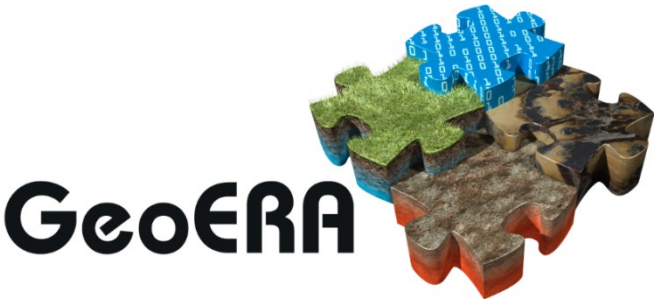

Establishing the European Geological Surveys Research Area to deliver a Geological Service for Europe

Deliverable 5.7

Report on final seminars

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EXECUTIVE REPORT SUMMARY

The GeoERA programme had planned to carry out final seminars in January of 2022 in Brussels together with the celebration of the 125 Year anniversary of the Geological Survey of Belgium. The seminars could, however, not take place as physical meetings because of the corona pandemic. Instead two webinars were conducted on the 19th and 20th of January.

During the seminars the results of the 15 GeoERA projects were presented. A number of EU and national representatives were invited to discuss these results as well as the role of geoscientific knowledge, data and information to policy and decision-making processes.

Also discussed was the potential role of a future Geological Service for Europe.

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1 BACKGROUND

In the period 2017 – 2022 the Horizon 2020 ERA-NET "Establishing the European Geological Surveys Research Area to deliver a Geological Service for Europe" (GeoERA) was carried out. Under GeoERA 15 projects each running for 3 years were producing large amounts of scientific results under the headlines GeoEnergy, Groundwater, Raw Materials and Information Management.

The projects have now published their results and in January 2022 a final, concluding conference was held consisting of two web-base seminars with the purpose of showcasing the achievements and discussing the impacts this pan-European collaboration by national scientific institutes can have on political, scientific and social levels, and how geoscientific knowledge and data can contribute towards the goals of the European Green Deal.

This event heard from EU and national representatives on the importance of geoscientific knowledge, data and information to policy and decision-making processes. Given that geology has no borders, the needs for and potential role of a future Geological Service for Europe was also discussed with a panel of distinguished speakers.

1.1 Program

The program for the two days was as follows:

1.1.1 19 January:

- Welcome. Ralph Watzel, Director BGR and President of EuroGeoSurveys and Joop Hasselman, Project Coordinator
- GeoERA, Towards a Geological Service for Europe. Wolfgang Schneider, Policy Officer, Clean Energy Transition Unit C1, DG RTD
- Necessity of Raw Materials information for Europe. Peter Handley, Head of Unit Energy Intensive Industries - Raw Materials, DG GROW
- Importance of geological information for Member States. Ruud Cino, Ministry of Economic affairs the Netherlands
- Highlights per GeoERA theme. Theme Coordinators
- GeoERA Results. Project Leads, 15 virtual stand-up presentations
- PANEL DISCUSSION.
    - Ralph Watzel (Moderator), Director BGR and President of EuroGeoSurveys,
    - Geoff Plumlee, Chief Scientist United States Geological Survey
    - Scott Foster, Director Sustainable Energy UNECE
    - Laura Burke, Director EPA and Chair Management Board EEA
    - Maria Vassilakou, Mission Board Climate-neutral Cities
- Closing remarks by Ralph Watzel

1.1.2 20 January

- Geological service for Europe as a foundation to the Green Deal:
    - Robert Holnsteiner, Head of Department Federal, Ministry of Agriculture, Regions and Tourism, Austria
    - Gerdi Breembroek, Netherlands Enterprise Agency (RVO)
    - Olivier Bouc, Scientific Officer, French National Research Agency
- Geological information from a User Perspective:
    - Ulrich Schwarz-Schampera, Program Manager International Seabed Authority Jamaica
    - Philippe Quevauviller, Policy Officer, DG Home
    - Hari Tulsidas, Economic Affairs Officer, UNECE
- Positioning of the Geological Service for Europe:
    - Riikka Aaltonen, Senior Adviser, Mineral Policy, Ministry of Economic Affairs Finland
    - Ruud Cino, MT member Ministry of Economic Affairs the Netherlands
    - Rolf Kuby, Director Euromines

All presentations are accessible at the GeoERA website at https://geoera.eu/presentations/.

Recordings of the presentations and discussion during the seminars are accessible at https://www.youtube.com/user/EuroGeoSurveys.

A total of 355 people attended all or some of the sessions.

2 OUTCOMES OF THE CONFERENCE

The following sections contain summaries of some of the statements given by the participants during the conference. It is divided into thematic areas and is not a chronological walk through of statements given under the individual points on the agenda.

2.1 General topics

2.1.1 General

In general, the GeoERA programme was highly praised by the Guest Speakers. The projects and programme were regarded as highly relevant. It was also said that sound scientific results were achieved within GeoERA and that it was a great success.

2.1.2 Geological Service for Europe

In general the GeoERA was mentioned as a stepping-stone into the idea of a Geological Service for Europe (GSE). This idea was universally supported by all invited stakeholders, as was the realization that this needs sustainable support.

It was recommended to take this to the political level: EU commissioners for economy, employment, innovation, others.

Key to obtaining support will be to show what we (already) can do. Communication is key! We must create a narrative rather than a business plan.

The question is whether the proposal for a Horizon Europe Coordination and Support Action for the establishment of a GSE (named GSEU) submitted by EuroGeoSurveys (EGS) is preparing us sufficiently to put/bring the GSE to the political agenda? Additional effort may be needed. Now there is a good momentum and it is therefore important to start now and with a good narrative.

It is also a question whether the Member States are convinced that a permanent GSE is in their own interest? A very strong effort is probably needed regarding this and the question is if the GSEU will be sufficient?

The Geological Survey Organisations (GSOs) have an important position anchored in national/regional/local policy programmes. A GSE must create the same model in EU.

But the question is how to deal with the differences in mandate/activities/national agendas between Surveys (e.g. delivering pan-EU data products)? Is this part of the GSEU?

It is important to support strategic/longer term thinking (politicians often have a more short-term horizon, focussing on problems of today).

There is a need to map the amount of geological data available in different countries, put a value on that, and exploit the differences. It is a big exercise and it requires substantial funding. There is also a need for funding for covering underexplored regions.

Finally it was mentioned that recruiting future generations of geoscientists, connecting with disciplines beyond geosciences and show-case capabilities in a comprehensible way (ambassador role) is very important.

2.1.3 License to operate

Several speakers mentioned the importance of understanding risks and impacts of subsurface uses. Social license to operate!

It is good that this was part of GeoERA's scope, but this aspect is lacking in the GSEU call scope (EC considers this as a local issue). This may therefore become a blind spot for us. The question is therefore: how do we keep this aspect on our agenda when GSEU doesn't include it?

2.1.4 Research

Guest speakers generally emphasized the important role of GSOs in collecting, generating (research) and sharing independent, science-based and transparent subsurface information and knowledge.

The need for cross-thematic/interdisciplinary information, also across borders of geosciences, was also emphasized.

The societal challenges of today and tomorrow strongly depend on integrated (cross-thematic and interdisciplinary) information. United Nations Resource Management System (UNRMS) was mentioned as a big opportunity to stimulate an integrated approach (multi-resources framework).

GSO's are important for understanding complex subsurface processes.

Finally it was mentioned that geoscience information most likely will change fundamentally to become more holistic.

2.1.5 Communication and reaching out

It was emphasized very much that communication is very important. There was a concern that communication and public outreach was not mentioned as explicitly in the GSEU proposal as in for instance GeoERA. But is must be "core business" and a good narrative must be developed. Otherwise there is a risk that the messages are not heard and are not reaching decision makers and the public.

It was recommended to make some reflections on how GeoERA did and what GSEU might do better.

Interaction with stakeholders and ongoing initiatives/partnerships as well as with other organisations and networks is very important.

Communication to citizens is also crucial. Public support is a key enabler for subsurface use. Citizens need independent and unbiased information. Co-production of science with stakeholders could be an idea in order to better communicate to the public.

There are different needs of different groups:

- Scientists need data at EU level, at the greatest possible detail.
- Regional level data are most useful for industry.
- Society/general public often uses data on local scale.
- Decision makers need data on all levels, but overview rather than details.

2.2 GeoERA scientific theme topics

2.2.1 Raw Materials

A major message regarding Raw Materials was the importance of security of supply. Europe is largely underestimating its own potential and therefore much more exploration in Europe is needed, and it is important to pool EU resources for upstream (R&I) activities (deeper, marine and land based).

Acceptance must be ensured that the geopolitical situation in the world has changed. The dominance of China in supply of commodities is extreme and their way of acting is not in line with the European sustainability principles. EU therefore needs to rely on the own goods and that massage needs to get passed to the politicians.

Community (together with industry) needs to stand-up to ensure autonomy and resilience in the field of raw materials. We need to discuss (openly) the issues with all parts of the society. Society needs resources. Leaving it in the ground is no option, but what's needed is a sustained framework for responsible resource management.

It is important that EGS works together with regulators.

The results of the GeoERA projects on Raw Materials are very important and the inventory of related information (the MIN4EU database of the European Geological Data Infrastructure, EGDI) must be consistently sustained and further improved. This is necessary in order to help the EC to achieve the EU Green Deal and the United Nations Sustainable Development Goals (SDGs).

Concentration must be on EU data accessibility for entrepreneurial activities, 3-D spatial planning, and land use management cross boarder and cross thematic issue.

It is important that products from the GSEU are linked to and embedded in policy documents, United Nations Framework Classification for Resources (UNFC), etc. Regarding UNCF and the UNRMS, the establishment of the GSEU "EU International Centre of Excellence on Sustainable Resource Management" is crucial.

It is furthermore important to work together on common vocabularies, common standards and a general common framework between GSEU and UNECE.

In summary, the role of EGS in delivering Raw Materials information for the EU can be expressed like this:

- Exploration and re-evaluation of primary and secondary sources of Critical Raw Materials (CRM) in the EU and non-EU associated countries.
- Promoting and building capacity on UNFC for mineral resources (primary and secondary) and supporting the UNRMS.
- Contributing to develop an EU database of CRM projects according to UNFC.
- Contributing to the design and implementation of the international partnerships on raw materials.
- Contributing to the design, exploitation and dissemination of the Earth Observation platform for Raw Materials.
- Contributing to the adoption of the EU sustainable principles for raw materials We would like to rely as much as possible on public data elaborated in the EU.

2.2.2 GeoEnergy

It was emphasized several times that geothermal energy, Carbon Capture and Storage and underground storage of sustainable energy carriers/fuels are key topics of interest.

These technologies are crucial for the implementation of the Green Deal and are connected to the SDG's.

Understanding the subsurface is crucial. This of course means collecting new data, but it is also important to maintaining and re-use data and information obtained from prior exploration and development activities (e.g. oil and gas exploration) which represents a huge value. New (sustainable) uses of subsurface and understanding of impacts rely on this data and knowledge base.

Data has more to offer when we identify new ways of using it. Data needs knowledge to become valuable for society.

Specifically, about geothermal energy it was emphasized that innovation is very important. This will provide a wider range of options for this type of energy including super-hot, magma, offshore geothermal, new technologies and materials.

Finally, it was noted that storage of nuclear waste is lacking within the scope of GeoERA and GSEU. There are quite different policies in Europe regarding

underground storage of waste. This topic may therefore be more of regional or local interest.

2.2.3 Groundwater

It was mentioned that EU and also EGS need to do more on water safety including related to hydrometeorological extreme events. We can contribute in relation to impacts on the hydrological cycle and integrated groundwater-surface water assessments.

We may be able to strengthen the EGS position in relation to integrated groundwater and surface water monitoring and modelling similar to what USGS is doing.

2.2.4 Information Platform

The information platform was generally considered a very important element of a GSE.

It is very important to learn what data the users are needing and for which purpose. Only then it can be made available in the right ways and forms.

Again it was emphasized that a GSE must be sufficiently user-focused. A way of ensuring that would be to build a digital twin with other parties instead of only providing information.

Interest was expressed in providing links from the EGDI to specific other platforms.

Self-learning systems was mentioned as a technology that will be relevant in the long run also in our community.