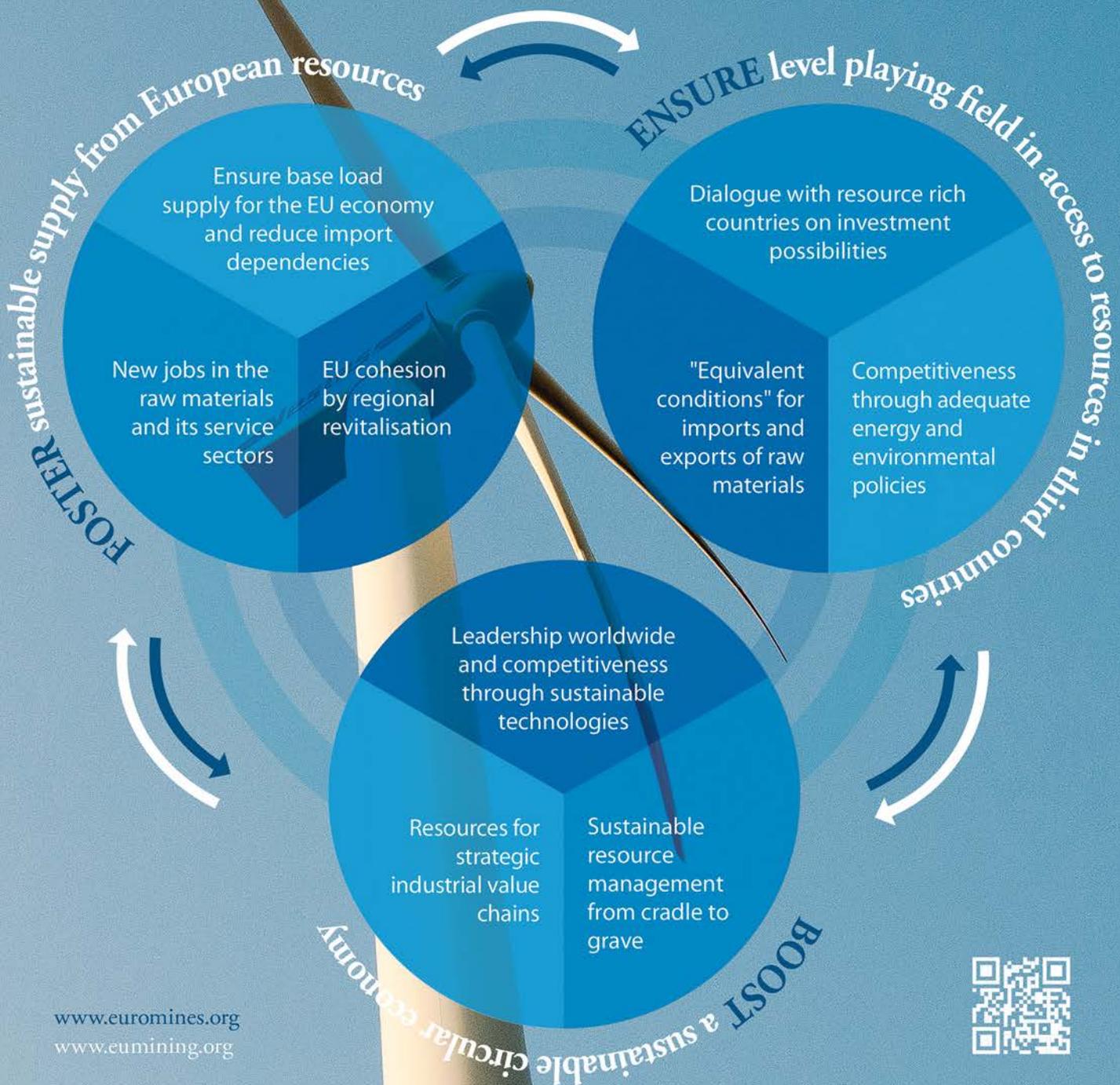


# The European Innovation Partnership on Raw Materials 2020–2030



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The European Innovation Partnership on Raw Materials, as a stakeholder platform that brings together representatives from industry, public services, academia and NGOs, continues to be the best available tool to develop a new SIP (Strategic Implementation Plan) for 2020–2030. It provides high-level guidance on innovative approaches to challenges related to raw materials.

Bringing together various players is important because raw materials supply is characterised by interlinked complex value chains. Therefore, raw materials production processes should not be considered in isolation. Even small regulatory changes can have a positive or negative impact far beyond the raw materials sector.

Taken together, raw materials and their directly related industries in 2012 provided EUR 280 billion of added value and more than four million jobs. However, the economic importance of the raw materials sector goes far beyond the economic activities strictly related to the extractive and processing industries. Looking at the metals value chain alone, the secure supply of raw materials is essential for jobs in many downstream manufacturing sectors. These include the production of fabricated metal products, electronics, and machinery and equipment. It is estimated that more than 11 million jobs are affected, equal to 40 % of the jobs and value added from the EU's entire manufacturing sector. More than 11 million jobs in manufacturing industries depend on the secure supply of raw materials.

## Objectives

### Sustainability

-  by providing and improving the sustainable supply and use of primary, secondary and renewable raw materials throughout the value chains.
-  by developing and implementing improved and better adapted measurable scientifically based values/indicators/standards associated with sustainability through the whole value chain where needs have been identified using newly developed data management systems.

### Economic resilience

-  by increasing the resilience of the EU economy by decreasing import dependencies and ensuring base load supply through diversification of primary, secondary and renewable raw materials.
-  by continuing to develop new and dynamic business models.

### Technological leadership

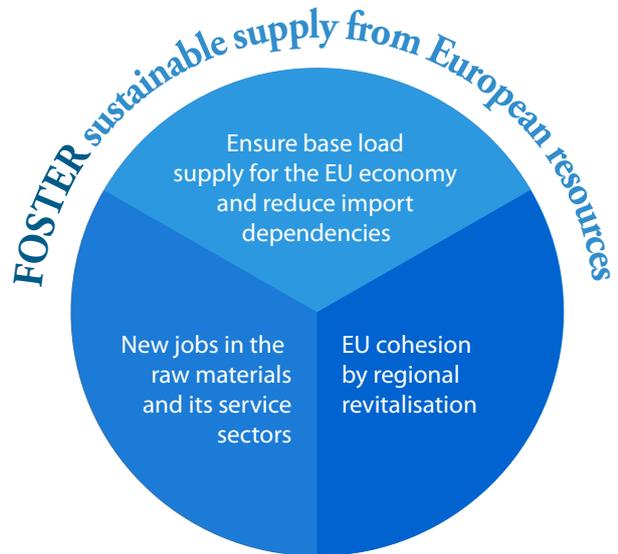
-  through the development, deployment and adaptation of new technologies such as digitisation, automation, robotics and AI.
-  by establishing new value chains. Current processes will change radically through “big data” management.
-  by improving scientific and technical dialogue along and across business lines, exchanging experiences, and advancing and leveraging good practices.
-  through cross-disciplinary integration between academia and business for identification and development of new, cross-sectorial value chain opportunities.

# Key measures

## Foster sustainable supply from European resources

### Ensuring base load supply for the EU economy and reducing import dependencies

- ⇒ by improving access to resources and increasing EU production. For the metals and minerals sector this will mean a considerable increase in the production of a number of materials as well as a considerable increase in recovery and recycling of materials.
- ⇒ The EU is highly import-dependent for certain raw materials, which poses a risk to its security of supply. The EU economy requires a wide variety of raw materials and not all of them can be produced domestically. While the EU is close to being self-sufficient for construction minerals, some industrial minerals and wood, it is highly dependent on imports for metals, certain minerals and natural rubber.
- ⇒ Import dependency for certain materials considered to be critical for the EU economy is close to 100%. This dependency becomes problematic for raw materials for which the production is highly concentrated in only a few countries, especially when the quality of governance in these countries is low (Indicator 4). The increasing use of export restrictions has also highlighted how geographical concentration can lead to unexpected price hikes (Indicator 5).
- ⇒ Domestic production of raw materials is an essential part of the EU economy. It provides a reliable supply of inputs to many downstream industries (e.g. automotive, chemicals, and electronics manufacturing). Domestic extraction of construction minerals and wood has increased since the 1970s, allowing the EU to remain more or less self-sufficient. Domestic extraction of industrial minerals on the other hand stagnated in the 1980s, and for metals — in spite of an exponential increase in demand — it even decreased slightly. Further down the value chain data shows that the EU consumes more raw materials than it extracts.



## **Enabling EU strategic policies**

### ⇒ **Decarbonisation**

- The European mineral raw material sector is facing critical challenges in terms of supporting the transition to a low-carbon, fossil-free sustainable Europe and the “green economy”.
- The extractive industry should be recognised as the keystone to the value chain of energy intensive industries in Europe and thus be recognised as integral to decarbonisation strategies. The choice of raw materials can contribute substantially to the sustainability of the value chain, and should therefore be included in the list of sectors eligible for compensation for higher electricity costs due to the EU’s ETS (Emissions Trading Systems) regime, whilst competing internationally.

### ⇒ **Switching to Renewables**

- Many metals mined are critical to building electric infrastructure as well as energy storage systems, renewable energy power plants and vehicles for both personal and commercial use.

### ⇒ **Smart transportation and smart buildings**

- The sustainable supply of metals and minerals will also be critical to build a future sustainable society that will rely heavily on new transport infrastructure as well as new green buildings.
- The EU’s battery alliance should be complemented by similar alliances for the EU’s energy network as well as smart transportation.

### ⇒ **Sustainable value chains**

- The mining sector and the mineral processing sector are vital to securing the supply of metals extracted in a sustainable manner. The value chain spans from geological exploration, mining and processing to the reuse and recycling of metals. The aggregate sector is spread throughout Europe providing aggregates for the building and infrastructure industries. Embedded in the value chain is a strong environmental commitment both during operation, as well as for the reclamation of land used for mining. Mining operations should therefore be recognised as a temporary land-use and should be permitted to operate under adequate national legislation without being constrained by overlapping EU legislation.

### ⇒ **Economic resilience and competitiveness**

- Raw materials production is increasingly shifting to other regions of the world due to the fact that other markets have higher growth rates. Some are also more attractive commercially. In part this is due to permitting and operating conditions offering favourable investment environments.
- There remains a significant potential to increase mining and exploration activities in the EU.
- Looking at mineral exploration activities, data generated under the last SIP (Strategic Implementation Plan) suggest that the EU’s minerals potential is under-exploited. Mineral exploration is an important step in the mining life cycle because it contributes to the discovery of potential new deposits and the opening of new mines and quarries. This part of the extractive activities represents a first low, but strategic level of investment and therefore needs to be supported through an adequate legal and permitting framework as well as access to risk funding.

### ⇒ **Better regulation and better implementations**

- All EU new or reviewed policies and legislation that have potential to impact the raw material supply should undergo an impact assessment with specific considerations for positive or negative impacts on the raw materials supply from European sources (comparable to the raw material chapters in the Free Trade Agreements).
  - There is an increasingly inadequate EU policy framework which superimposes environmental and health and safety legislation onto existing EU or national legislation without assessment of technical or economic feasibility and/or inadequate national implementation for the minerals sector:
- ⇒ Inadequate legislation that is dislocating the extractive sector due to overambitious, unrealistic targets (anticipative legislation based on ambitions, rather than feasibility: attempts to regulate the future rather than the current situation);
  - ⇒ Lack of scientifically based decision-making procedures that allow for adapting existing legislation to new circumstances;
  - ⇒ Over-imposing new legislation onto existing ones which creates conflicts and non-implementation;
  - ⇒ Excessive requirements for minimal temporary environmental impact;
  - ⇒ Prohibition of access to land through legislation that cannot be reversed even when there are legitimate reasons;
  - ⇒ Lack of security of tenure;
  - ⇒ Lack of understanding of the business sector: exploration companies and major mining companies: the business models; lack of understanding of investment cycles and business models;
  - ⇒ Restraints on financial institutions; lack of depth in local stock exchanges for example.
  - ⇒ Lack of national authorities in numbers and competences;
  - ⇒ Making the decision of permitting a mine a question of elections;
  - ⇒ Lack of separation of political choices and bureaucratic procedures.
- The EU's share of the global production of raw materials continues to decrease, except for biotic materials. Domestic raw materials production provides a reliable supply of inputs to downstream manufacturing industries and creates EUR 280 billion of added value and more than four million jobs. More than 11 million jobs in manufacturing industries depend on the secure supply of raw materials.

### **New jobs in the raw materials and its service sectors**

- ⇒ Creating new jobs in the raw materials and its service sectors to generate economic growth and contribute to the industrial policy goals of the EU.

### **EU cohesion by regional revitalisation**

- ⇒ Contributing to EU cohesion by facilitating replacement of jobs being lost in other parts of the economy and through automation.
  - In particular, the European Commission should acknowledge the considerable societal challenges which will lie in the closure and rehabilitation of its coal and lignite mining areas. Support for a focussed RTD area for closure and rehabilitation of extractive industry sites would help to address old and newly arising legacy issues and thus anticipate a future foreseeable issue of the licence to operate for raw material extraction.

## Ensure level playing field in access to resources in third countries

### **Dialogue with resource rich countries on investment possibilities**

⇒ Securing reliable and undistorted access to raw materials is increasingly becoming an important factor for the EU's competitiveness and, hence, crucial to the success of the Lisbon Partnership for growth and jobs. Emerging countries are also pursuing strategies towards resource-rich countries with the apparent aim of securing privileged access to raw materials.

⇒ Continuing dialogue with resource rich countries and exploring investment possibilities outside of Europe to facilitate future access to resources and increase sustainability globally.



### **"Equivalent conditions" for imports and exports of raw materials**

⇒ From a global geological perspective, there is no indication of imminent physical shortage of the majority of raw materials in the world. However, geological availability does not necessarily mean access to these raw materials for EU companies. In fact, fundamental changes in global markets and in EU policies are threatening the competitiveness of European industry.

⇒ The EU should promote "equivalent conditions" for imports and exports of raw materials and intermediate products to support climate change and environmental policies and to ensure competitiveness of the EU raw materials sector.

### **Competitiveness through adequate energy and environmental policies**

⇒ The EU needs to ensure that its EU and national policies and legislation do not legislate the extractive industry "out of Europe" by imposing policies and costs that are detrimental to competitive extraction and production conditions, but rather support the sector through adequate energy and climate change, and environmental and economic policies.

# Boost a sustainable circular economy

**Leadership worldwide and competitiveness through sustainable technologies**

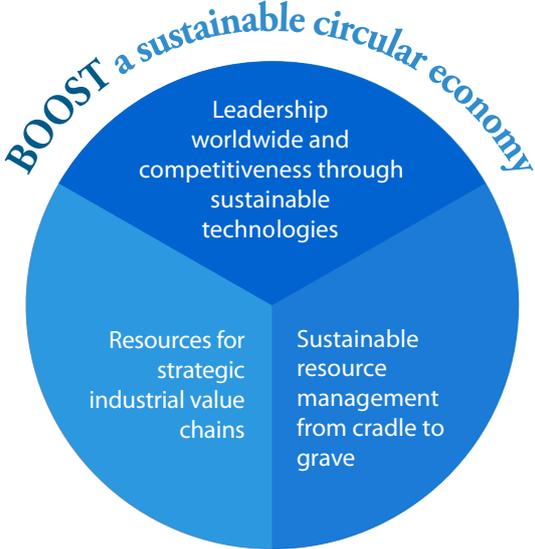
⇒ The EU needs to develop further its technical leadership worldwide and maintain global competitiveness in sustainable technologies.

**Resources for strategic industrial value chains**

⇒ The EU needs to analyse a series of key value chains in order to develop economic policies to foster these. It also needs to review the current practices in EU and MS legislation, the implementation with regard to end-of-waste and by-products to facilitate new, more sustainable material flows as well as look at strategic value chains and their raw materials demand, but also their future potential compliance with circular economy goals.

**Sustainable resource management from cradle to grave**

⇒ The EU needs to enhance the general understanding of resource management from cradle to grave amongst the three target groups: customers, policy makers and general public, and thus increase social acceptance of sustainable extraction, production and use of mineral resources. As part of this the EU also needs to continue supporting the public-private partnership EIT Raw Materials in order to foster research, awareness raising, education, skills and capacity building in and outside of Europe.

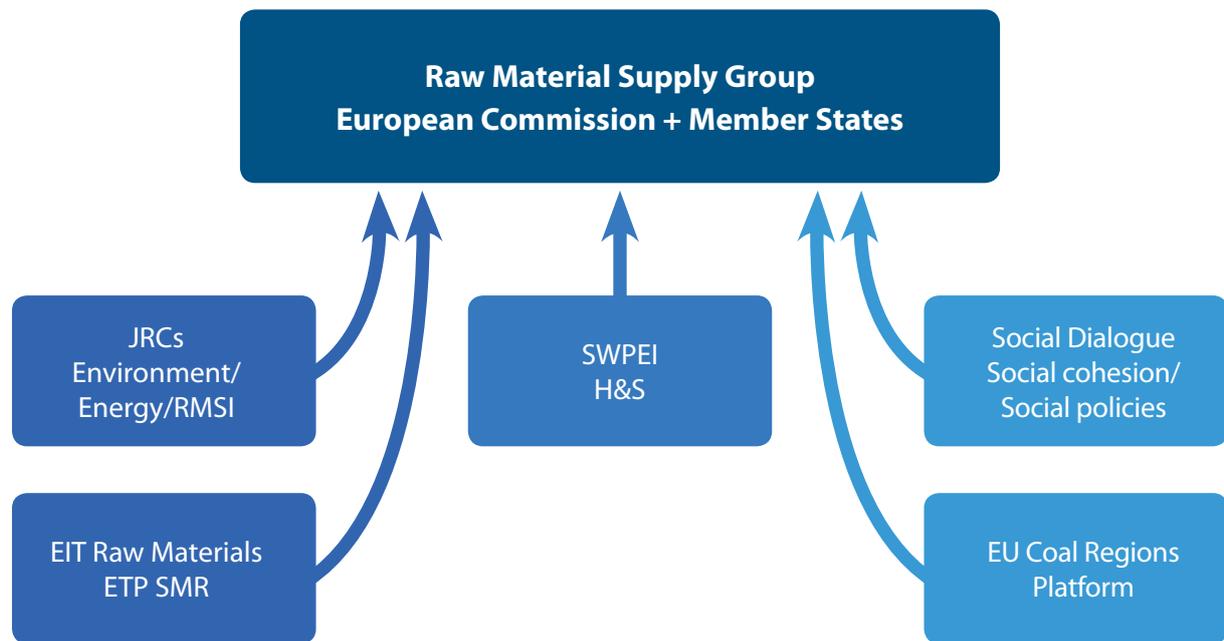


# The Way Forward

## – Strengthening the Existing Framework and Institutions

On 22<sup>nd</sup> October 2018 the EU's Competitiveness Council

recalled the horizontal mandate given to the Competitiveness Council with respect to enhancing competitiveness and growth, to review on a regular basis both horizontal and sectoral issues and to be effectively consulted on proposals considered likely to have substantial effects on competitiveness, alongside the responsibility of all Council formations to assess the impact of their work field.



JRCs: Joint Research Center  
SWPEI: Standing working party for the extractive industry  
H&S: Health & Safety

ETP SMR: European Technology Platform on Sustainable Mineral Resources  
RMSI: Responsible Minerals Sector Initiative



## 1. Assessing policies and competitiveness of the sector

The EU's Raw Materials Supply Group is the EU's permanent working group on the extractive industry and its competitiveness. The RMSG needs to assess the cumulative effect of the latest EU legislation as well as revisions in national policies and revised mining legislation in comparison to the international situation as well as in light of the strategic industrial policies at EU and national levels. Countries are interdependent on a series of raw materials and therefore a continued dialogue and assessment is crucial in order to achieve the declared EU's industrial policy goals.

 **Monitoring and assessing policies and legislation** issued by other parts of the Commission, not just DG Grow, and issuing recommendations where needed. It should therefore have a regular exchange of information on topics such as

- national industrial policies and the role of raw materials,
- legislation, rules and regulations that influence investment in mineral exploration and mine development,
- risks and results of change in these policies,
- land access issues,
- security of tenure,
- benchmarking of permitting issues,
- benchmarking of mineral taxation,
- implementation issues with regard to environmental legislation,
- the raw materials chapters for trade agreement that the EU is negotiating,
- issues of public concern and programmes for enhanced stakeholder interaction.

 **Facilitating investment** in the mining sector in the EU MS:

- Creating incentives through economic instruments (e.g. national legislation and tax frameworks) and comparing tax regimes,
- Improving knowledge about the extractive sector and its advanced technological performance in the public domain,
- How to address the aversion to foreign investments in some MS into a sector which is still believed to be a high national asset and the perception that benefits are not shared amongst the national and local population.

## 2. Providing science for technical and legal compliance

- **To support all three JRCs** in continuing to provide scientific and statistical data as a background for EU policies, such as for example the RMIS, the BAT document on Mine Waste, and the assessment of raw materials demand for the energy sector.
- In particular, we would request translation of the BAT document into as many EU languages as possible.

- The circular use of raw materials in the economy is still too low, mostly due to technical limitations to recycling and because EU and national legislations are obstructing new business models and material flows. In particular,
  - The waste shipments regulation and the diverging classification of end-of-life materials across Europe hinders trade within the Single Market;
  - The application of the EU and national environmental liability regimes block access to old deposits and re-mining;
  - Collection and recycling routes for new products in the area of battery technology as well as other newly required products for the electrification should be assessed before embarking on creating major new product streams.

### **To support a raw materials chapter under Horizon Europe and in particular allowing for**

- the continuation of the ERA-MIN network and increasing the engagement of all EU Member States through ERA-Nets;
- a Coordinated Support Action (CSA) for capacity building action at EU and national levels for national and regional competent authorities in charge of the extractive industry;
- continued research into automation, robotics and digitisation to enable the sector to improve its compliance with new environmental and health and safety standards through advanced technology;
- a specific CSA for large scale mine reclamation and related research activities in light of the upcoming tasks for major mine closures in the coal sector;
- expanding the cross-sector collaborative approach and knowledge transfer: bringing together various industrial and scientific sectors. Raw materials provide the basis for most societal development and “Megatrends” and therefore cannot conduct research in isolation. Continued joint trans-sectoral research will be required;
- leveraging the innovative capacity – “picking the brains” – supporting the “genius” by creating special awards for innovations in the raw materials sector and for raw material related courses.

### **To support the EIT on Raw Materials**

- In developing continued research, development of skills and fostering outreach to other parts of the world to enhance the quality of research.

### **To support the EU’s Standing working party for the extractive industry (SWPEI) in the area of Health and Safety in order to provide a platform for the tri-partite exchange of scientific and technical workplace related information and to assess obstacles to legislative or best practice implementation and progress to respond to new legislation adopted which is neither technically nor economically feasible. In particular,**

- to carry out a survey of the current state of the art of OEL emissions and management in the sector for NO<sub>2</sub>, NO, and CO as well as Diesel exhaust emissions;
- to carry out a survey of available technologies on the market for achieving the targeted OELs;
- To review the state of the art in 4 years’ time to provide solid information for any further legislative actions.

### 3. To create more social cohesion across the EU

**To support the Social Dialogue for the extractive industry** in order to foster the dialogue between employers and unions to facilitate the transitions in work life as evolving to larger economic and industrial policies as well as restructuring and modernisation of workplaces

- ⇒ in addressing OEL management issues,
- ⇒ in addressing regional restructuring.

**To support a Skills and Competences Agenda for the sector:** To continue the work on the skills and qualifications agenda for the extractive industry. Further education and lifelong learning, in particular with regard to health and safety, automation and robotics, as well as digitisation, should be fostered through a European-wide multi-lingual training programme. Such training material and courses can also be exported as a service.

**The EU Coal Regions platform** to contribute to research and restructuring of Europe's coal regions in light of EU and national climate change policies.

## Building New Alliances and Strategies for Different Value Chains

The Austrian Presidency in its policy document *Rethinking European Industry, Reinforcing European Industrial Policy*, stated what is needed:

- ⇒ Increase growth-enhancing public and private investment, including R&D as well as digital infrastructure. Key role of the next MFF (Horizon Europe, Digital Europe, InvestEU, etc.) with a budget structure oriented towards Europe's future competitiveness. This includes the set-up of the European Innovation Council.
- ⇒ Support PPP (Public Private Partnerships) as successful models for enforced funding for strategic topics.
- ⇒ Strengthen collaborative research and innovation projects to facilitate the process of bringing ideas to the market.
- ⇒ Support the development of new IPCEIs (Important Projects of Common European Interest) to develop strategic value chains.
- ⇒ Review framework conditions in Europe such as State Aide Rules, in order to set a globally comparable level playing field.
- ⇒ Implement a mission-oriented policy approach (e.g. by defining grand European Challenges for Industrial Leadership), taking advantage of KETs, thus fostering knowledge-based competitiveness with tangible results acceptable to a wider public.

**All of these elements are required for the raw materials sector since it is the basis for many value chains in Europe.**

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