



Proceedings of the 3rd OECD Meeting on Mining Regions and Cities

Skellefteå, Sweden, June 2019

Summary

The third OECD Meeting of Mining Regions and Cities took place mid-June in Skellefteå, Sweden. It was convened by the OECD's Centre for Entrepreneurship, SMEs, Regions and Cities and the Regions of Västerbotten and Norrbotten in Sweden. The meeting brought together representatives from mining regions and cities as well as national policy makers, private sector representatives, academics and civil society organisations that work on the nexus of regional development and mining. It was attended by 170 people from across 25 countries and allowed for knowledge-exchange and discussion around two main themes:

1. How mining regions can harness opportunities from the sustainable energy transition and ensure environmental sustainability for current and future generations.
2. How mining activities can be a driver of improved regional well-being and how mining regions can link different measures to enhance attractiveness.

An additional focus was given to discussing sustainable mineral development in the Arctic region and promote dialogue between Indigenous communities and private sector and government representatives, which started at the first meeting in Antofagasta in 2017. Topics included partnerships and engagement between different land users and mechanism for benefit sharing as well as transition and diversification.

The meeting also allowed participants to deep-dive into discussion around essential questions related to quality of life and well-being in mining regions and expanded the network of mining regions and cities as a platform for knowledge-sharing, peer review, and action. The event concluded with the announcement of the next event in Karratha, Western Australia in 2020. The event was followed by an optional site visit to a Boliden Mine near Skellefteå.

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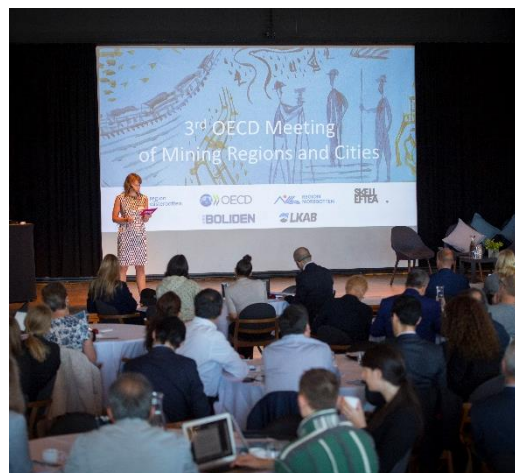
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Day 2: Thursday June 13

OPENING SESSION

Mining, extractive industries and regional development in a global context – enhancing quality of life

Kristina Sundin Jonsson, Head of Administration, Municipality of Skellefteå, **welcomed the audience to the city of Skellefteå**. She highlighted the **importance of the city in supplying Europe's raw materials** and announced that Europe's largest battery factory is being established in the city shortly. She stressed that Skellefteå's **location between two universities of approximately 50.000 students is crucial for the city** in two ways. Firstly, as it increases attractiveness and offers a large variety of jobs and secondly, it creates synergies with businesses in terms of research and development around sustainable mining.



Malwina Nowakowska-Ketterle, Deputy Head of Unit, Resource Efficiency and Raw Materials at European Commission (DG GROW) spoke about the broader policy picture for the EU raw materials supply. She highlighted how the **transition to net zero emissions by 2050 will require a large amount of raw materials including for renewable energy technologies**. The sustainable supply of minerals and metals within Europe as well as boosting resource efficiency and recycling will be part of achieving this outcome. She also pointed out that, while legislation is often made at the national level, the **regional level also needs to be involved**. Key for this is to make **regions more visible to policy makers and building their capacities**. To strengthen the role of regions, the EU's [MIREU project](#), an EU wide network of mining regions, facilitates exchange among mining regions to deliver a “just transition” and increase industry competitiveness.



Mikael Staffas, President and CEO Boliden, **presented Boliden's strategy for transitioning to a low carbon economy**. Boliden is the largest supplier of base metals in Europe including Copper, Zinc, Nickel and Cobalt. The expected increase in future demand for base metals due to energy transition and advancements made in developing countries is seen as an opportunity to grow. The **company aims to do this in an increasingly sustainable way**. They do this by investing in electrified vehicles, reducing CO² emissions throughout their value chains and increasing

recycling. As a result, their copper has half the carbon footprint of the copper produced elsewhere in the world. In addition, they have a 0% fly-in fly-out policy to support local job creation.

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Enrique Garcilazo, Head Regional and Rural Development Unit from the Organisation for Economic Co-operation and Development outlined how the **OECD is aiming to build a global collaboration for regions and cities with a specialisation in mining and resources**. This included:

- Introducing the OECD work on regional and rural development, which over the last 20 years has built a body of evidence about how regions contribute to national growth and competitiveness, and how rural development is central to maximising regional growth potential and national competitiveness.
- Presenting evidence, which shows that regions with a specialisation in mining and resources have unique growth characteristics and dynamics, and face a complex set of economic, social and environmental challenges, which can vary between different regions due to their history, access to markets, endowments, and for cyclical reasons.
- That the OECD will provide a platform for knowledge-sharing and learning, benchmarking and peer review, and guidance to develop better policies for mining regions and cities. This is done through creating public goods like thematic work and case studies that provide evidence for better policymaking.
- The OECD is already delivering outputs and this event will launch of the policy highlights of the first OECD Case Study on Mining Regions and Cities covering the municipality of Outokumpu in North Karelia, Finland as well as a discuss the preliminary findings of a Case Study on the regions of Västerbotten and Norrbotten in Sweden.

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Panel I: Building the OECD initiative of Mining Regions and Cities - Looking back, looking forward

A facilitated panel discussion was convened with participants of the initiative:

- **Luana Cormac, Northern Territory Government, Australia** - lead of the local team hosting the 2nd OECD Meeting of Mining Regions and Cities in Darwin, Australia
- **Andres Letelier, CREO Antofagasta, Chile**, CEO of a private-public partnership to increase quality of life in the city of Antofagasta, Chile
- **Chris Cottier, BHP Australia**, responsible for Community Relations in Western Australia
- **Juan Biset**, Argentina's former Deputy Secretary for Mining.

The panel discussed the added value of the OECD in the context of promoting the development of mining regions. Participants noted that international exchanges amongst regions facing similar challenges is crucial to learn from each other and exchange leading practices. Further it was mentioned that OECD's credibility help regions make the case to governments and strengthen their voice. They also see the OECD as a platform that brings together different stakeholders to discuss future opportunities and challenges. Priority issues that need to be addressed include the need to respond to digitalisation and automation as well as ensuring a transition to a green economy.

This will require, different stakeholders working together to find solution to challenges, and learning from other regions. Case studies were named as one key tool to better develop evidence and insights to inform future decision-making.

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Panel II) Launch of the OECD Mining Regions Case Study of Outokumpu, North Karelia, Finland

Presentation:

Chris McDonald, Project Co-ordinator and Policy Analyst, Organisation for Economic Co-operation and Development

Facilitation:

Lisanne Raderschall, Policy Analyst, Organisation for Economic Co-operation and Development

Panel:

- *Risto Poutiainen*, Region Mayor, North Karelia, Finland
- *Harri Palviainen*, CEO Business Joensuu, Finland
- *Juuso Hieta*, Outokumpu Industry Park, Finland

The Case of North Karelia

North Karelia region is located in northeast Finland. Outokumpu is a municipality within the region. The municipality has experienced a long-term transition associated with the closure of a major copper mine (1980). The transition from mining to manufacturing based economy has been a positive experience, leading to an economy based on sub-contracting and exports of metal technologies and mining services.

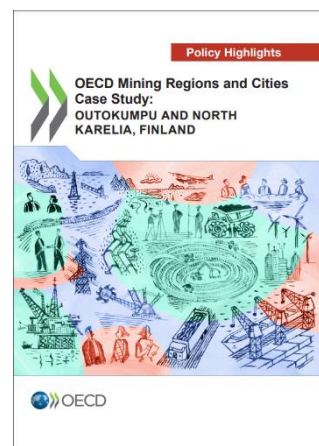
Key competitive advantages for Outokumpu are its closeness to the labour market of Joensuu (medium sized city) as well as a relative high share of manufacturing activities with an outstanding expertise in mining, and an enabling socio-political environment for mining activities.

Nevertheless, the municipality needs to overcome various bottlenecks to mobilise its assets and attain a sustainable growth in the long term. They include a 1) declining and ageing population (an elderly dependency ratio 19 percentage points higher than the country), which translates on a shrinking labour force, 2) mismatches in the labour market (brain drain) and a 3) low share of high-skilled workforce (28%, 7.9 percentage points lower than the local labour market). There is also 4) a declining rate of entrepreneurship with stagnation in the establishment of new enterprises.

The study identifies **3 main areas of action** that can assist Outokumpu and North Karelia to **build on competitive advantages and overcome bottlenecks**.

1) **The mobilisation of local assets** through the integration of mining into economic development planning as well as developing a strategy to build on the local labour market. This also includes strengthening the local mining cluster and improving the business environment for mining for instance through developing a clear local and regional brand for Outokumpu mining services and technologies.

2) **Diversification of the economy** through the strategic support of start-ups linked to the local industrial fabric, the upgrade of the mining tourism sector and integration with nature-based destinations in the



region as well as actions to address labour market challenges (vocational education, migrant attraction, and engaging older workers).

3) **Improvements of policies and governance structures.** This includes incorporating a territorial dimension to the national mining strategy, re-prioritising EU funds to support mining value chain development, and improvements to the coordination of local and regional development policies.

To read the full policy highlights click here: [https://www.oecd.org/cfe/regional-policy/Policy%20Highlights%20North%20Karelia-FINAL%20\(002\).pdf](https://www.oecd.org/cfe/regional-policy/Policy%20Highlights%20North%20Karelia-FINAL%20(002).pdf)

Main themes from the discussion:

- The successful transition of the regional economy in Outokumpu is linked to the good and timely preparation for the transition as well as the collaboration and support of a range of stakeholders.
 - The company took a very proactive role in the processes supporting diversification to gather with key government actors.
 - The transition process had a timeframe of 50 years (starting in 1960), 20 years before the closure of the mine, leaving enough time for planning and assessments.
 - Existing capacities and assets were successfully turned into new business forms, supported by the government. Main areas of support included subsidies and loans to the Industry Park as well as training programs for workers and tourism campaigns.
- To prosper in the future, the region needs to make use of existing competences and develop its untapped potential. Part of this relates to improving public awareness about the way secondary jobs are created through the mining industry and the fact that local businesses are compatible with societal demands for sustainable development. Key for this is also to create knowledge spill overs between Finland's two key industries - mining and forestry - to create synergies between them to solve common problems.
- In order to deal with demographic change, it is crucial for the region to invest and build new skills and competencies. Further international migration was identified as an opportunity to fill labour shortages.

"The Company convinced the local municipality that they need to act soon as the mine will run out of ore during the next five to ten year period. This triggered broader collaboration between national, sub-national government as well as research and business to find solutions on how to deal with the closure as early as possible".

- Juuso Hieta, Outokumpu Industry Park, Finland

"The Case study provides a holistic and comprehensive point of view – we are ready to implement the recommendations at the regional and local level to refine policies." Risto Poutiainen, Region Mayor, North Karelia, Finland

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Panel III) Regions with mining and extractive industries: Opportunities from the sustainable energy transition and contributing to SDG13 - Climate Action.

Facilitator: Enrique Garcilazo, Head of Rural and Regional Development Unit from the Organisation for Economic Co-operation and Development

Achieving the commitments of the Paris Agreement in limiting the increase of global average temperatures to well below 2°C compared to pre-industrial times, requires solutions for cleaner, more resilient economies. The sustainable energy transition is part of the response and refers to the changing mix of energy production from the use of non-renewable resources (coal, oil and gas) toward renewables (hydro, wind, solar, tidal, and geothermal) to achieve this goal. This shift has a number of implications for regions with a specialisation in mining and extractive industries.

On the upside, there are a number of opportunities: New and expanded mining associated with a growing market for certain metals (e.g. cobalt, copper, lithium, nickel, and zinc) needed for renewable energy production, increased resource efficiency in mining operations and the value chain. On the downside, regions that are specialised in the extraction of hydrocarbons (coal, oil and gas) are likely to face adjustment costs.

To manage this transition the following elements need to be considered:

- Workers are forced to choose between protecting their jobs and protecting the environment. To avoid this dichotomous choice, policy makers need to ensure a **“Just Transition” to secure future livelihoods and prosperity of communities**.
- Transitioning to the green economy is an enormous task that **requires action and co-ordination across all levels of government and parts of society** (industry, civil society and research) **to take action in a coherent way**.
- Effective **place-based regional development policies** will be key to ensuring regions can benefit from this shift and manage the adjustment costs. This is because the **impacts and opportunities will be highly differentiated** (place-specific).

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Presentations:

- *Karen Cain*, CEO La Trobe Valley Authority, Australia
- *Bert de Wel*, Climate Officer, International Trade Union Confederation
- *Risto Poutiainen*, Regional Mayor, North Karelia, Finland
- *Bo Krogvig*, Senior Vice President Communication and Public Affairs, LKAB



Main themes from the presentations and discussion:

- To make the transition to a carbon neutral economy, getting the **trust of people** is crucial. This includes opening low-threshold communication channels to **understand what matters most to people**.
- Further, policy makers need to be **more courageous and proactive**, and approach transition processes holistically to integrate different policy areas and stakeholders. Governments play a key role in brokering and facilitating solutions, opening new networks, supporting and mobilising leaders as well as getting people to see the collective benefit. International collaboration and learning can be helpful to solve common challenges and to build a shared evidence base.
- There is also a need to **make mining industry more sustainable, effective and transparent**. Consumers should be able to know where the materials are coming from and how they were sourced. Further, there are opportunities to reduce waste and building more circularity, for instance through scrap mining. At the same time politicians need to push for due diligence in supply chains so that environmental and social impacts in the supply chains.

“We have to go beyond business as usual and be creative to find solutions. We don’t perceive this as a problem that needs fixing. Listening to people is very important. We need to learn about what matters most to people” - Karen Cain, CEO La Trobe Valley Authority, Australia

“Those who do not focus on sustainability will be out of the market shortly within 10, 15 or 20 years” Bo Krogvig, Senior Vice President Communication and Public Affairs, LKAB

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LUNCH - DIALOGUES



This lunchtime dialogue provided an opportunity for stakeholders to learn about the work of the Conservation of Arctic Flora and Fauna (CAFF) working group of the Arctic Council on mainstreaming biodiversity objectives. This includes engagement with the mining and extractives industry in the Arctic. The dialogue provided an opportunity to learn about leading practices from this work, and engage in further discussions with national, sub-national, industry and Indigenous representatives. Introduction: Cynthia Jacobson, Advisor for Arctic Conservation, U.S. Fish and Wildlife Service, Alaska Region



This lunchtime dialogue provided an opportunity for participants to have an in-depth discussion about leading place-based strategies that support the transition to a low-carbon economy. The discussion focused on how this shift can be made without increasing inequalities for those reliant on existing industries. Participants noted that a *just transition* is particularly challenging for regions specialised in mining and extractive industries. Partnerships between levels of government, industry and local communities will be needed in order to support a just transition.

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Parallel policy workshops: Greening resource based developments

Industry, government and civil society representatives came together to discuss specific topics in more depth and the main themes are identified below.

| Policy workshops | Main themes |
|---|---|
| A) Local opportunities from environmental management - Biodiversity, rehabilitation and delivering on SDG 15: Life and Land | <ul style="list-style-type: none">• The incorporation of biodiversity considerations in industry operations faces challenges such as 1) lack of trust, 2) missing partnerships, 3) lack of data collection and sharing, 4) limited engagement of Indigenous peoples. Approaches to solve this focus on the creation of opportunities for dialogue and problem solving, sharing of best practices and a common repository of data.• Opportunities for local communities to engage with industry on environmental protection evolve around: assessing impacts from mining on land and waters; preservation of subsistence hunting; fishing and gathering; environmental stewardship and monitoring for mining operations; and regional education, training opportunities to engage in conservation activities.• Regional Governments are key to establish ongoing communication between industry, municipalities and at the same time, they need to promote active participation in regulatory processes and environmental monitoring, openness and transparency as well as independent oversight and scientific research and innovation. |
| B) Local and Regional Smart Specialisation Strategies – greening resource-based development | <ul style="list-style-type: none">• Smart specialisation strategies can help regions to identify areas of absolute and competitive advantage, facilitating connections between sectors and stakeholders to promote innovation, and supporting a process of entrepreneurial discovery to support new areas of economic activity.• For some regions, mining and extractive industries are a key part of smart specialisation. For example in Saxony, Germany, metallurgy/smeltering was identified as a competitive advantage and is used to raise efficiency of resource based regional development. Previously materials considered waste are now used to develop new products.• Effective Smart Specialisation strategies are dependent on local capacity, which may mean investing to develop the planning and decision-making skills of local authorities and community groups. This includes building in mechanisms for learning and evaluation. |
| C) Learning from Indigenous Peoples Perspectives on resource-based development | <ul style="list-style-type: none">• Conditions of Indigenous peoples vary largely across countries. Yet, Indigenous peoples face common challenges and opportunities related to mining and extractive industries. For example, mining can impact on the use of land for traditional livelihoods and cultural purposes.• Governments should respect the principle of Free, Prior and Informed Consent (FPIC) and improve legal mechanisms for consultation and engagement on traditional lands. Environmental impact assessments should include assessment of socio-cultural impacts and incorporate traditional knowledge in assessing new and expanded mining operations. |

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| | <ul style="list-style-type: none"> There is also scope for Indigenous peoples to benefit from mining and resource projects. This includes through sharing equity, direct jobs and businesses in local supply chains. This is dependent upon genuine partnerships and engagement with industry and governments playing a supportive and facilitative role. |
| SDG 12: Responsible Consumption and Production - Regional development and the circular economy in resource extraction | <ul style="list-style-type: none"> There is scope to improve the circular use of minerals and metals. Policies do not always stimulate the use of circular economies in a mining and resources context. This requires a paradigm change on how certain things are conceptualised. Ways to more circularity include resource optimisation and recovery, material life extension, and re-use of waste by-products. Co-operation with local universities and research centres is key to develop affordable technologies that enable circularity as well as to better understand the potential of the bio economy. Fostering an entrepreneurial culture to enable communities finding creative solutions is also key. New skills are needed to mobilise unused elements in to resources. At the same time, value-chains need to be tailored to circular economy models. |



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Panel Discussion - Arctic stakeholder dialogue: responsible mining and regional Development

Facilitation: Chris McDonald, Project Manager and Policy Analyst, Organisation for Economic Co-operation and Development

Speakers:

- *Jan Rannerud*, Sami Parliament of Sweden
- *Lida Skifte Lennert*, Head of the Greenland Representation in Copenhagen, Denmark
- *Wayne Westlake*, CEO, NANA Regional Corporation, Alaska, USA
- *Paula Isaak*, President Canadian Northern Economic Development Agency, Canada
- *Mika Riipi*, Governor, Region Lapland, Finland



Main points of the discussion:

- When starting to explore minerals development it is essential to establish a proactive strategy to ensure local communities benefit. National and regional development policies need to be supportive of this outcome.
- Balancing land use between different interest groups is a challenge for many Arctic regions. Part of this is managing mining impacts on land used by Sami people for reindeer husbandry. During this process, it is important to gain the trust of local communities and engage in dialogue.
- Successful ways to combine Indigenous livelihoods and traditional use of land with mining to provide the flexibility to combine subsistence economy and the cash economy.
- Canada's modern agreements made with Indigenous peoples can be seen as leading practices in terms of designing inclusive decision-making processes ranging from environmental to economic and social impacts.

"From the Sami perspective land is used and then returned. From the mining perspective, you use it and consume it. These understandings need to be negotiated" Jan Rannerud, Sami Parliament of Sweden

Key takeaways:

- **Partnerships and engagement with all relevant stakeholders are key in Arctic mining** (i.e. Indigenous Peoples, other land users, regional administration, and industry). Processes need to be set-up over the **long-term and focus on establishing an ongoing relationship involving all parties in every step of the way**. This contributes to developing a mutual understanding of how to create opportunities and develop resources sustainably.
- **There is a need to investing enabling factors** (infrastructure, skills, SMEs and innovation). Building a **business ecosystem can help to enable growth** through smart specialisation and innovation.
- **Having mechanisms to secure that local communities reap benefits is key**. This can happen through benefit sharing agreements, the development local jobs and skills and procurement opportunities. Royalties and taxation can also contribute to investment in social services.
- **There is a need to think beyond mining. Regions need to have a proactive strategy for transition and diversification**. As all resources are finite and regions need to make sure something is left behind to future generations and that they establish resilience to future challenge like adapting to climate change.

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Day 1 networking activities:



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Day 2: Thursday June 13

Panel I) Increasing the attractiveness of mining regions and cities by linking different measures that enhance liveability

Facilitation: Veronica Slajer, North Star Group, Alaska

Speakers and Presentations:

- *Paula Isaak*, President Canadian Northern Economic Development Agency, Canada
- *Andres Letelier*, CREO Antofagasta, Chile
- *Luana Cormac*, Northern Territory Government, Australia
- *Malene Campbell*, Professor, Department of Urban and Regional Planning, University of the Free State, South Africa
- *Helena Renstrom*, Marketing Manager at Skellefteå municipality, Sweden

Attractiveness is broadly defined as the factors that people generally value about their local neighbourhood, town or city, such as accessible and reliable public transport, high-quality open space, and good schools. These factors are generally immobile or place-based, thus important to regional growth and competitiveness. Attractiveness is a challenge for mining cities and regions that are remote and sparsely populated. Enhancing city and regional attractiveness requires an integrated approach to improving services, local infrastructure and amenities, housing choices, and opportunities for social participation.

Elements that need to be considered for enhancing regional attractiveness involve:

- **Attracting people and retaining them in the long term.** Often, the latter is more difficult to realise. It includes developing assets that go beyond economic incentives such as connectivity, safety, cultural vitality, quality of goods and services as well as social networks.
- **Public private-partnerships** help to set-priorities and mobilise investment for measures that raise local attractiveness
- **Meaningful ways to engage with the local community** are needed to understand what resident's value. Involving them in local decision-making can help to design public spaces, that meet local community needs.
- **Valuing and preserving natural capital** is essential for future livelihoods as well as local well-being and health.
- **There is a need to specifically target certain population groups to counteract demographic change like young people and international migrants.** This can be done by diversifying education and training offers and breaking through stereotypes of mining towns and regions as low-skilled and offering limited lifestyle opportunities.

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Main themes from the presentations and discussion:

- Regions and cities struggle with different dimensions of attractiveness that includes: unequal distribution of benefits amongst citizens, low access to public spaces, housing and/or neighbourhood life, as well as weak environmental management (water, energy, waste). Many of these are linked to cyclical nature of resources economy. Challenges are often amplified in less developed countries.
- Incentive packages and programs can help to attract workforce but often do not suffice to making them stay. Retention requires linking hard attributes (job creation, investments in education facilities and the building of infrastructure) with soft attributes (the (re)vitalization of public spaces, creation of cultural and sports amenities and the development of a feeling of community). Examples include the development of multi-functional public spaces such as a waterfront in development in Antofagasta, Chile.
- There is a need to make places attractive to young people by diversifying education and training offers, breaking through stereotypes of mining towns and regions and diversifying the economy in order to counteract demographic change. It is important for regions and cities to find their identity and communicate it proactively. Further, it was mentioned that small places can have the advantage of easily building networks that can contribute to social cohesion and contribute to building regional cross-sectoral business networks that can contribute positively to regional development.
- Successful approaches to enhance attractiveness are designed collaboratively with regional governments, municipalities, the private sector and civil society. They should ensure that:
 - Actors contribute according to their own strength. Cooperation is about complementing each other not replacing one actor's role.
 - Participatory processes must be consistent and inclusive, but also need to balance people's expectations
 - The cross-sectoral planning and execution takes time and dedication, but it is essential to deliver strategic projects

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Parallel policy workshops: Building attractive mining regions and cities

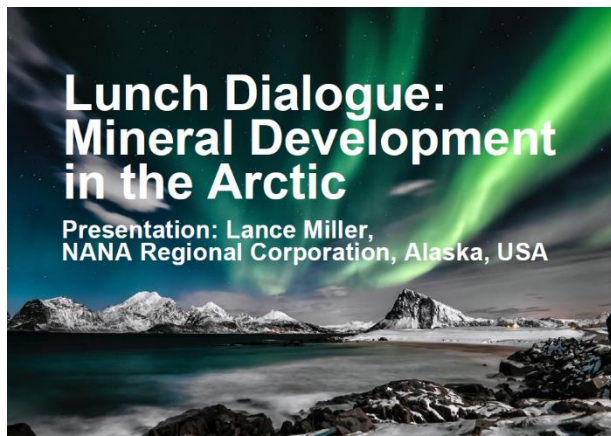
| Policy workshops | Main themes |
|---|--|
| A) Universities – platforms for regional innovation and human capital development | <ul style="list-style-type: none"> Universities contribute to regional development through research and innovation as well as by providing jobs and training. In mining regions, their research is often targeted to specifically address local challenges and help governments and public sector to find solutions. They include environmental protection (waste and water management), economic diversification (fisheries, solar energy, mining supply chain, cultural heritage) or societal development (education and skills, immigration). Universities have the potential to be a key player in developing a business eco-system in mining regions. Private sector co-operation with universities needs to be mutually beneficial and it is important to understand which incentives enable a balanced co-operation. University also have a great importance in attracting young people to regions, and finding the right mechanisms for outreach and communication. Today, the perception of mining as an occupational field is still dominated by manual labour and is only gradually changing towards being associated with frontier thinking and innovation. |
| B) Culture and creative industries to enhance attractiveness | <ul style="list-style-type: none"> Developing cultural heritage sites and tourism around mining offer possibilities for economic development in the process of mine closure and transition. The advantage with this is that it offers regions the opportunity to preserve their cultural identity while transforming and/or diversifying their economic base. Examples include mining museums (feature the history of mining and educate children on the value of minerals and metals); industrial monument routes and heritage parks that serve as tourist destinations and event facilities. Investing in creative and cultural industry is essential for economic diversification and enhancing regional attractiveness in mining regions for several reasons: 1) it offers alternative jobs and helps to enlarge the talent pool, especially for young people; 2) it fosters cross-sectoral innovation between businesses; 3) it facilitates recruitment for other industries because they know potential new employees value it for their well-being and; 4) it allows you to build a local identity. Successful place brand management includes: visionary and courageous leadership, openness to innovation, creative communication, involvement of people and community taking ownership. |
| C) Land use planning and housing in mining regions | <ul style="list-style-type: none"> Housing markets in mining town are heavily affected by mining life cycles, commodity prices and the investments related to that. Policy setting from non- mining towns are often not equipped to work in these places creating policy mismatches. Key challenge between the public and the private sector is defining responsibilities for housing development. To solve this, better co-ordination between multiple stakeholders is needed. Land use conflicts often arise between different interests groups concerning environmental, cultural and economic aspects. Effective local land use planning and dispute resolution mechanisms are needed. Different interests create governance |

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| | challenges due to different objectives, diverging incentives as well as a lack of alignment or communication. |
| D) Providing health and education services in remote areas – innovations to ensure wellbeing | <ul style="list-style-type: none">• Providing good, reliable commercial and public services in remote areas is necessary to create environments where it is attractive to live, work and run a business.• Digitalisation offers sparsely populated regions the opportunity to provide services that are crucial for attracting people. This requires not only seamless digital infrastructure but also the ability to be used across different societal groups including children, elderly people and businesses.• Implementing digital solutions requires proactive, innovative approaches, that dare to think outside the box and involve pilots and testing around tele-health and tele-medicine, as well as transport innovation and library services.• Regional government play a crucial role in establishing platforms of mutual dialogue between industry and communities to find solutions for common problems. |

LUNCH-DIALOGUE



This lunchtime dialogue provided participants with an opportunity to learn about the recently published report “[Mineral Development in the Arctic](#)” by the *Responsible Resource Development Working Group* of the Arctic Economic Council. The discussion focused on: how can arctic mining take place in a responsible, sustainable and cooperative manner that contributes to regional economic growth? The discussion covered good practices and ideas for implementation.

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Panel II) Mining Regions Case Study for Västerbotten and Norrbotten, Sweden

Facilitation: Enrique Garcilazo, Head of Rural and Regional Development Unit,
Organisation for Economic Co-operation and Development

Speakers:

- *Chris McDonald*, Project Manager and Policy Analyst, Organisation for Economic Co-operation and Development
- *Andreas Lind*, County Administrative Board
- *Pia Lindstrom*, Director EHSQ, Boliden Mines
- *Nils-Olof Lindfors*, Region of Norrbotten



Case Study of Norrbotten/Västerbotten

Objectives of the Case Study:

- Analysis of the economic, technological and policy context shaping regional development and mining trends and prospects in northern Sweden.
- Diagnosis of current trends, growth enablers and bottlenecks with a particular focus on the performance of the mining and extractive sector in northern Sweden.
- Assessment of policies, governance and implementation mechanisms (at local, regional, national and EU levels) related to the sustainable supply of raw materials and value-adding and related diversification in northern Sweden.

Regional economy:

- **Strong performer** - in terms of productivity and employment - high GDP per capita and well-being in OECD context
- **Natural resource based economy** - Mining plays important role alongside forestry and energy with related diversification (manufacturing and services)
- **Cities and physical infrastructure** - Benefits from concentration of population in fewer places, universities, and relatively good infrastructure (energy, transport and digital)
- **Challenges** - population ageing and service provision, moving up the value chain in tradeable services, and attracting and retaining skilled people

Characteristics of the local mining economy:

- **Norrbotten** - mainly iron ore (LKAB), **Västerbotten** – gold and base metals (copper, silver, zinc, lead) (Boliden)
- Known resources of minerals and metals important for **renewable energy technologies** - graphite, lithium, cobalt, rare earth elements (REE) and tungsten
- **Know-how, technology and infrastructure related to mining** – active mines, university research, education and training, mining services, and metals and minerals processing
- **Supply-side issues** – land use, some infrastructure bottlenecks and higher level skills

Main themes from the discussion:

- Mining in Sweden makes a significant contribution to the growth and well-being at national and EU level. In addition, mining in Sweden has very high environmental standards, compared to other countries, and this needs to be acknowledged. To improve ways on how regions can prosper from this it is crucial to make sure opportunities are developed that ensure quality of life after the mine is closed. This includes proactive efforts to build local supply chains, diversify and invest in the local economy.
- There are opportunities to improve the policy and legislative framework related to mining and regional development. Uncertainties in the regulatory process impacts on investment decision-making, especially for smaller and foreign companies. This can affect regions, who are missing out
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on development opportunities, as well as on other proponents (Indigenous Peoples, Tourism), who might possibly be affected by the decision outcome.

- Local and regional stakeholders also identified the need to have a stronger voice and influence in the design and implementation of EU and national legislation affecting mining and regional development outcomes. A greater role for municipalities and County Councils could help in finding pragmatic local solutions that strive towards building consensus, and developing policies that are active and forward looking instead of reactive to avoid the polarisation of stakeholders. To bridge silos an integrated framework needs to be created that aligns legislation and stakeholders and ensure all contribute to the same goal.
- Reindeer herding and mining are both national interests and often compete for the use of land. Key challenges arise for local and national administration on how to best balance these interest. Often ideas on how to measure contribution diverge between valuing economic and cultural contribution. Some examples of successful coexistence between Sami People and mining exist and often involve long-term partnerships with mechanisms for compensation for Sami people.
- The next OECD study missions will focus on looking at the value chain around mining in northern Sweden as well as the contested interest at stake when it comes to land and water issues. The case study will make sure to highlight the contribution mining makes to growth and well-being and makes suggestions on how multi-level governance challenges could be overcome.

Panel III) Developing skills for the future - responding to digitalisation and automation

Facilitation: Chris Adams, CEO City of Karratha, Australia

- *Hernan Araneda*, Head of the Centre for Innovation in Human Capital, Fundacion Chile
- *Peter Long*, Mayor of the City of Karratha, Australia
- *Cristina Bruce*, Head of International Relations, Anglo American
- *Oscar Benavente Poblete*, UCN, Chile
- *Nabila Tbeur*, OCP, Morocco

Digitalisation and automation will change the workforce and demand for skills in mining regions and cities. While new production possibilities in the extractive industries sector will make mining safer and more efficient and it will also result in the replacement of tasks that have traditionally been carried out manually or with human-controlled machinery. These innovations include connected mobility, virtual and augmented reality to empower remote workers and machinery in real time, and deploying digitally enabled hardware tools to perform or improve activities. This is likely to result in jobs losses for lower skilled entry workers in extractive operations, lower the local procurement of goods and services as well as a shift of operations to large urban centers. At the same time, it increases the demand for labor with specialized skill sets. To manage this transformation, mining regions and cities will have to identify how to secure jobs and build a skilled workforce needed to meet these challenges and opportunities.

To develop skills for the future and respond to digitalisation the following elements need to be considered:

- **Companies and governments need to collaborate** to make sure they **reduce the risk**, make use of opportunities and **share investments** to needed to ensure regions and cities keep prospering in context of automation and digitalization.
- It is important to **map and understand the skills** needed in the future to **adjust curricular, capacities and availability of trainings facilities** accordingly.
- **Digitalisation** can be used as a tool to **increase employment amongst young people and foster innovation in regional economies** if it is utilised to build knowledge and enable entrepreneurship.
- **Universities have a key role to play in the supply of competencies**; they need to be proactive and engaged with industry and governments.

Main themes from the presentations and discussion:

- Jobs and employment opportunities in mining are likely to be heavily affected by digital transformation and increased automation. This will happen in different stages and speeds. While some jobs will always remain on mine sites, they are likely to be of a different nature than today.
- It is important for companies and government to map and forecast changes in demand for skills. This way they will better respond and match education and training offered with skills needed in the future. In that light, it is equally important to establish qualification frameworks, develop new competency standards, help training providers and schools to adapt their curriculum and ensure the availability of training for young people.
- Government need to setup the right framework demanding and encouraging companies to re-invest the efficiencies made through automation into local communities in form of training to new skills and assisting building up local enterprises. They also need to expand on infrastructure (transport and communication) to enable new job creation.
- Private companies increasingly need to re-think the way they work with local communities as the classical framework of providing local low-skilled jobs shifts in the light of automation. Going beyond their core businesses, they need to understand how they can create shared value, for example, from local value chains that align with regional development strategies.
- Digitalisation can be used as a tool to educate young people and foster innovation. For instance, in Morocco, coding schools have been placed in an ecosystem of innovation that includes incubators for enterprises and start-ups, which has helped facilitate local entrepreneurship.
- To make sure local people benefit and are not scared by transformation processes it is important to build human relationships and respond to their concerns. This can happen through engagement with NGOs and seeking dialogue.

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"Smaller miners won't have the resources to necessarily deploy new technologies - impacts on industry will be uneven."
Oscar Benavente Poblete, UCN, Chile

Summary and next steps:

- *Chris Mc Donald*, Policy Analyst and Project Manager, OECD
- *Enrique Garcilazo*, Head Regional and Rural Development Unit, OECD
- *Nils-Olof Lindfors*, Region Norrbotten, Sweden
- *Peter Long*, Mayor of the City of Karratha, Australia
- *Chris Adams*, CEO of the City of Karratha, Australia

Chris McDonald thanked event speakers and participants and noted that the conference are another step towards creating a global collaboration for mining regions and cities. He reinforced the idea to develop a common pool of knowledge to design better policies for mining regions and cities and the need to do this across a range of different stakeholders (national and sub-national government as well as industry, civil society and research institutions). He then asked the panellists to reflect on what they has learned in the past days. He also suggested they reflect on how this initiative can be evolving in the future and how it can add value for different stakeholders.

Summarising, he reiterated the importance mining regions play in their contribution to solving larger problems like resource needs, climate change and automation. He further stated that it is essential to think about what kind of policies are needed to foster sustainable, prosperous mining regions to improve the well-being of the people that live in these places.

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Restating the key areas of focus of the initiative: 1) Productivity, jobs and economic diversification; 2) Quality of life and wellbeing; 3) Sub-national governance and fiscal arrangements, he explained the goal of the overall initiative to develop guidance and tools implement better regional development policies in a mining and extractives context. In order for that to happen, he indicated the importance of these events to mobilise a community and develop stakeholder and political support. Further, he stresses the need for evidence and data to make the case for policies, which is why the OECD works on case studies and is looking for support for future statistical analysis.

Enrique Garcilazo, highlighted the way in which this event tried to be forward looking and incorporated discussions on megatrends such as digitalisation, climate change and attractiveness into the discussion of regional development for mining regions. He pointed to the fact that policy formworks need to respond to these challenges but also understanding need to perceive change as an opportunity. This can include the continued demand for minerals and metals as well as ensuring local communities play an integral part in realising these opportunities.

Nils-Olof Lindfors, thanked the organisers for a fantastic conference. He also highlighted the value of bringing people together and building a network of mining regions and cities that solve mutual problems together. Agreeing with Enrique, he added that it is fundamental that regions give something back to local communities. In the light of transitions – climate as well as automation – he stressed the need to explore the

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potential for local innovation in mining value chains, adapt skills training and make mining more sustainable as it is demanded by the consumer.

Peter Long, agreed with the previous speakers and highlighted that these conferences are a great place to exchange amongst mining regions with similar characteristics – remote places in pristine nature that need to support local communities and make it attractive for people to come and live, whilst being recognise for what they contribute to national economies. He thanked the OECD for its engagement on this topic.

Chris Adams and Peter Long, announced the next event to be held in Karratha, Western Australia in 2020. The next conference will focus on the topic of productivity, jobs and economic diversification for regions with mining and extractive industries.



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