

EIP on Raw materials

Renewed Mandate 2020-2030

The EIP on Raw Materials underpins the changes in society and challenges faced by the whole EU and will play a key role in the EU's competitiveness and societal well-being by fostering the sustainable supply of non-energy and new-energy raw materials.

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The major changes, to which the EIP will adapt, are the maturing of government initiatives to implement the EU's commitment to the 2015 Paris Agreement on Climate Change and United Nations Sustainable Development Goals for 2030, coincident with a worsening of global trade relations. The global community has realised that honouring these commitments will increase the demand for metals and minerals on the one hand, and biotic commodities on the other.

The role of the EIP on Raw Materials for the period 2020 -2030 will be two-fold:

First the EIP will continue to advise the European Commission on how to best take into account current EU and world-wide economic, political and geopolitical trends that affect the flow of raw materials and how the European raw materials sector are instrumental in realising a number of EU policies.

Second, the EIP will carry out a detailed mapping of the implementation of individual strategic actions in the form of a Strategic Implementation Plan 2020-2030.

EIP RM Strategic Implementation Plan 2020-2030

Even though the EU's raw materials policy dates from 2008, it remains relevant and contributes to many of the priorities of the Juncker Commission, notably Jobs, Growth and Investment. Added to these, is the need to secure access to the materials needed to implement the Paris Agreement and UN SDGs.

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.

Pillar I: Ensure level playing field in access to resources in third countries

Objectives

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.

Trade in raw materials

Open and rules-based trade is an essential part of our efforts to harness globalisation. Despite the EU's best efforts, it will take time to repair and build a level regulatory playing field globally.

European companies are in the meantime suffering a disadvantage. Strengthened trade defence instruments and a new enabling framework to screen foreign direct investments that may pose a threat to security or public order will help ensure that Europe operates on a level playing field.

Between now and 2030, open trade must become sustainable and fair, profitable, respecting social, environmental and safety criteria.

- ⇒ Whilst the EU's chemicals policy REACH and the international CLP are providing a certain amount of control for substances being produced in and imported into the EU, the development of REACH like legislation in other parts of the world needs to be monitored with regard to their potential impact on exports from the EU.
- ⇒ The current EU legislation requires European producers to apply for expensive, lengthy and time limited authorisation of chemicals in production processes which their international competitors do not have to consider. This puts European production processes at a disadvantage.
- ⇒ The current EU legislation does not assess imports of products with regard to their sustainability and does not protect EU products which are exposed to increasing electricity costs during their production due the EU's climate change policies against international competition. EU production needs to be protected from this imbalanced competition.
- ⇒ The EIP should monitor and as necessary recommend, through the EU's Raw Materials Supply Group, adaptations to EU Trade Policy to defend our strategic autonomy: this includes working against, for example, excessive subsidies to industry in third countries.

Free trade agreements and access to raw materials

EU free trade negotiations create economic opportunities for European businesses and jobs and play a key role in access to raw materials.

The base lines for raw materials chapters in FTAs should be standardised and not be negotiated on an ad-hoc basis and should include criteria of responsible sourcing from the outset.

Critical raw materials: The importance of imports of raw materials, particularly critical raw materials, for the competitiveness of all industrial value chains, within both the EU and the global economy, will grow even more with the demand for fossil-free technologies and sustainable products. Access to some critical raw materials may become even less secure, in which case prices can be expected to see new peaks once again. This needs to be a priority in FTAs.

FTAs should wherever possible also include policies for attracting and facilitating investments to the raw materials sectors in the EU and respective partner countries as well as provisions for trade in machinery and services.

Canada – a partner of choice: Further development of the CETA dialogue on raw materials, in particular by

- Twinning of mining regions in Europe and Canada with the aim of
 - Exchange of knowledge and best practice amongst industry
 - Foster the reputation of EU and Canadian business people amongst local communities on both sides.

- Twinning of competent authorities
- Exchange of knowledge and best practice at regional and local level of policy makers and the competent authorities,
 - Cooperation between research institutions
- Foster cooperation of research institutions and clusters, e.g. extend the ERA-MIN project and intensify outreach and cooperation by EIT Raw Materials and the Canadian Mining Cluster,

- Cooperation between the national governments, financial institutions, regional authorities and industry to determine sustainability criteria for investments into the EU and Canadian raw materials sectors,

⇒ The EU should identify other potential countries of choice and develop similar programmes.

Pillar II: Foster sustainable supply from European resources

Objectives

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. The EU should continue to support its own minerals industry in order to satisfy its own economy's and populations' needs. Achieving the UN SDGs also means ensuring a sustainable raw material supply from EU sources.



Supporting the operating raw materials sector in tackling its challenges would require a number of actions from all stakeholders.

Challenge 1 – Finding new resources

- In order to do so, it should support the Member States in their exploration activities to evaluate new resources and their communication to local communities about the importance of finding and sensitively developing such resources;

Supporting the operating raw materials sector in tackling the associated challenges would require a number of actions from all stakeholders.

Challenge 2 - Securing supply of CO₂ neutral energy supply across the EU, also to remote regions

Achieving carbon neutrality for entire value chains starts with the raw materials that will be used in manufacturing. 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.

Actions proposed:

- Wind and solar energy are already becoming well established, however the Commission should continue to support research and development into other potential renewable technologies, such as geothermal, ocean and tidal energy generation and assess their potential raw material requirements as well.
- Facilitate research and development of energy storage and supply infrastructure, not only for e-mobility, but also for reliable and sufficient supply of industrial production across the EU and its regions. Disused mines may have an efficient role to play.
- Support Member States in their efforts to establish the logistical infrastructure to supply such energy by reinforcing the political will, structural funds and maintaining a dialogue with the citizens about these measures in the public interest. Familiarity and engagement with industry will contribute to societal acceptance of the necessary retrofits and build-outs.
- Launch a campaign to implement energy management systems across the whole raw materials sector for enterprises above a certain size and to develop a more suitable SME version.
- Carbon capture storage and utilisation: There are energy intensive processes that emit CO₂ independent of their energy source and that yield products required for other value chains including recycling. For these processes, carbon capture storage and utilisation will be necessary. CO₂ sequestration on the required scale is itself energy intensive and therefore support (including regional) for research in this area is required.

Challenge 3 - Full electrification and automation

In order to achieve CO₂ neutrality and to comply with EU legislation on occupational exposure, the raw materials industry is striving, also with its international partners, for full electrification and automation of its machinery. Such machinery in types and numbers is not currently available. Development and retrofit in Europe is partially hampered by its small market size. Once a portfolio of

machinery is available it will represent a major export opportunity for the EU economy, but to comply with EU legislation it must be deployed within the next five years, which is a major challenge.

Given the importance of the machinery supply and minerals industries to meeting the goals of the Paris Agreement whilst making workplaces more attractive and healthy, there is a clear need to facilitate major investments in research, development and deployment of their means of electrification.

Actions proposed:

- **Manufuture:** A conference on EU mining machinery with the aim to boost and speed up the development of electrified and automated vehicles.
- **SWPEI:** The Standing Working Party of the extractive industry issued guidance on best practice. A baseline study across the operations in the EU needs to be carried out now and in 3 years to assess the implementation of the adopted OELs and the measures still required.
- **ETS:** Full compensation for increasing electricity costs due to the EU's switch to renewable energy for all sectors that have proven to be under threat from carbon leakage until the internationally competing countries/operators have equal energy/electricity costs.
- **Sustainable Finance:** Recognition of the investment required to achieve higher levels of sustainability in the raw materials sector and thus along the value chains.
- **Horizon 2020 and EIT RawMaterials:** support in particular for machinery development.
- **Market access for machinery producers:** identification of other economies with smaller scale minerals industries that would benefit from specialised smaller machinery.

Challenge 4 - Circularity in the minerals industry

One of the biggest examples of circularity in the minerals industry is the return of land after mining and quarrying to a designated and agreed use. In particular, in light of the closure of coal and lignite mines, Europe is going to further develop its already wide range of expertise to the benefit of land and biodiversity management and as well as social engineering.

Actions proposed:

- **Coal Mining Regions Platform:** Supporting the Coal Mining Regions Platform with regard to research, structural reforms and rehabilitation of land,
- **Capacity building in rehabilitation:** Harvesting from the experiences of past and ongoing rehabilitations,
- **Harmonisation of definitions and classifications:** Recognising and resolving differences in interpretation of definitions of waste/non-waste/end-of-waste and classification issues in the minerals industry and thus
 - increasing resource efficiency and cost-efficient rehabilitation,
 - facilitating recycling of mineral end-of-life products,
 - reducing bureaucracy where trans-border collection and recycling schemes are need for economy of scale.
- **Assessing economic viability:** Support Member States in assessing old tailings with a view to
 - their economic viability for reprocessing and – where appropriate –

- making them accessible in terms of technological research and development, and
- facilitating permitting including removing environmental liability barriers to investment, and thereby increasing resource efficiency and contributing to the circular economy.
- **Facilitating new enterprises:**
 - Exploit and implement circular economy model(s) in and across all Member States;
 - Move re-use and recycling to the next level:
 - facilitate focused investments;
 - harmonization simplification of administrative rules;
 - customer-oriented design for sustainable reuse, recycling and minimal life-cycle impact,
 - development of higher quality of secondary raw materials, and
 - an effective sustainable and profitable internal downstream market for secondary raw materials.

Challenge 5 - Address the improvement of framework conditions and permitting

Well integrated European value chains for primary and secondary raw materials will be key to Europe's future economic success. They will need to focus on security of supply for a resilient, low carbon and circular EU economy securing at least the base load required for maintaining built, human and social capital.

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 FTAs).

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:

Actions proposed:

- **RMSG:** A comprehensive review programme and in-depth discussion carried out by the Raw Materials Supply Group with regard to the following issues at EU and national level:
 - 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 or investment cycles and business models;
- Restraints on financial institutions; lack of depth in local stock exchanges for example;
- How to address the lack of national authorities in numbers and competences;
- How to avoid making the decision of permitting a mine a question of elections;
- How to address the lack of separation of political choices and bureaucratic procedures.

Furthermore:

- **DG Employment and Social Affairs:**
 - 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
 - carrying out a survey of the current state of the art of OEL emissions and management in the sector for NO₂, NO, and CO as well as Diesel exhaust emissions;
 - carrying out a survey of available technologies on the market for achieving the targeted OELs;
 - reviewing the state of the art in 4 years' time to provide solid information for any further legislative actions.
 - 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.
- **DG Environment:** Ensuring translation of the Best Available Techniques for the Management of Waste from the Extractive Industries into the different EU languages,
- **Interreg:** complement the current DG Environment initiative on compliance promotion with an extensive regional and local dialogue with permitting authorities by providing multi-lingual capacity building seminars for competent authorities and professionals in the sector,
- **RMSG:** Identifying technical/scientific hurdles in the permitting processes and address these via guidelines, CEN standards, or where necessary, targeted changes to legislation
- **RMSG:** Screening the national Member State legal frameworks to identify reasons for appeal in permitting processes and set an EU-wide objective to reduce the instances of appeal,
- **DG ENV/DG GROW:** Amending the Water Framework Directive by making the legal means of achieving its objectives more practical than they currently are.
- **DG FISC:** Revising the Commission's proposal on Sustainable Finance: From the outset the EC proposal on Sustainable Finance should have the objective of generating new investment rather than "redirecting" investments and it must result in funding sustainable technologies along whole value chains, not only specific technologies or product groups that are known today. In other words, the Sustainable Finance proposal should be made innovation-friendly. Investment in sustainable raw material production is key to the sustainability of all technologies, be they energy generation, e-mobility, energy infrastructure or other.

The way to a sustainable 2050, is through innovation. The European investment environment needs to be improved for Innovation and financial actors need to engage more in the EIP Raw Materials:

- by recognising that raw materials will be required for transition of the EU economy,
- by recognising that access to critical raw materials from wastes from previous mining operations might require innovative approaches to financing,
- by making case-by-case assessments of raw material projects together with their targeted downstream value chains including a comparison with non-European raw materials supply chains.

Challenge 6 - Strategic value chains

The importance of raw materials, particularly critical raw materials, for the competitiveness of all industrial value chains, within both the EU and the global economy, will grow even more as the demand for sustainable products and more circular offerings is expected to increase strongly.

From 2020 to 2030, the EIP Raw Materials should further strengthen partnerships between the EU, Member States and regions to improve the framework for jobs, growth, innovation and sustainable development; and to encourage public-private investments for strategic value chains in line with the EU's renewed industrial policy strategy.;

When prioritising strategic value chains for immediate support in Europe, EC and Member States should learn from their experience in solar cell manufacturing and commit to also protecting (at least temporarily) the prioritised value chains.

In the case of batteries, the EC has identified raw materials needs and assessed the EU's potential contribution to the necessary raw material supply. Though the Commission is realistic about the EU's chances to become a world leader in this market segment, Europe should at least maintain a base load supply and production from its own sources. To do so, the following measures should be envisaged.

Actions proposed:

- **DG Grow:** Set up a new strategic alliance: EU infrastructure for energy supply and storage, supply and e-mobility.
- **Member States:** Generate a political will amongst to permit new raw-material supply operations, provide concrete assistance to commit the necessary administrative capacity to so, and create a competitive business environment to protect the new raw-material supply operations from unsustainable, unfair international competition;
- Impress more strongly upon **Member States** their need to promote and enable discovery and sustainable development of new mineral deposits within their territories, making use of best available techniques and in full compliance with a workable set of environmental objectives consistent with the UN SDGs;
- **Interreg/roundtables:** communities have to be convinced of the importance of these projects and their own local and regional benefits; so the EIP Raw Materials, European Commission and Member States should visualise and improve benefits for local communities where primary and

secondary raw materials are produced while being transparent about how social and environmental impacts and risks are addressed;

- **Member States:** EU leaders should adopt the principle that European sourcing means “responsible sourcing” and highlight the potential business risks for their national champions of “irresponsible sourcing”;
- Research stemming from the current EIP SIP indicates that to strengthen social licence to operate in Europe, raw material supply projects need to be visibly matched with downstream users who are committed to “sustainable European supply first”. This means shortening;
- **Interreg/roundtables:** Shorten value chains by connecting EU producers to EU downstream-users, their regions and competent authorities with the aim of capturing value for the EU economy, reducing transport CO₂, avoiding contributions to conflict, deforestation, desertification and slave labour, and maintaining jobs within the EU;
- **Member States:** Secure sustainable domestic production of critical raw materials, taking into account the scale and duration of investment; protect these investments from unsustainable and unfair competition.

Pillar III: Boost a sustainable circular economy

In implementing the Circular Economy Action Plan, further elaborate the linkages between products and raw materials to improve design and quality of products and thereby enhance the efficiency of their use, and develop leadership worldwide and competitiveness through sustainable technologies.



Actions proposed:

- Re-focus substitution efforts to critical raw material markets that are truly small enough – now and in the future – for full de-coupling from higher risk source countries to be more likely.
- **Horizon Europe/EIT RawMaterials:** 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 RawMaterials in order to foster research, awareness raising, education, skills and capacity building in and outside of Europe.
- **JRC RMIS:** Providing relevant knowledge and information on raw material value chains and sources, countries, sectors and products to policy makers, industry, professionals and society at large, and fostering research into these areas, is key to innovation in the economy and is a long-term exercise which therefore needs to be continued. Further develop the Raw Materials Information System - as a core of the EU Raw Materials Knowledge Base - to support priority knowledge needs of policy and the community, including for monitoring via the Raw Materials Scoreboard and Monitoring Framework for the Circular Economy;
 - Improve knowledge of demand and supply regarding primary and secondary raw materials, market disruptions and resource efficiency potentials needed for a clean European economy;
 - Integrate raw materials data inventories, monitoring tools and analytical capacity to map strategic value chains;

- The EU's Environmental Footprint methodologies cannot currently contribute adequately to resource-efficient choices of products and services: continue work funded through the current EIP Raw Materials and Horizon2020 to develop a scientifically defensible and workable means of accounting for resource efficiency in environmental footprinting;
 - Analyse the results from the Copernicus environmental data;
 - Material flows and country's resource productivity.
- **Industry** needs to embrace digitalisation (big data, Internet of Things, robotics, automation) and other key enabling technologies and is therefore requiring improvement of skills/
- a Skills Blueprint for the raw materials sector should be established and a roadmap should be discussed with EC, MS and unions.
- EC and MS should promote open innovation ecosystems and support world class research capacity and infrastructure through Erasmus, ERA-MIN, EIT RawMaterials, and other programmes.
- Leveraging the European dimension – “together we are stronger”:
- Increasing the engagement of all EU Member States through ERA-Nets;
 - “Innovation” fitness-check of (European and national) patent and standardisation procedures);
 - Creating incentives through economic instruments (e.g. national legislation and tax frameworks).
- Leveraging the innovative capacity – “picking the brains”:
- Expanding the cross-sector collaborative approach and knowledge transfer: bringing together various ETPs;
 - Extending Strategic Research Partnerships (existing and future) along global value chains and with preferred “lead” countries.
- Leveraging EU's innovation leadership – “hitting the ground running”:
- Supporting innovation in SMEs: the innovation brokers/hubs/incubators;
 - Supporting the “genius”;
 - Extend awareness raising, education, skills and capacity building: the EIT RawMaterials.