INCREASING COLLABORATION BETWEEN GEOSCIENCE, POLICY & INDUSTRY

Policy brief

An initiative by:
European Federation of Geologists (EFG)
& European Geosciences Union (EGU)

Background

On 26 September 2018, the European Geosciences Union (EGU) and the European Federation of Geologists (EFG) jointly convened the 'Horizon Geoscience: overcoming societal challenges, creating change' dinner debate. The event facilitated dialogue between the 80 scientists, policymakers and industry professionals present about how greater collaboration can be achieved. This brief outlines some of the findings from both the dinner debate and the Horizon 2020 Geoscience Survey Report which was released during the event and reveals insights from members of the geoscience community who are applying for, and participating in, EU-funded projects.

The geosciences encompass a wide range of scientific disciplines within the Earth, planetary, and space sciences. Geoscientists not only research some of Earth's key resources and properties (such as oceans, atmosphere, rivers, soils and mineral resources) but also assess the interactions between them and evaluate potential societal risks. As a consequence, the geoscience community plays a pivotal role in finding solutions to critical societal challenges. However, to maximise the impact of geoscientific research, better coordination and collaboration is needed between the different sectors, namely academia, industry and policy.

The importance of this collaboration and its ability to help Europe to find solutions has been recognised by the EU Commission and is one of the key targets of the Horizon 2020 Programme (H2020) for research and innovation. Both the dinner debate and the Horizon 2020 Geoscience Survey Report outlined that H2020 was successful in closing this gap but that more still needs to be done.

Overview

- In its broadest definition, the geosciences cover Earth, planetary, and space sciences. The geosciences are able to aid in the assessment of risks that arise from Earth's natural and human-made processes and devise methods to mitigate them.
- More effective collaboration between geoscience, policy and industry is needed to meet Europe's most pressing social and environmental challenges.
- Key themes to improve collaboration include: improving science communication, creating more opportunities to network and interact, and promoting interdisciplinarity. Specific actions within these themes are outlined below.

Key results from the Horizon 2020 Geoscience Survey Report

The majority of geoscientists who responded to the Survey felt collaboration was arguably one of the areas where H2020 had the biggest impact: 79% of survey respondents thought H2020 had increased collaboration between sectors either somewhat or to a large extent (see *Figure 1*). Despite this positive result, respondents also felt that there should be greater opportunities for scientists to interact with both industry and policymakers.

More survey results regarding collaboration, the important role that the geosciences play in learning about and solving societal issues, and the areas that can be improved on to increase the impact that geoscientific research has, can be found in the full survey report.

HAS HORIZON 2020 INCREASED COOPERATION ACROSS DIFFERENT SECTORS?

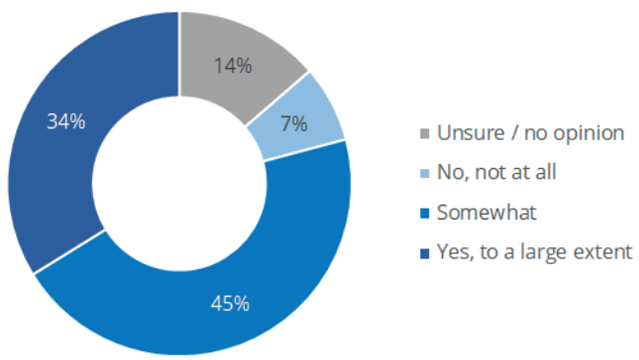

Figure 1: Horizon 2020 Geoscience Survey response regarding cooperation across different sectors

What steps can be taken to enhance collaboration?

Both the high-level panel and roundtable discussions during the Horizon Geoscience dinner debate echoed the need for greater collaboration if Europe is to address some of today's most pressing issues. Numerous issues and potential solutions regarding both collaboration and how geoscientists can better support policymaking were discussed throughout the evening and four key themes emerged.

1. Continued support for collaboration in the upcoming Horizon Europe programme

Jean-Eric Paquet, Director-General at the European Commission's DG for Research & Innovation, highlighted the Horizon Europe's mission-oriented approach as one method of increasing this collaboration and encouraging continuity once projects officially end. The European Innovation Council was also outlined as an initiative which will enhance the commercialisation of innovative technologies developed by EU-funded research projects, potentially strengthening the bond between academic research and industry.

Continuing support for cooperation and collaboration in the Horizon Europe programme was also highlighted as being essential during the roundtable discussions.

2. Science communication and societal impact

Many tables discussed the need for scientists to communicate their research in a way that is more understandable to policymakers and those outside of their specific area of expertise. Although many scientists are skilled communicators, there is still room for improvement. The potential for scientific boards, associations and unions to act as mediators and "translators" between scientists and policymakers was suggested as one method of advancing this. This mediating role may involve communicating the needs of policymakers to scientists or assisting researchers in communicating their research more effectively with relevant bodies. Another potential method of improving communication is the promotion of, and financial support for, workshops on science communication.

Introducing incentives for communication or outreach work that is frequently undertaken by scientists on a voluntary basis may also provide motivation for scientists to improve their science-communication skills and commitment. John Ludden, British Geological Survey Chief Executive and high-level panel member, also expressed concern that geoscientists are rewarded for getting their research into the best journals, but less so for thinking about how their research could improve society. Kurt Vandenberghe, Director for Climate action and resource efficiency, DG for Research and Innovation, also stressed the importance of increasing the societal impact of research projects.

3. Opportunities to network and interact

Another common theme across many of the tables during the dinner debate was the need for more events to network and interact with people from different sectors. Innovative event formats that allow people from policy, academia and industry to have a two-way dialogue promote a greater understanding about the challenges being faced by other sectors and create openings for potential overlap and cooperation.

Networking could be in the form of events similar to the Horizon Geoscience dinner debate or simply inviting those working in the policy and industry sectors to scientific events (and vice-versa). Lieve Wierinck, Belgian Member of the European Parliament and one of the high-level speakers at the debate, pointed to scientist-policymaker pairing or shadowing schemes as successful examples of how the two communities could better work together.

4. Interdisciplinarity

The need for greater interdisciplinarity was a key theme throughout the discussions. Research problems are often highly focused in a particular problem and scientists can have limited experience working on broader, more outward-facing topics. This could potentially act as a barrier to scientists engaging in policy which generally concentrates on multifaceted issues. Prompting interdisciplinarity in some aspects of academia may help overcome this.

Establishing EU-funded internships, and fellowships for early-career scientists in policy and industry sectors may promote a greater understanding and encourage scientists to work across and with multiple sectors in the future. Additionally, supporting more secondment opportunities for established scientists may motivate experienced scientists to work in a more interdisciplinary setting.

Moving forward

The key areas outlined above are not mutually exclusive and can be undertaken concurrently. However, the willingness of those working in each sector to listen to and engage with one another is essential for progresses to be made.

For more information about the information in this brief, the Horizon Geoscience dinner debate or the Horizon 2020 Geoscience Survey, please contact *policy@egu.eu* or *info.efg@eurogeologists.eu*.

The **European Geosciences Union (EGU)** is Europe's premier geosciences union, dedicated to the pursuit of excellence in the Earth, planetary, and space sciences. It is a non-profit international union of scientists made up of a worldwide network of scientists who span many critical scientific areas that can enhance the policy-making process.

The **European Federation of Geologists (EFG)** is a non-governmental, professional organisation that represents, through its national associations, over 45,000 professional geoscientists. EFG aims to contribute to a safer and more sustainable use of the natural environment, to protect and inform the public and to promote a more responsible exploitation of natural resources.

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