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Map of critical raw material deposits in Europe

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Abstract

The European Union aspires to reducing the import dependency of raw materials that are critical to its industries. In this respect, mineral resource information and data sharing by European Geological Surveys is crucial. In 2010, the European Commission identified 14 critical non-energy non-agricultural raw materials. This list was updated in 2014. This article presents the Critical Raw Material (CRM) Map of Europe produced by EuroGeoSurvey's Mineral Resources Expert Group. This map shows European mineral deposits from the EU FP7 ProMine project database, as containing critical commodities, according to the list of CRM published by the European Commission.

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1. Introduction

This article presents the Critical Raw Material (CRM) Map of Europe, version 3, released in December 2015 by EuroGeoSurvey's Mineral Resources Expert Group. This map is an update of previous versions that were produced

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during the ProMine EU funded research project. It shows European mineral deposits from the ProMine Mineral Deposit database as containing critical commodities, according to the list of critical raw materials of the European Commission [1]. The following sections briefly present EuroGeoSurveys and its Mineral Resources Expert Group, Critical Raw Materials in Europe, the ProMine project and its Mineral Deposit database, and how CRM deposits were extracted from the ProMine database to edit the final map.

2. EuroGeoSurveys and the Mineral Resources Expert Group

EuroGeoSurveys (EGS), The Geological Surveys of Europe, is a not-for-profit organization representing 37 National Geological Surveys and some regional Geological Surveys in Europe, with an overall workforce of several thousand geoscientists, engineers and other experts. EGS Members are public sector institutions carrying out operations and research in the field of geosciences mainly within their respective jurisdictions but in some instances in other jurisdictions, depending on their mandate. These organizations have a long tradition and experience, in many cases more than 100 years, in the collection of data, the preparation of information and in conducting research focused on their national subsurface.

EGS provides the European Institutions with expert, independent, balanced and practical pan-European advice and information as an aid to problem-solving, policy, regulatory and programme formulation in areas such as:

- The use and management of on-shore and off-shore natural resources (energy, including renewable geothermal energy; minerals; water; soils; underground space; and land).
- The identification of natural hazards of geological origin, their monitoring and the mitigation of their impacts (deficit or excess of trace elements in soils and waters; earthquakes; natural emissions of hazardous gases; landslides and rockfalls; land heave; subsidence; shrinking and swelling clays).
- Environmental management; waste management and disposal; land-use planning.
- Sustainable development and safe construction.
- e- government and access to geoscientific data and metadata .
- The development of interoperable and harmonised geoscientific data at the European scale.

The EGS Mineral Resources Expert Group (MREG) is actively involved in contributing to policy and strategy-making processes aimed at identifying, characterizing and safeguarding resource potential, especially for critical raw materials through research, technological development and innovation. The MREG mission is to provide the best available mineral expertise and information based on the knowledge of Member Geological Surveys, for policy, communication, public awareness and education purposes at European level, focusing mainly on strengthening the position of the European minerals industry towards resource sustainability and competitive growth.

EGS MREG aims to become the leading partner within a European Raw Materials Knowledge Base and Information Network, or other form of cooperation that will provide innovative tools and expertise to support a sustainable mineral supply for Europe. Mineral information provided by EGS MREG carries out its remit to standards that compare favourably to others operating in this sphere. The MREG collaborates with other organizations that have mineral intelligence capacities and expertise, with users of that information and other stakeholders.

3. Critical Raw Materials in Europe

The European Union aspires to reducing the import dependency of raw materials that are critical to Europe's industries by improving access to raw materials within the EU and from other sources; promoting resource efficiency, including recycling; and advancing alternatives through substitution. The EU also aims to place Europe at the forefront in raw materials innovation and mitigate negative environmental and social impacts.

In this respect, mineral resource information and data sharing and networking by European Geological Surveys is crucial. The Strategic Implementation Plan of the European Innovation Partnership on Raw Materials (SIP EIP RM) highlights the need for establishing and maintaining a common interoperable EU Geological Knowledge Base,

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