Future Trends Series - GR:EEN Project

Title of the report

Critical minerals for the EU economy: foresight to 2030

Area

Economy

Reporter

European Commission (EC)

Type of the Reporter

Regional Organisation

Periodically updated?

No

First issued year

2013

Latest update

2013

Official website

http://ec.europa.eu/digital-agenda/futurium/en/content/critical-minerals-eu-economy-foresight-2030

Language available

English

Short summary

"Massive growth in the global demand for mineral resources is expected to occur as the human population progresses towards the 9 billion mark, to be reached about 2050 and as populations in developing countries aspire to enjoy infrastructure, services and goods currently enjoyed by wealthier Nations. In addition, as the "Far Horizon" considered, the fossil fuel shortage following the "peak oil" and climate constraints will make the mineral issue even more pertinent, as all alternative energy issues will require more and new metals consumption. The quantity of minerals to be produced between now and 2050 is expected to greatly exceed the quantities extracted between the onset of humanity and now. Hence, the development of an international capacity is needed, in order to bridge the gaps in knowledge, and to address the numerous issues related to the complex linkages between sustainable development and mineral resources supply to the global economy."

Key trends

• "All the forecasts for future mineral resources demand foresee an unprecedented growth in the coming years, further boosted in the coming 20 years by the peak in oil supply and necessary substitution of fossil fuels";

• "For many minerals the present average annual growth rate in consumption of 3 to 5 per cent may be further increased. In order to alleviate the pressure on the production of primary resources (mining

extraction), the eco-efficient use of mineral resources will develop";

• "While recycling of certain metals such as copper, iron or lead is better developed recently in western economies, this is not the case for many of the rare metals, such as beryllium, gallium, germanium, lithium, tantalum or rare earth metals used in many high-tech applications. These rare metals are essential to the development of carbon clean innovative technologies which many European countries seek to develop as a key to their future competitiveness".

• "The development of a more sustainable use of the rare metals is of paramount importance to the future development of many industrial sectors vital to the European economy such as aerospace, renewable energies (photovoltaics and windmills), nuclear energy, electric and hybrid cars, high-speed trains, energy-saving lighting, health or defence."

Suggestions

• "Secondary resources from scrap and waste, widely occurring in the "urban mine", industrial ecology and all forms of saving will need to be used in a much more intensive way than nowadays";

• "Better design of end-user products, in order to facilitate their dismantling and the reuse of components that would still be functional";

• "Search for substitutes, to replace the use of a rare resource by more common ones. Where possible, renewable resources should substitute the use of non-renewable resources";

• "Public and private governance are essential to the development of the mining industry operating in conformity with sustainable development ethics";

• "Policies, strategies, data and information are not only needed at national level, but also at a global level as the minerals distribution and industry are global while most minerals are globally traded. They are also needed at regional and local levels, as communities are directly affected by the mining activities, the industry being in a position of catalyst for local/regional development but also risking creating serious negative environmental and social impacts."

Methodology

Research from primary and secondary sources and modelling

Reference to other trends reports? If yes, which reports?

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