RIFS-Blogpost

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[Resource Speculation Imaginaries: From the Arctic to Ukraine]

A bird's-eye view of a titanium quarry.

Oil and gas geologists are key knowledge holders, producers and actors in the heavily contested story of oil and gas resources in the Arctic regions. Despite this, these individuals receive surprisingly little attention. My recent work has sought to better understand this understudied group and their knowledge production processes by

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questioning and probing them, using both my past training and professional experience as a geologist in the oil and gas exploration industry and my more recent incarnation as a political geologist and geographer. This allowed for an approach and viewpoint spanning natural science, social science, and the humanities. The hope was that, in trying to ask questions in a novel way, my results could perhaps reveal new facets of a contested area like Arctic oil and gas and deepen the understanding of resource estimation, speculation, and the perceptions of some of the key geologists involved.

These insights showed that Arctic oil and gas geologists are experiencing this as a time of rapid and unsettling change and that lines between Arctic ‘fossil fuel’ geologists and Arctic ‘clean energy’ geologists are blurred in a changing energy landscape. Geologists working on Arctic oil and gas are often simultaneously working on hydrogen storage, CCS, hydropower and various forms of Power-to-X, with their knowledge of the subsurface spanning a gamut of energy resources with ease. More importantly, taken together, these results evidenced and highlighted the key role geologists play (and will continue to play) in the developing story of energy resources and use throughout this century and why they are a profoundly important group to study. This places the people with a deep understanding of the world under our feet in a vital and authoritative position as energy systems evolve and the focus on certain resources becomes more intense.

Of course, resource estimation, speculation and geological imaginaries (imaginaries can be understood here simply as perceptions) are not new or limited to the Arctic (or geologists). But thinking about them brings up important ‘recent’ examples – such as Greenland or Afghanistan– and the political interest in their

potential resources. It is clear that all of us have geological perceptions that may be rooted in many different factors, including our background, training or politics, experiences or emotions and which we take for granted, without much questioning of their origins and the assumptions that shape them. It is also often clear that the flurry of resource conjecture and speculation serves to blur the view of underlying geological reports and documentation. Further, it is clear in the case of the Arctic regions that the geological documentation itself is very limited in parts and plays a role in producing the speculation that flows from it. Unpicking this requires scientific methods and knowledge which cross disciplinary boundaries and this is where opportunities for the interdisciplinary approaches taken at RIFS come into their own.

Ukraine and its resources are an especially politically charged topic at the time of writing and a perfect example of the myriad geological imaginaries on display. With a critical minerals deal between Ukraine and the USA hanging in the balance, speculation has surged across various communication outlets and in an array of publications—often obscuring the underlying geological data that could offer more stable ground to think about these resources.

A digger working in a titanium ore quarry.

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Very kindly offering his time to discuss these topics with me, Roman Opimakh, director of the Ukrainian Geological Survey from 2019-2024, offered up his perspective on the potential minerals deal between Ukraine and the USA stating, “Trump made a strong pitch to attract attention to the mineral resources of Ukraine”, noting that this deal would be beneficial in aiding the recovery of Ukraine over the coming decades. A recent report on critical raw materials published by the Ukrainian Geological Survey and the Ministry of Environmental Protection and Natural Resources of Ukraine highlights this and provides more detailed information on the critical raw materials in Ukraine; graphite, lithium, titanium, beryllium and uranium, non-ferrous metals and rare earth elements, amongst others. A recent article for Mining.com outlines his position further and his opinion that a partnership with the USA provides the most promising avenue for Ukraine.

Parallels can be drawn with recent interest in Ukraine and the flurry of interest which followed the 2008 United States Geological Survey “Circum Arctic Resource Appraisal” (CARA) study – which focused international attention on Arctic resources and contributed to what could be called ‘Arctic bonanza’ conversations that often went far beyond the contents of the CARA study report and its related publications. To this day, it is the only scientific estimate of pan-Arctic oil and gas resources ever made. Much of this interest was tied to increased energy independence for Arctic states and in, for example, Greenland’s case, possible independence from Denmark. In this we see a parallel to the possibilities which extraction of critical raw materials in Ukraine could make possible, as touched on above by Roman Opimakh. At the same time, much of what is known about these raw materials is Soviet-era data or “legacy reports” as Roman Opimakh put it. Similarly, the CARA study in 2008, according to the authors, was based on very scant

geological data, which had been collected largely in the approximately three or four decades before its publication. This does not mean that it is wrong but that it is limited and perhaps outdated by today´s standards, for example in terms of the way it was collected using 2D instead of 3D seismic exploration.

The purpose here is not to make a direct comparison between the Arctic regions and Ukraine, but rather to draw attention to patterns in the production and communication of geological knowledge and the speculation which is often layered on top of key geological knowledge by its many consumers. By drawing on perspectives and approaches used to think about Arctic resources, political events, agendas and discussions we have recently witnessed on resources that are key for powering the twenty-first century can be thought of in another way. In many of these events the geologists who visualise the subsurface for us are often overlooked, often considered (by themselves or others) as unbiased, objective scientists, far removed from the politics of a given resource. This was a point echoed by Roman Opimakh, who noted in his many years working with geologists that they are “just doing their job” and “staying out of politics”. My recent work has shown that many geologists work and operate in key political locations, institutions and roles, and it is clear that their research is steeped in politics in some form or other, be those personal positions or wider regional and national political contexts which affect things from project scope and funding to the words and language they employ.

For many readers this will not be a surprising statement, but others may struggle to agree. It was my (positive and negative) experiences of the human implications of hydrocarbon exploration around the world which led me to my research at RIFS, so the topics raised in this post are ones very close to my heart. A key

focus for me is looking (both at and past) numbers, statistics, maps, volumes and technical positions to explore what geologist perceptions and their disciplinary processes can tell us and add to our understanding of evolving energy systems and the resource extraction and climate challenges we face.

Lastly, this post is an invitation to everyone to consider their own geological imaginaries if they have not before and think about those presented to them through resource estimation.