40 Years Listening to the Beat of the Earth
Introduction

- Growing need for raw materials
- Growing need for a resource management tool

European Geological Surveys are the main data providers handling geoscientific and raw material data with statistical and spacial data and support the development and the use of UNFC

![Global resource extraction in Gt, 1900-2048](https://ec.europa.eu/knowledge4policy/node/30044_de)

![Attendance at the UNECE Resource Management Week](https://www.unescoweb.org/unece/energy)
3 PILLAR STRUCTURE

Establishing a Geological Service for Europe

I Pillar: Research
- GeoERA
- 3DGE0-EU
- GARAH
- GeoConnect’d
- HIKE
- HotLime
- MUSE

II Pillar: Infrastructure
- GeoERA
- EuroLITHOS
- FRAME
- MINDeSEA
- Mintell4EU
- EGD1
- RMIS 2
- EPoS
- Copernicus

III Pillar: Outreach
- Sharing Knowledge & Infrastructure
- Communication

Projects
- GSO’s national systems

By Slavko Solar (EGS Secretary General)

EuropGeoSurveys - The Geological Surveys of Europe
Activities with UNFC

- EGS MREG, GE, GW mineral resource, geoenergy, groundwater expert groups

Memorandum of Understanding between UNECE and EGS (2018-2021) will continue

- UNECE EGRM


- GEOERA Program

https://geoera.eu/...
<table>
<thead>
<tr>
<th>COUNTRY_NAME</th>
<th>Experience in the EGS MREG</th>
<th>Representation</th>
<th>Mapping</th>
<th>Case studies (ns: natural stone gr: graphite m: marine, E: energy)</th>
<th>Harmonization (yes/can)</th>
<th>Guidance: exist, progress, involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td></td>
<td></td>
<td></td>
<td>aggregates, anthropogenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td></td>
<td></td>
<td></td>
<td>phosphate, limestone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td></td>
<td></td>
<td></td>
<td>limestone, aggregates, ns, gr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyprus</td>
<td></td>
<td></td>
<td></td>
<td>developing knowledge, intention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Czech Republic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td></td>
<td></td>
<td></td>
<td>limestone, aggregates (m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td></td>
<td></td>
<td></td>
<td>gold, Co, Cu,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td></td>
<td></td>
<td></td>
<td>hydro, renewables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td></td>
<td></td>
<td>e.g. anthropogenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td></td>
<td></td>
<td>all min. res., mine waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iceland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td></td>
<td></td>
<td></td>
<td>Cu, Co, Phos, agg., ns., gr, OG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td></td>
<td></td>
<td></td>
<td>metallic, non-met., E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia and Montenegro</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td></td>
<td></td>
<td>Limestone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
<td></td>
<td>REE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td></td>
<td></td>
<td></td>
<td>graphite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
<td></td>
<td>ores, aggregates</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Supporting documents

- Guidances, guidelines, publications to facilitate national, regional and EU-level data harmonization with UNFC

ORAMA: other cases

Public ORAMA deliverables and dissemination material such as flyers and conference presentations of each embedded window and downloaded by clicking the Downloads button.

Deliverables  Led by GTK

D1.1 Initial analysis for the improvement of primary raw materials

D1.2 Final analysis and recommendations for secondary raw materials

Examples and training materials for Hungary, Norway, UK

EuroGeoSurveys - The Geological Surveys of Europe
MINTELL4EU: Mineral Intelligence for Europe

Co-ordinator: Geological Survey of Denmark and Greenland (GEUS)

Aims amongs others:

- Improving the quality and spatial coverage of the Minerals Inventory;
- Testing the application of the UNFC classification system as a tool;
- Recommendations for improving integration communication of existing databases and data portals, incl. Raw Materials Information System (RMIS);

http://geoera.eu/projects/mintell4eu7/
CSA-GSE-ICE-UNFC in progress

International Centre of Excellence on Sustainable Resource Management
A collaborative NETWORK within GSE to

- promote and build capacity on United Nations Framework Classification for Resources (UNFC) for mineral resources (primary and secondary)
- support the United Nations Resource Management System (UNRMS) in line with the UN 2030 Agenda for Sustainable Development
- support policy on Resource Management at national and EU level

Baseline assessment
Methodology to fill data gaps and improve dataservice
Guidance for using UNFC in Europe
Development of EGDI with UNFC datasets and UNFC visualisation
Starting the operation of UNFC modul of the EGDI with dissemination and communication

- Production of data regarding the location and spatial distribution of PRMs and SRMs needs regular updates
- Operating infrastructure and network of data providers across Europe, collecting
- Work on data gaps and harmonizing, disseminating and safeguarding data
- Providing INSPIRE compliance (updating of INSPIRE code lists with UNFC etc.) still needs to be elaborated.
- Implementation of UNFC as a decision making tool in exploiting and assessment of the potentials in mineral resources
- Improve the Knowledge Base by extending the spatial coverage and quality of data currently in the MIN4EU database in order to efficiently support the objectives of the EU Green Deal
- Update mineral resource assessment information for the Minerals Inventory;
- Increase the degree of harmonization, communication and interaction between existing data platforms, with the ambition of reaching a fully operational and reliable database, supporting the European needs and connecting to RMIS of the EU
- Ensure future sustainability as part of the EuroGeoSurveys-governed European Geological Data Infrastructure (EGDI).
- Search synergies with the EU International Centre of Excellence on Sustainable Resource Management (UNFC)
- Strengthening the network with and the capability of data providers;
- Targeted visualization of data for a correct understanding of the content, interpretation of data

EuroGeoSurveys - The Geological Surveys of Europe
Conclusions

• Favourable time period and historical chance to strengthen co-operation between players for full implementation of the UNFC for PRM ans SRM in the frame of new EU CSA – Geological Service for Europe.

• MoU between UNECE and EGS will have a streamlined period based on more experience, case studies and future program planned for 2022-2026.

• EU-projects (ORAMA2020, GEOERA program) dealing not only with minerals but geoenergy and groundwater will have stronger co-operation with building the European Geodata Infrastructure in the frame of Geological Service for Europe.

• Data and experience will be interoperable into the Raw Materials Information System (EC JRC) that will allow to compare national/regional and EU-level datasets and in global context as well for decision makings.

• UNFC:
  - is the only classification that can be integrated into a resource management framework
  - is a tool having proper bridging between national and international reporting standards and codes
  - is applicable to various types of resources
  - is full accounting of resource quantities
  - integrates geological data, information on feasibility, economic, environmental-social viability.

“Alea iacta est”
Thank you for your attention


40 Years Listening to the Beat of the Earth