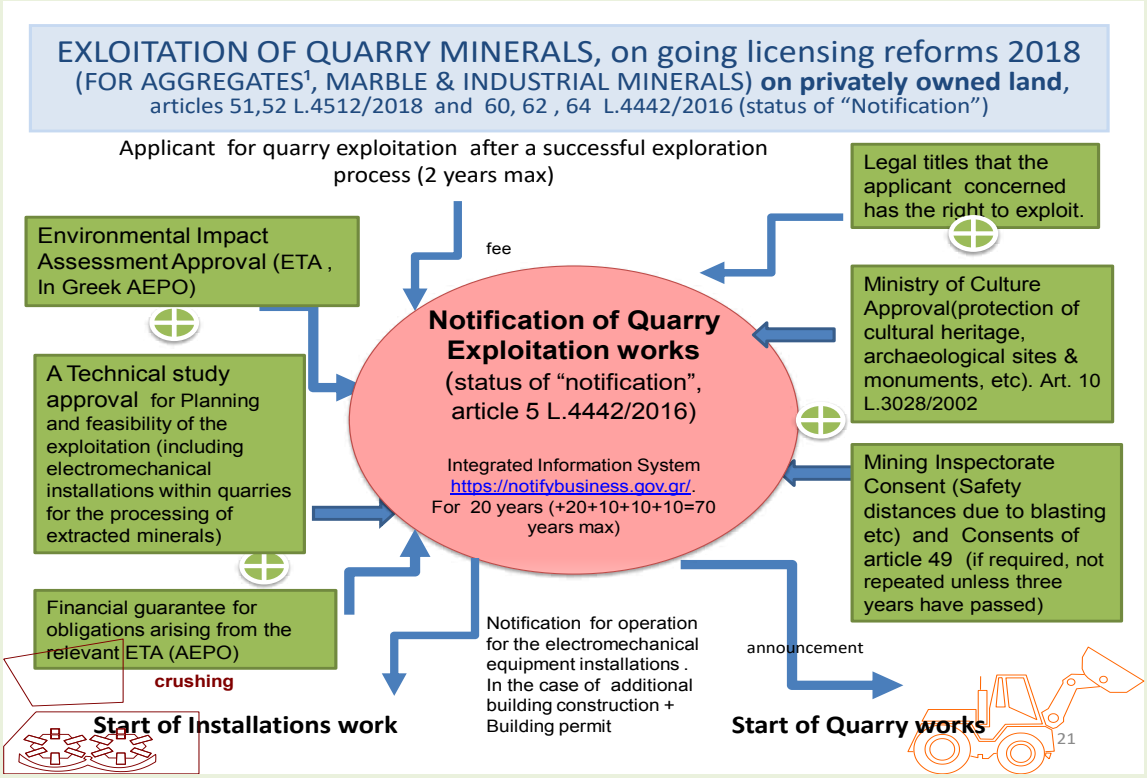
The basic legislation for the environmental permitting of all types of projects and activities is L.4014/2011, requiring approval of the EIA (Environmental Impact Assessment) study and Environmental Terms Approval decision (ETA). This Law applies to the permitting of mining projects and activities in combination with Ministerial Decision 1958/2012 (on the classification of projects/activities into groups and categories, depending on the significance of their environmental impacts, as amended) and Ministerial Decision 167563/2013, which specifies the procedures and criteria for this permitting. Based on Ministerial Decision 1958/2012, the majority of projects of Group 5 "Extractive Activities" belong in environmental Sub-categories A1 and A2 and only some exploration activities in Category B. After L.4512/2018 all exploration activities for quarry minerals are categorized as Category B.

Special environmental evaluation is usually also required for mining or quarrying projects within Natura 2000 sites (more generally within the National System of Protected Areas of Law 3937/2011 which occupies about 30% of the territory of the Country) in order for the environmental authorities to evaluate and confirm that the proposed project will not compromise the integrity of the area concerned. If yes, the project can materialize only in the absence of alternative solutions and for substantiated reasons of imperative public interest (including social or economic reasons) and after providing in the project's ETA for all the required offset measures to safeguard the overall coherence of the sites of the Natura 2000 network in Greece.

In Greece, the main first-instance authorities responsible for issuing permits and licenses relevant to the Extractive Industry Sector are, at the national level, the Ministry of Environment and Energy (YPEN) and, at the regional/local level, the 7 Decentralized (Regional) Administrations (tiers of ministries) and in a lower degree the 13 Administrative Regions (L.3852/2010). Who issues which permit depends on the mineral type, size of the project/activity, any land use peculiarities of the area of intervention (i.e. frontier area, protected area), or/and the land ownership legal status.




EXLOITATION OF QUARRY MINERALS, on going licensing reforms 2018
(FOR AGGREGATES[1], MARBLE & INDUSTRIAL MINERALS) on public or municipality owned land, articles 51,52,53,54 L.4512/2018 and 61, 63 L. 4442/2016 (status of "permit"/lease contract)
Request to the relevant Decentralized (Regional) Administration or Municipality for direct tenancy no later than 6 months after the expiry of the exploration period (2 years)
Environmental Impact Assessment Approval (ETA , In Greek AEPO)
fee
Ministry of Culture Approval(protection of cultural heritage, archaeological sites & monuments, etc). Art. 10 L.3028/2002
A Technical study approval for Planning and feasibility of the exploitation (including electromechanical installations within quarries for the processing of extracted minerals)
LEASE CONTRACT for exploitation of quarry minerals (status of "permit", article 7 L.4442/2016)
Decentralized (Regional) Administration or Municipality For 20 years (+20+10+10+10=70 years max)
Mining Inspectorate Consent (Safety distances due to blasting etc) and Consents of article 49 (if required, not repeated unless three years have passed)
Financial guarantees for obligations arising from the relevant ETA (AEPO) and compliance with contract terms
Decision of the relevant municipality (on municipal areas)
crushing
Notification for operation for the electromechanical equipment installations . In the case of additional building construction + Building permit
announcement
Start of Installations work
Start of Quarry works


EXLOITATION OF QUARRY MINERALS, on going licensing reforms 2018
(FOR AGGREGATES[1], MARBLE & INDUSTRIAL MINERALS) on privately owned land, articles 51,52 L.4512/2018 and 60, 62 , 64 L.4442/2016 (status of "Notification")
Applicant for quarry exploitation after a successful exploration process (2 years max)
Legal titles that the applicant concerned has the right to exploit.
Environmental Impact Assessment Approval (ETA , In Greek AEPO)
fee
Ministry of Culture Approval(protection of cultural heritage, archaeological sites & monuments, etc). Art. 10 L.3028/2002
A Technical study approval for Planning and feasibility of the exploitation (including electromechanical installations within quarries for the processing of extracted minerals)
Notification of Quarry Exploitation works (status of "notification", article 5 L.4442/2016)
Integrated Information System https://notifybusiness.gov.gr/. For 20 years (+20+10+10+10=70 years max)
Mining Inspectorate Consent (Safety distances due to blasting etc) and Consents of article 49 (if required, not repeated unless three years have passed)
Financial guarantee for obligations arising from the relevant ETA (AEPO)
crushing
Notification for operation for the electromechanical equipment installations . In the case of additional building construction + Building permit
announcement
Start of Installations work
Start of Quarry works
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The Ministry (YPEN) is the competent authority for the environmental and technical permitting of surface and underground mines. Also it is the competent authority for approval of any technical exploitation study for both quarry and metallic minerals, in accordance with the Regulation on Mining and Quarrying Works (KMLE) and for environmental terms approval (ETA) of extractive works included in sub-category A1. For ETA's of works in the sub-category A2 the competent authority is the relevant Decentralized (Regional) Administration. For B category there is no need for an ETA (Approval), but only for a Standard Environmental Commitment (SEC).

After L. 4512/2018, the Decentralized (Regional) Administration is the authority responsible for issuing exploration and exploitation permits for industrial minerals, marbles and aggregates on public (state-owned) areas. Actually, as the L. 4512 /2018 provides, there is no permit, **the lease contract of the requested area is considered and serve as "permit"**. On private lands a "notification of start of activities" procedure to all relevant authorities, is established by the same law, allowing for effective supervision afterwards. The notification shall be made exclusively through an Integrated Information System specially designed for this, https://notifybusiness.gov.gr/. In all cases, permission of works is given upon verification that no problems or disturbances are created to neighbors, archaeological sites, buildings and built-up areas, public works or the environment (Ministry of Culture Approval, Mining Inspectorate Consent etc.). For exploitation permit, a special Techno-economic Study and an EIA Study have to be submitted to the competent authorities, evaluated and approved. For exploration permit, which is valid for maximum 2 years, a Standard Environmental Commitment (SEC) and a relevant Standard Technical Commitment (STC) are needed (not approvals). Exploration work on public and municipal land shall be carried out in a single designated area of up to 300 acres. The exploitation permit for all kind of quarry minerals is valid for a time period of 20 years and can be extended for an additional period of 20 years respectively, and then by 10 years each time so as to reach 70 years in total, L.4512/2018.

The exploitation of aggregates can only take place in the quarrying areas approved for their suitability (in terms of their quality and their environmental impact). The "q areas" are issued at a Prefectural level after recommendation by a special committee, articles 46,47 and 48 L.4512/2018. The law provides for individual locations only in cases where the aggregates extracted are destined to special purposes, as for road construction or cement industries and in some islands, where the demand doesn' t justify the creation of such "q areas". Many years after the first application of the L.1428/1984 which introduced "q areas", little progress has been made in the field and individual locations are selected for new quarries mainly because the "q areas" definition implies the restriction of the adjacent land uses and especially housing in a distance of 1000 m around.

Concerning **exploration** for **"Metallic Minerals" or "Ores"**, a Mineral Exploration License (MEL) is issued on a "first-come, first-served" basis by the Head of the Administrative Region (Perifereia). The License has a three years' duration and is valid for an area of 5-10,000 acres. The average length of time to get a Mineral Exploration License (MEL) is almost 3 months. After obtaining this permit and in order to start the exploration activities the owner of the right should get the required approvals which include approval of the EIA study when drilling operations and other earthwork operations are needed (or in some cases just a SE Commitment) and a relevant Standard Technical Commitment (STC).

With regards to metallic minerals ("ore") **exploitation**, in the case of a successful exploration program, the Licensee has the right to request, with an application to the Head of the Administrative Region, the concession of the area referred in the MEL. The application is forwarded to YPEN and the Ministry, after consulting the Greek Institute of Geology and Mineral Exploration (IGME) on the deposit's features, returns the file to the Head, who announces a public consultation process for the granting of the mining concession. After obtaining the mining concession (which can take about 1year) and in order to start the extraction activities, the owner of the mining rights should get the required permits and approvals which include approval of the EIA study and of the Technical study (about 0.5-1 more year). Mining concessions are granted

by YPEN (Presidential Decrees typically granted by the President of the Hellenic Republic), are valid for 50 years and can be extended for two additional 25-year periods. The holder of a concession has the exclusive right to conduct exploration and exploitation of all the mineral substances occurring during the different phases of the exploitation (extraction or processing), even of the quarry ones, that normally belong to the land owner.

Concerning royalties, duties and maximum fair rent, the Mining Code was amended by L. 4042/2012 to provide for the payment of a special duty for all the active, reserved and inactive mining concessions and exploration permits. This special duty is determined by joint ministerial decision 10697/2714/23.6.2014 as amended in 2015.

In case of lease of mining rights a “maximum fair rent” is provided by the Mining Code, mainly as percentage(s) (between 1,5% and 12%) of FOB (or FOT, Free on Truck) unprocessed or processed metallic minerals market prices. Such maximum fair rent, however, is not applicable in case of lease of state owned mines extracting specific minerals exclusively vested with the State. Of the rents and fees collected annually by the State from the exploitation of public and private mines, 20% is attributed to the relevant Municipalities, within which the mining activity is carried out (Article 12 of Law 4203/2013, Government Gazette A '235) as a counterpart for the area disturbed by mining operations.

The authority responsible for the implementation of the KMLE regulation and generally the implementation of the ministry policy for Mineral Resources is the Inspectorate of Environment and Mining, under the aegis of the Special Secretariat, Ministry of Environment and Energy (YPEN).

Finally, the Institute of Geology and Mineral Exploration (IGME) advises the Ministry on the geological and technical aspects, according to L 272/1976.