Resource efficiency and what it may achieve

A "Resource Efficiency" Policy cannot reduce the EU’s exposure to sudden price rises or shortages, but it can mitigate its impacts. Sudden price rises and bottlenecks on world markets are usually created by:

- political interference in the markets,
- speculation,
- geopolitical crises,
- natural and man-made disasters,
- rising demand in a particular application,
- creation of monopolies.

If resource efficiency is used to promote the interests of one stop of the value chain over another, economic resilience will be lost (e.g., using a resource-tax to favour secondary raw-materials over primaries). If contributions to resource-efficiency are sought from all partners in the value chain, economic resilience will be increased (e.g., world-leading exploration and extraction processing and extraction efficiency as well as world-leading reductions in waste).

If implemented well, Resource Efficiency has the potential, not only to create "green jobs", but to make all jobs more productive and, therefore, create European jobs. Nurturing a geological services industry for export will create jobs beyond our borders. Both will contribute to improved resource efficiency in the EU’s global footprint. On the other hand, reducing resource-use in the EU may increase competition for resources elsewhere, particularly in the earth’s bio-capacity as a whole by causing a shift of economic activity to less efficient regions. Resource Efficiency should guarantee that the new balance of material flows amongst the different regions of the world will be less harmful to the planet as a whole. In order to realise the competitive advantages of a Green Economy, the EU should not just try and artificially reduce its absolute material inputs, but in competing on efficiency.

Key Challenges and Opportunities

1. Meeting minimum EU demand for the jobs, metals & minerals that are needed to:
   - Upgrade and maintain ageing infrastructure (health, transport, energy…),
   - Accumulate increased resource-efficient urbanisation,
   - Develop new sustainable technologies,
   - Share equitably the benefits of information & communications technology,
   - Re-balance lifestyles and employment across the whole EU.

2. Further de-coupling of economic growth from resource/energy use: "a change of gears" in a global economy - "having something to sell to the world"

   - EU Economic Policy must allow for international competitiveness
   - EU Innovation must finally start to rival that of its main competitors (USA)
   - A factual baseline must be determined to put future performance into context

Obstacles preventing an economy from becoming more resource efficient

Today’s bottlenecks

Supply shortages and price rises of some mineral commodities can be expected between now and 2050 due to the lag between market demand and supply. These are due in large part to permits for mining being granted with few restrictions and very little incentive for consumers to move towards further Resource Efficiency. For example, the environmental and socio-economic sustainability of mining regions in Africa is not improving and this poses a threat to African relations with the EU. The EU cannot ignore these challenges in its Trade and Development policies.

Obstacles

"Efficiency"

Inadequate market signals are a significant obstacle to more Resource Efficiency globally. As long as the EU sourcing/trade policy does not incentivise the environmental and social cost of imported materials/inputs, there is very little incentive for consumers to move towards further Resource Efficiency. For example, the environmental and socio-economic sustainability of mining regions in Africa is not improving and this poses a threat to Western relations with the EU. The EU cannot ignore these challenges in its Trade and Development policies.

Getting Prices Right

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Skills Shortages
Skills shortages are affecting many industrial sectors in the EU, including the extractive industry. Full implementation of the Raw-Materials Initiative in this regard, including the creation of sectoral skills councils at European level and support for the Erasmus Mundus Minerals and Environment Programme, is necessary to remove at least one of the major obstacles to achieving Resource Efficiency. There is a pool of skilled mining labour in the Eastern European Countries and the Pacific Rim but the leisure shortages are preventing the wholesale closures of the last decades. The mining industry will have to cater for these people in the latest methods if the environment to invest in new operations becomes favourable in the medium to long term.

Policy Options and International Competitiveness

Continued and new access to mineral resources in Europe

Whereas Europeans only consume half what Americans do, Europe is still “worst in class” in terms of exploration expenditure. Successful exploration increases Resource Efficiency. Minerals exploration should be classified as a strategic expenditure for tax purposes as it is done in other regions of the world.

Full implementation of the Raw-Materials Initiative is necessary in this regard, including application of the Commission Guidance on the non-energy extractive industries and Natura 2000; definition of National Minerals Policies; and better streamlined processes to authorise mineral exploration and extraction.

Best Available Techniques and Innovation

Resource Efficiency, in terms of process efficiency and minimizing losses over the long term, is the core business of mining companies. The mining industry, perhaps more than many others, is forced to consider a longer term view because of the long lead-times and large amounts associated with major investments. For the mining industry, that view often means that new technologies will be supported long enough to ensure a return on investment (e.g., re-processing, recovering, or recovering material from waste material). Increasing efficiency by making better use of by-products is hindered today by lack of clear policy. In particular, liability issues need to be resolved before successful investment into reprocessing of historically abandoned waste dumps can be made.

Market-based instruments (i.e. energy and resource taxes and incentives) to induce resource saving measures

New taxes, regulations or standards must not stifle innovation, put unilateral obligations on products and services that are in global competition, or provide additional hindrances to trade in either direction. Therefore, any environmental tax should ensure cost-effectiveness and tax neutrality to maintain international competitiveness. The use of indirect taxes, or removal of existing subsidies, may have negative externalities in other sectors, and may raise social equity concerns. So, they must be analyzed on a case-by-case basis. Any increase in final consumer prices will have to be replaced by a larger amount of another critical one; possibly introducing increased risks to safety and stifling innovation.

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A single “economy wide material efficiency” could be a useful concept to provide a snapshot of the status of the EU economy as a whole but is not suitable as a basis for policy-making, assessment of policy measures or comparison of countries or products. A “dashboard” of particularly important high-level indicators is more appropriate and will better visualize for the public the necessary trade-offs that are required to achieve Resource Efficiency as we define it at the beginning of this paper.

Indicators of success
Not all existing indicators for measuring Resource Efficiency are applicable to extractive operations and may therefore animate a winning bias for decision making. There is a need to further develop and validate proposed indicators for resource-efficiency.

Concepts such as “resource use”, “material footprint” and “material intensity” often wrongly underestimate the importance of mobility and durability of materials in the technology and therefore over estimate the potential for their release within any relevant timeframe. In other cases they wrongly underestimate the environmental impacts of disposal and recycling, misinterpret the E & R policy measures. Minimising the “potentially” for environmental impacts by limiting material inputs, without considering realised impacts in the use phase, is inherently inefficient and wasteful.

Position on Resource Efficiency

2020 EU Policy Objectives for a Vision of 2050
To place the EU as the “international partner of choice” for mineral resource management including sustainable development of primary and secondary mineral resources.

By 2020, the EU should:

- Attract - through fiscal incentives - the same level of exploration as Africa per hectare
- Match the degree of self-sufficiency in mineral resources of Asia, in part by developing world-class ore-beds in Europe
- Possess a complete modern database and economic assessment of primary and secondary resources across the EU
- Have the liability framework in place to allow re-processing and/or secure closure of historically abandoned waste dumps
- Lead the world in technology for several aspects of mineral resource management and efficiency (design, exploration, extraction, transformation to products for export, re-processing, recovery, reuse, recycling, materials flow monitoring, life-cycle assessment, resource intensity)

By 2050, the EU should:

- Achieve 100% responsible and balanced sourcing of its mineral resources
- Ensure that necessary, achieve secure disposal of all historically abandoned waste dumps in the EU
- Be the “partner of choice” for several aspects of mineral resource management internationally (sustainable development and transformation of primary and secondary mineral resources)
- Regularly meet its own resource-efficiency targets using validated indicators and assessment techniques.