

Takeaways of the OECD mission to Oulu

TSI OECD-DG REFORM project – March 20th to 22nd

Introduction

The OECD study mission to the Oulu region, Finland took place from 20th to 22nd March 2024, back-to-back with missions to the regions of Central Ostrobothnia and Lapland. This visit allowed for a series of discussions and engagements with diverse regional stakeholders ranging from regional to municipal government representatives, universities, and the private sector. The peer reviewer was Paula Morais (Central Portugal, Portugal) and Lotta Sartz (Orebro, Sweden).

Current state

The Oulu region is home to one of the most cutting-edge mining educational programmes in Finland and Europe, within Oulu University. The integrated educational programme, with Master's and PhD degrees in mining disciplines, has unique facilities and technologies for research and education in mineral processing and analysis. This contributes to the development of an innovative tech-related ecosystem in the region, with supporting institutions for entrepreneurship and research in new technologies.

With most of its mines closed or in a closure process, Oulu can provide useful insights into the closure and rehabilitation planning process of modern mines to other regions. The repurposing efforts of the Pyhäsalmi mine into an underground laboratory and a source of renewable energy is an example of economic resilience in a former mining municipality. There are ongoing mining exploration projects with mixed perceptions across municipalities towards new mines. Those with a mining history tend to be more supportive of new mines, but those with high focus on tourism, combined with uncertainties around environmental impacts tend to be less supportive.

Strengths	Bottlenecks
International renowned innovation and educational ecosystem (2 nd in R&D investment in the country), with a dedicated mining school and modern technology in mineral processing.	Limited exchange across municipalities of potential opportunities and information of modern mining.
High-tech business ecosystem to provide mining services (ICT and advice) and logistics to mining, including mine post-closure.	Lack of a sharing experience platform for municipalities to learn from mining closure projects.
Potential to supply renewable energy to other regions and mining projects.	Limited cooperation frameworks to transfer knowhow and technology across research institutions, businesses and vocational education.
Skilled workforce and capacity to attract young and technical know-how.	Limited R&D initiatives for mining exploration and limited governance to coordinate mining exploration projects.

Key Takeaways

Innovation ecosystem and university role in sustainable mining development

- Involving a business development approach from the beginning of EU funded innovation projects (e.g. Horizon projects) can help increase the likelihood of creating new business opportunities.
- Better linking vocational education institutions, university of applied sciences and universities in innovation programmes.
- Improving University's communication efforts among mining know-how and other disciplines (environmental sciences) and actors (environmental NGOs and public institutions) to better clarify risks of modern mining and methods to mitigate them.
- Promoting greater involvement of the universities in mining related discussions at the municipal level.
- Promoting more openness of universities towards local innovation projects to help advance research.

Skills

- There is scope to improve cooperation among universities and vocational education institutions for innovation projects.
- Strengthening job opportunities for international students in mining, with a focus on addressing language barriers in supply and demand of job opportunities.

Good practices:

ESG and Responsible mining

- Mine closure in parallel to operations for valorization of tailings and by-products, reuse of mine assets and infrastructure, as well as recycling of mining materials (Pyhäsalmi mine)
- Mining company collaboration to allow for repurposing of mine sites for research, as is the case of Callio Lab in Pyhäsalmi mine.

Governance and education

- Dedicated regional government support to channel EU investments into R&D, including for technology of mineral analysis and processes (e.g. in the Oulu School of Mines).
- International master on sustainable mining process that attracts talent to the labor market.