

Revision of the Industrial Emissions Directive - Potential inclusion of additional sectors

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Euromines represents the European mineral raw materials industry covering more than 42 different metals and minerals and employing 350.000 directly and about four times as many indirectly. Its members mine metals and minerals, which will play an important role for a sustainable transition, and which make EU's economy less dependent on raw materials from third countries and thus more resilient to crises.

Within the EU, Member States have sovereign rights over their own natural resources and responsibility for mining and quarrying lies with the Member States within a defined framework of established ownership rights and national, regional, and local regulations – in particular specific mining legislation.

The current review of the Industrial Emissions Directive (IED) considers inter alia to include extractive industries in the Directive. This would mean a far-reaching change of the actual situation. Mining activities (extraction and treatment (i.e. comminution and beneficiation)) have for several reasons until today not been covered by the EU legislation on industrial emissions – neither by the IPPC-Directive nor by the present IED. *Euromines rejects the inclusion of mining activities under the scope of the IED as this is not only not justified but would also not lead to an added environmental value and would moreover fail to recognise the specificities of the mining sector and the subsidiarity principle.*

1. Mining activities are already strongly regulated by EU legislation

Mining activities can, if not properly regulated and managed, like any other industrial activity cause negative impacts on the environment and human health. Therefore, regarding environmental requirements, the European mining sector is already today strongly regulated by a dense regulation system on European level as well as on national level ensuring a very high level of environmental protection and performance. That way, numerous EU Environmental Directives (e.g. 92/43/EEC, 2000/60/EC, 2004/35/CE, 2008/50/EC, 2008/56/EC, 2008/98/EC, 2008/105/EC, 2009/147/EC, 2014/52/EC) are applicable for mining and quarrying as well as national environmental legislation, international management standards and best practice guidelines.

Potential impacts of mining on the environment are for instance impacts on biodiversity and soils by surface (open pit) mining, impacts on groundwater by dewatering measures, impacts on air quality due to diffuse dust generation, impacts to soil, water, and air due to management of extractive waste in facilities. These impacts are nevertheless already regulated by European legislation.

Regarding impact on biodiversity, important parts are already covered by the Natura 2000 legislation and the

Species and Habitats Directive. However, most impacts on biodiversity are not caused by emissions but by the land use required for the mining activities, so that they could not be integrated in the IED.

Potential impacts on soil are local impacts and have no transboundary effects. Therefore, this issue falls under the responsibility of the member states and could for reasons of subsidiarity not be subject to a regulation in the IED.

Potential water impacts are regulated by Water Framework Directive and its Daughter Directives (i.e. Groundwater and EQS Directive).

Air quality is protected through EU Air Quality Directives (2008/50/EC together with the fourth daughter Directive 2004/107/EC).

Extractive waste facilities, which might be the most relevant extractive installations from an environmental point of view, are in addition to the environmental regulations already regulated separately in the specific extractive waste directive (2006/21/EC including the MWEI BREF Best Available Techniques (BAT) Reference Document for Management of Waste from Extractive Industries), tailor-made for the management of extractive waste.

Additionally, some industrial activities that are also carried out by mining operators - such as power plants and large drying systems - are already included under IED nowadays.

As mining is already strongly legislated at EU and national level there is no regulation gap and no evidence of environmental gain when mining would be additionally included under the IED.

2. Mining activities do not cause significant emissions to the environment

The inclusion of mining under the scope of the IED doesn't seem justified under "emission aspects" neither. If one disregards the impacts already regulated by EU environmental legislation (see above) or that fall under member states responsibility (soil), the activities on mining sites already covered under IED itself or Directive 2006/21/EC and the respective MWEI BAT Reference Document, the remaining emissions from mining activities play a rather insignificant role. This is also further illustrated in the Annex. Considering the minor role of these emissions in mining, it will not bring any added value to integrate mining activities in the scope of the IED.

3. Mining is a diverse and specific sector

In contrast to installations regulated under the IED, mines and quarries are bound to their geological mineral deposits. Depending on their origin the ores for further processing are naturally unique with different composition and a wide range of geochemical properties.

Applied techniques and potential impacts on the environment depend on the mined and processed mineral, but also vary strongly within each of these subsectors due to the unique and varying geological, hydrological

and climate conditions and location of each mining site. These conditions largely determine the mining, extraction, and processing techniques and – consequently - emissions and amount and composition of extractive wastes. Besides that, it is relevant to consider that since mines are located on natural mineral deposits, the local or regional background levels of certain natural elements in soil and water are often -by its natural characteristics- more elevated. Emissions may be affected by those naturally elevated elements. As a result, mining operations are adapted to the respective local conditions and therefore their techniques differ significantly from each other.

The vastly different operating conditions (geological-, hydrological- and climatological) for mines and for quarries need to be considered and adapted to when setting permitting conditions. That is why IED, being a legislative tool to be commonly applied on a large number of installations, is not an appropriate tool to reduce environmental impact for the extractive industry nor the mining industry. The idea of adopting BAT and BREFs by grouping different types of extractive activities and a numerous diversity of ore deposits, without having the possibility to adapt the requirements to the local conditions, may have a severe negative effect on the environment.

The extractive industry is a common definition of widely different operations. Any attempt to apply the Directive on extractive industries would probably mean that environmental performance would decline through demands for technical solutions and limit values that are general and poorly adapted to local conditions.

Considering the above said the IED, that has been developed as an instrument for the regulation of operational techniques, which are highly similar to each other, is not the appropriate instrument for such a diverse sector such as mining.

Conclusion

Therefore, in our view there is neither a necessity nor an environmental added value to include the mining sector. Also, the IED framework and processes related would not be the appropriate instrument for the mining sector. The extractive sector is already well regulated at EU and national level.

Mining activities (extraction, treatment) that are not yet covered under IED and Directive 2006/21/EC with the respective MWEI BAT Reference Document do not generate significant emissions. Moreover, we don't recognize that the inclusion of the extractive industries would lead to an added value for the environment. Inclusion would only create an administrative burden and would not only make the permit procedures more complex but also risk hampering the environmental and technical performance for the European mines. This could also impede the development of current and new mine projects which are needed for a shift to use more of Europe's available raw extractive resources (<https://erma.eu/eu-policy>) necessary to reach the aims of the New Green Deal (NGD).

In general, our sector is constantly innovating to further lower any impacts on the environment and to become more sustainable. The sector is committed to reach the UN-SDGs.

The European mining sector, in cooperation with European technology suppliers, is world leading when it

comes to the development of mining and processing technology and equipment including BAT. For critical and other raw materials that are essential to reach the aims of the NGD, of which some are not mined today, it must remain possible to assess all proposed mining and quarrying techniques, currently existing or newly developed. A mining BREF could hinder such developments.

Annex - Further explanations regarding 2)

Below you find some further explanations on 2) - regarding the mining activities extraction and treatment subdivided into surface mining and underground mining. The following is based on typical mining processes of Euromines members across the EU.

The management of extractive waste including extractive waste facilities itself are not considered here as those are already covered by the Mine Waste Directive and the MWEI BREF. Any GHG emissions are not considered here as the GHG are mainly caused by energy combustion plants that are partly covered by IED or mobile equipment (which are no installations by IED-definition). Impacts to biodiversity are not addressed as biodiversity is already covered by the EU Natura 2000 Directive.

Activity of treatment – Comminution (e.g. crushing, grinding), Separation (e.g. classification) and Size control (screening, classification)

In mining the comminution of minerals is carried out by crushing and grinding. These processes take place underground or above ground. Above ground the comminution takes place in closed insulated buildings which prevents dust emissions and noise.

Therefore, during the grinding/crushing process there is no contact possible with groundwater, soil or surface water or external air. Dust emissions inside the grinding/crushing building are minimized by dedusting systems (which comply to thresholds for particle emissions of the EU Air quality Directive). The grinding/crushing process doesn't cause any vibrations. And potential noise emissions are not significant as the grinding/crushing process is in-housed or underground. Usually outside of the building noise and dust are monitored.

Mineral separation could be done through gravity separation, flotation, or magnetic separation. The processes of mineral separation and size control take place in confined spaces; Emissions are mainly dust related and minimized by dedusting systems.

Activity of treatment - Beneficiation processes

After the comminution and separation phase, the mineral is further treated in a beneficiation step. Different treatment methods (physical, chemical and/or biological) can be applied according to the mineral, and the geographical and climatological conditions. The beneficiation processes take place above ground in closed buildings (physical and chemical treatment) or in open air (for instance biological heap leaching).

In case of “dry treatment processes” the mineral is treated in processes without the use of water. These processes take place in closed buildings. Emissions can only occur in form of dust. The dust emissions are minimized by dedusting systems and remain inside the closed building.

In case of closed buildings and open-air treatment the physical, chemical, or biological treatment facilities are isolated from the soil (with for example overflow pools) to prevent any leakage to underlying soil or groundwater. Groundwater quality is monitored through monitoring wells.

For instance, to separate lithium from the rest of the bearing minerals both physical and chemical separation techniques are used. First froth flotation is used. Due to similarities in mineralogy, it is often not possible to completely separate lithium after flotation. The gangue that is found with lithium after the flotation are often iron bearing. The float concentrate goes through magnetic separation to remove the magnetic gangue from the nonmagnetic lithium. These treatment processes are well controlled and take place in confined spaces where contact with surrounding soil, water or air is prevented.

As far as water is used in the treatment processes, this process water is recycled and reused, wherever possible. However still part of the process/drainage water needs to be discharged into surface water. BAT for wastewater treatment are described in the BREF MWEI.

The treatment processes can generate extractive waste (i.e. residues from the treatment). The extractive waste is usually managed in extractive waste facilities (heaps and ponds). These facilities including their potential emissions are already fully covered by the detailed regulation of the Mine Waste Directive and the MWEI BREF.

The treatment of the minerals also require energy. Power and heat generating plants on mining sites emit GHG. As mentioned earlier these power and heat generating plants already fall under the scope of the IED.

Activity of extraction of minerals

The extraction processes as they are carried out within the EU partly don't cause emissions at all or if

emissions are caused, they often don't reach a significant level.

- Underground mine ventilation provides a flow of air to the underground workings of a mine in order to ensure respirable conditions for the worker and regulate temperature. The air leaving the mine through a shaft carries basically dust, but also noxious gases (e. g. from mobile equipment which are excluded from the scope of the IED). The concentrations are comparably low since air quality in underground mine workings is already well legislated by health and safety legislation at EU/national safety legislation. It should be also clarified that the mine ventilation system has the purpose to refresh continuously the inner air to ensure safe conditions for the worker. It is therefore not comparable to a chimney of an industrial installation.

Groundwater is in general not negatively impacted by emissions caused during mineral extraction. There are mines where there is no relevant occurrence of groundwater (i.e. potash and salt mines). In other mines, it might be necessary to locally lower the groundwater table to create dry conditions for the mineral extraction. These quantitative measures to carry out extraction are not considered as emissions, but as impacts on water. Such measures are already subject to the detailed and conclusive regulations of the Water Framework Directive and further directives, as well as to national water legislation. In case of any excess drainage water from the mine workings, the water is collected, reused, or treated according to the discharge permits before its discharge.

- In surface extraction occasionally, diffuse dust drifts may occur, but dust is reduced by general applied mitigating measures such as spraying water or by covering or enclosing the particles. Near the opencast mines, the dust emissions are frequently monitored. The dust values in and around the mine meet the thresholds described in the EU Air Quality Directive. Especially in those MS with temperate, continental, and polar climatological conditions, dust generation during extraction is limited. Besides, monitoring systems combined with proactive dust prevention keep dust emissions at the extraction sites below the threshold levels.

To extract from opencast mines under safe conditions, dewatering of groundwater may be needed to keep the pit floor dry and to keep the pit walls stable. Water quality of the drained water and groundwater levels are monitored. Water treatment takes place if necessary (depending on the natural quality of the groundwater). After treatment according MWEI BREF BAT, the water is discharged according to the discharge permit or reused. Discharge and emissions from the operations are covered by the Water Framework Directive.

In the extractive areas, the layer of soil above the mineral deposit (topsoil) is removed and safely stored for later reuse or is directly reused near the site. Any further impacts to the soil (besides its removal and storage) by extraction is low. Any impacts to directly surrounding soils due to dust emission from the extraction are neglectable because dust prevention is well applied. The

circumjacent soils close to the extraction pit will be left with a (natural) cover as far as possible. Natural soil cover will be protected to prevent any soil erosion. Natural soils are complex and vary a lot among the member states. Many of the national soil protection legislation has a long trajectory of steady progress and is often risk based.

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