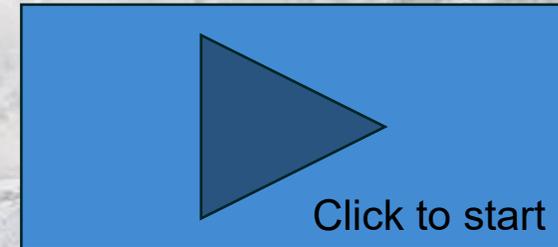


Mining and the UN Sustainable Development Goals

By the end of this session, you will know:

- What the 17 UN Sustainable Development Goals (SDGs) are and why they are important.
- How mining can positively contribute to achieving the SDGs.
- Key examples linking raw materials to sustainable development.
- Challenges and opportunities for making mining more sustainable.



What are the SDGs?



The UN Sustainable Development Goals (SDGs):

- **Introduced in 2015** as part of the 2030 Agenda for Sustainable Development.
- **17 Goals, 169 Targets:** covering economic, social, and environmental dimensions.
- **Built on** the earlier Millennium Development Goals (MDGs, 2000–2015).
- **Aim:** reduce poverty, inequality, and environmental degradation while promoting health, education, gender equality, and sustainable growth.
- **Address all stakeholders:** governments, science, civil society, and the private sector



Beyond Climate Change



Is Climate Change the only Priority?

- **Climate change is critical** – but not the only challenge.
- The SDGs address **social, economic, and environmental dimensions** together.
- **Key issues:** Poverty and inequality, access to health, education and clean water, sustainable consumption and production.
- **Balanced approach** – Focusing only on climate may overlook social and economic development needs.
- Mining can play a role in supporting **multiple goals at once**.



Can Mining contribute to the SDGs?

Click on the goals to learn about what mining can do to help achieve them.



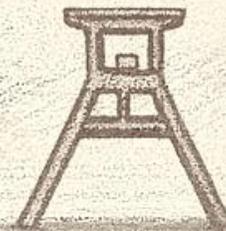
Skip to the next part of the lecture 

1 NO POVERTY



Facts and Figures

- 700 million people live on less than \$3.20/day (2018).
- 4 billion people lack social protection (2016).
- Poverty rate in rural areas = 17.2% (3× higher than in cities).



Mining's Contributions

- Generates jobs & income, especially in rural areas.
- Creates opportunities for local businesses (suppliers & services).
- Provides major revenues for governments (taxes, royalties, dividends).

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2 ZERO HUNGER



Facts and Figures

- **821 million** people are hungry (2017).
- The majority of undernourished people live in Asia.
- **151 million** children <5 have stunted growth (2017).
- **2 billion** people lack regular access to safe, nutritious and sufficient food (2019).



Mining's Contributions

- Supplies macro- (K, P, S, Mg, Ca) and micro-nutrients (Fe, Mn, Mo, Cu, Zn, B, ...) via fertilizers.
- Plays a key role in improving agriculture & food security through fertilizer projects in developing countries.

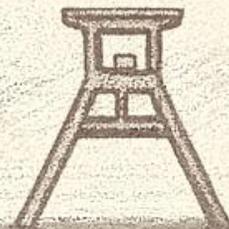
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3 GOOD HEALTH AND WELL-BEING



Facts and Figures

- **6.2 million** children and adolescents <15 years died, mostly from preventable causes.
- 94% of maternal deaths occur in low- and lower-middle-income countries.
- AIDS is now the leading cause of death among adolescents (10–19 years) in Africa.



Mining's Contributions

- **Builds hospitals** and first aid stations for workers and local communities.
- **Trains local populations** in healthcare.
- Ensures occupational health & safety, incl. mine rescue services.

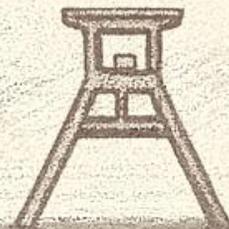
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4 QUALITY EDUCATION



Facts and Figures

- 260 million children are out of school (2018).
- 617 million youths lack basic skills like reading, swimming or basic algebra.
- 750 million adults are illiterates ($\frac{2}{3}$ women).



Mining's Contributions

- Builds schools near mining projects.
- Supplies materials (cement, stone, gypsum) necessary to build school buildings.
- Educates and trains teachers on site.

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5 GENDER EQUALITY



Facts and Figures

- 750 million women and girls marry before age 18.
- In 18 countries, husbands can legally prevent wives from working.
- In 49 countries, no laws protect women from domestic violence.



Mining's Contributions

- Provides **equal opportunities** for women in mining projects.
- Promotes gender inclusion throughout the business and project cycle.
- Supports initiatives like International Women in Mining.

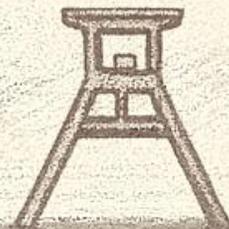
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6 CLEAN WATER AND SANITATION



Facts and Figures

- 2.5 billion people lack access to safe drinking water.
- 3 billion people lack basic handwashing facilities.
- 892 million practice open defecation.



Mining's Contributions

- Builds **water supply systems** for communities.
- Provides **materials for sanitation** (toilets, pipelines, treatment plants).
- Recycles process water and monitors water quality.

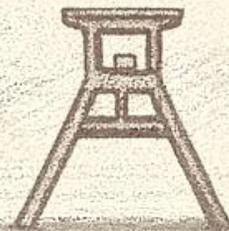
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7 AFFORDABLE AND CLEAN ENERGY



Facts and Figures

- 2.6 billion people lack access to modern electricity.
- 3 billion rely on wood, coal or waste for cooking/heating.
- Household air pollution causes 4.3 million deaths (2016).



Mining's Contributions

- Builds **energy infrastructure and power plants** in remote areas.
- Creates oppSupplies **materials (Fe, Cu, Al, REE, cement)** for renewables.
- Improves **energy efficiency** and adopts renewable energy in operations.

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8 DECENT WORK AND ECONOMIC GROWTH



Facts and Figures

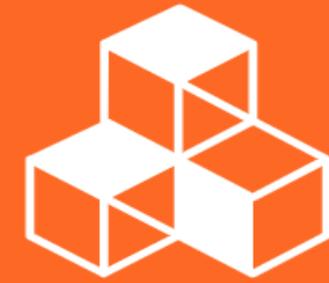
- 172 million people unemployed (2017).
- 2 billion workers in informal employment (2016).
- 700 million live on less than \$3.20/day (2018).

Mining's Contributions

- **Catalyzes growth and local employment** around projects.
- Creates **training, jobs, and business opportunities** for communities.
- Supports **responsible supply chains** (e.g. diamond certification).

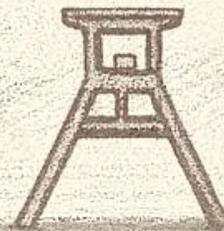
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9 INDUSTRIES, INNOVATION AND INFRASTRUCTURE



Facts and Figures

- 4 billion people still lack internet access.
- In low-income African countries, weak infrastructure reduces productivity by 40%.
- Only 30% of farm products are processed in developing countries (vs. 98% in rich countries).

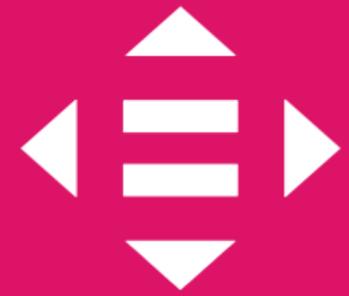


Mining's Contributions

- Supplies copper, steel, aluminum, lithium, cobalt, REE for renewables & e-mobility.
- Builds infrastructure (transport, energy, water, communication) enabling development.
- Invests in innovation and new service sectors.

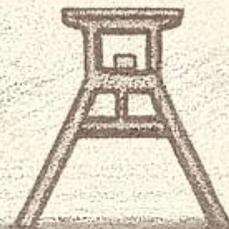
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10 REDUCED INEQUALITIES



Facts and Figures

- Top 1% earn **22% of global income**.
- Bottom 50% receive only **10%**.
- 80% of people with disabilities live in developing countries.



Mining's Contributions

- Promotes **inclusive employment** of all groups.
- Provides **training and jobs** for marginalized populations.
- Offers **special programs** for Indigenous peoples.

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11 SUSTAINABLE CITIES AND COMMUNITIES



Facts and Figures

- 4.2 billion people live in cities.
- 828 million people live in **slums**.
- 90% of urban growth will occur in developing countries.

Mining's Contributions

- Provides **construction materials** (sand, gravel, cement, stone, gypsum).
- Pays **taxes & royalties** that finance urban development.
- Acts as a **catalyst for sustainable regional growth**.

Return to Overview 

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Facts and Figures

- 1.3 billion tons of food wasted per year.
- 2 billion people overweight or obese.
- World population projected to reach **8.5 billion (2030)** and **9.7 billion (2050)**.



Mining's Contributions

- Applies the **waste hierarchy** (reduce, reuse, recycle).
- Practices **“re-mining”** of mining residues.
- Introduces **renewables & better tailings management**.

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13 CLIMATE ACTION



Facts and Figures

- Global temperature +1 °C since the Industrial Revolution.
- Sea level +20 cm since 1880; projected +30–120 cm by 2100.
- Global net CO₂ emissions up nearly 50% since 1990.



Mining's Contributions

- Improves **energy efficiency** in operations.
- Invests in **renewable energy projects**.
- Develops **carbon-neutral mining & carbon-free smelting**.

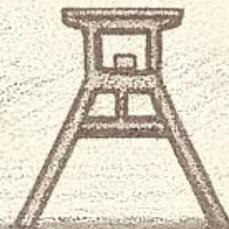
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14 LIFE BELOW WATER



Facts and Figures

- 40% of oceans are overfished, polluted or degraded.
- 80% of marine pollution originates on land (wastewater, plastics, pesticides).
- CO₂ emissions drive ocean warming, acidification and oxygen loss.



Mining's Contributions

- Supported creation of the **International Seabed Authority (ISA)**.
- Regulates and monitors **deep-sea mineral activities**.
- Ensures **marine environmental protection** under UN mandate.

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15 LIFE ON LAND



Facts and Figures

- Human activity has altered **75% of Earth's land surface**.
- World lost **3.3 million hectares of forest** between 2010–2015.
- **12 million hectares** lost annually due to drought and desertification.



Mining's Contributions

- Conducts **environmental impact assessments** and monitors biodiversity.
- **Reclaims and rehabilitates** closed mine sites.
- Converts former mines to **new functions** (e.g. Eden Project, UK).

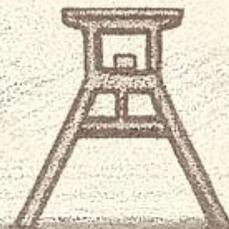
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16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Facts and Figures

- Corruption, bribery & tax evasion cost developing countries **~\$1.26 trillion/year**.
- **68.5 million** people displaced worldwide.
- 1 billion people legally “invisible” (no birth registration).



Mining's Contributions

- Applies **FPIC principle** (Free, Prior and Informed Consent).
- Requires a **social licence to operate**.
- Strengthens **transparency & accountability** in governance.

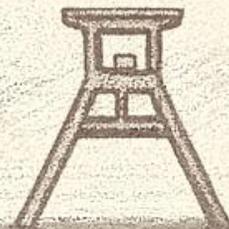
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17 PARTNERSHIPS FOR THE GOALS



Facts and Figures

- Global development aid: **\$147.4 billion** (2017).
- Remittances: **\$613 billion**, 76% to developing countries.
- Achieving SDGs requires **\$5–7 trillion/year** investments.



Mining's Contributions

- Engages in **17 multi-stakeholder sustainability initiatives** (e.g. EITI, ICMM, Fairtrade, OECD).
- Supports **responsible supply chains & certification schemes**.

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Sustainable Mining in Greenland – SDGs in Action



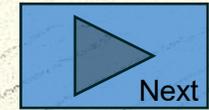
Click here to learn more about the focus areas that align mining projects in Greenland with the SDGs.

Greenland Aligns Mining with the UN SDGs

- **Greenland hosts world-class mineral resources** crucial for the green transition.
- **Mineral Resources Strategy 2025–2029** directly links mining to the UN SDGs.
- **Four Focus Areas:**
 - Sustainability & Society
 - Attractive Investment Framework
 - Critical Minerals
 - Mapping & Geodata
- **Clear indicators and initiatives** ensure benefits for communities and the environment.
- **Transparent reporting and stakeholder engagement** strengthen trust and long-term sustainability.

Next

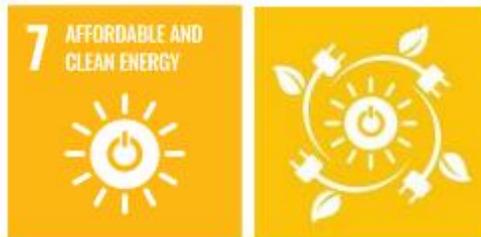
Focus Area 1: Sustainability and Society



- **Greenlandic indicators:** By 2030, more young people and adults in Greenland should gain relevant skills for the mineral resource industry.
- **Greenlandic initiatives:** Focus on communicating the mineral resources sector, its education and job opportunities, and strengthening dialogue with the public about its societal value.



- **Greenlandic indicators:** By 2030, a gender equality campaign will be launched in the mineral resources sector.
- **Greenlandic initiatives:** Launch an outreach campaign promoting education and careers in the mineral resources sector for young people. Develop industry guidelines to promote equal gender integration.

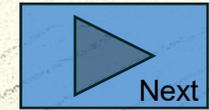


- **Greenlandic indicators:** The share of renewable energy in the mineral resources industry will be increased.
- **Greenlandic initiatives:** Develop and implement initiatives that create better conditions for the industry by using renewable energy sources. Increase cooperation with research institutions with experience in the Arctic and renewable energy, such as hydropower and solar energy.



- **Greenlandic indicators:** Number of mining companies that publish their sustainability reports.
- **Greenlandic initiatives:** Dialogue with the mineral resources industry in relation to environmental and social factors and corporate behaviour (ESG-area).

Focus Area 1: Sustainability and Society

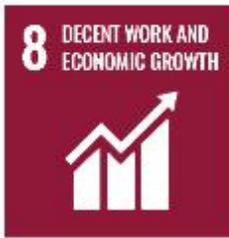
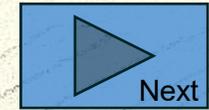


- **Greenlandic indicators:** Information campaign about the mineral resources industry's contribution to the green transition.
- **Greenlandic initiatives:** Clarify the contribution of the mineral resources industry to the green transition through an information campaign.

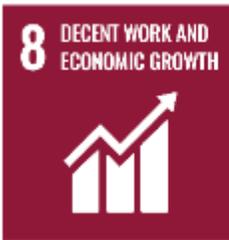


- **Greenlandic indicators:** There is a high degree of trust in the Mineral Resources Authority among the adult part of the population.
- **Greenlandic initiatives:** Conduct at least two population surveys on attitudes towards the mineral resources industry. Develop and implement a new information and marketing strategy for the mineral resources sector.

Focus Area 2: Attractive Investment Frameworks



- **Greenlandic indicators:** Growth in share of exploration expenditure.
- **Greenlandic initiatives:** Continued marketing at the Prospectors & Developers Association of Canada Convention (PDAC) mineral show and direct marketing to specific companies. Continue bi- and multilateral cooperation to support the projects' financing opportunities through e.g. export-import banks. Ongoing assessments of Greenland's tax and royalty model including benchmark analyses.



- **Greenlandic indicators:** Increased number of people employed in the mineral resources industry divided by gender.
- **Greenlandic initiatives:** Strengthening societal sustainability by reassessing the IBA agreements with the aim of establishing simple and transparent IBA agreements where all terms can be qualified and at the same time are aligned with the SIA.

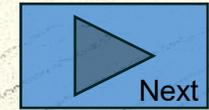


- **Greenlandic indicators:** More meetings between the mineral resources industry and investment funds.
- **Greenlandic initiatives:** Ongoing facilitation of meetings between investment funds and the mineral resources industry. Development of a certification system for small-scale licensees in order to increase the value of the individual found mineral. Work for targeted tax agreements.



- **Greenlandic indicators:** Proportion of people who have been in contact with a public official at least once and who paid a bribe to a public official or who were asked for a bribe by a public official in the last 12 months.
- **Greenlandic initiatives:** Update of the anti-corruption policy of the Ministry.

Focus Area 2: Attractive Investment Frameworks



- **Greenlandic indicators:** Shorter processing time for applications.
- **Greenlandic initiatives:** Increased digitalization of administrative processes. Conducting an analysis of the organizational structure of the Mineral Resources Administration (Department and Board) and possible implementation of a new organizational structure.



- **Greenlandic indicators:** Coherence between political decisions and budget allocations.
- **Greenlandic initiatives:** Increase ad-hoc cooperation between public authorities to support synergies between industries and, among other things, strengthen the infrastructure within transportation and internet communication.



- **Greenlandic indicators:** Number of meetings between the public industry, the mineral resources industry, subcontractors and/or the general public.
- **Greenlandic initiatives:** Ongoing facilitation of meetings between the public sector, the mineral resources industry, subcontractors and/or the public. Facilitation of an annual investment conference for global investors with the aim of creating insight into opportunities in Greenland.

Focus Area 3: Critical Minerals

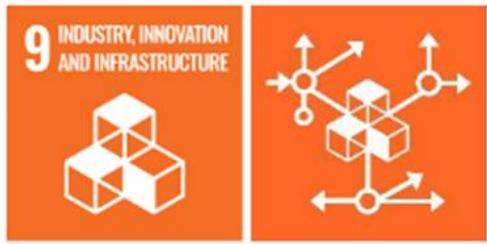
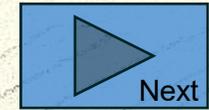


- **Greenlandic indicators:** Growth in share of exploration expenditure.
- **Greenlandic initiatives:** Provide information about Greenland and support funding opportunities through the Minerals Security Partnership (MSP) Forum.



- **Greenlandic indicators:** The Mineral Resources Authority contributes to several scientific and/or technological cooperation agreements and programs between countries, divided by type of cooperation.
- **Greenlandic initiatives:** Implementation of the strategic cooperation with the EU on sustainable value chains, which will secure buyer markets for Greenlandic mineral resources. Working for the renewal of the 2019 agreement between Greenland and the US.

Focus Area 4: Mapping and Geodata



- **Greenlandic indicators:** Expenditure on research and development in the mineral resources area through the Finance Act.
- **Greenlandic initiatives:** Continued geological mapping on a scale of 1:100,000, prioritizing areas with a commercial interest. Continued implementation of scientific projects that generate new knowledge for the mineral resource industry to minimize companies' investment risk.



- **Greenlandic indicators:** By 2026, a strategy for landslide risk assessment must be implemented.
- **Greenlandic initiatives:** Continued monitoring of unstable landslide areas. Implementation of a mapping program for landslides. Develop a strategy for geoscientific assessment of the risk of landslides.



- **Greenlandic indicators:** By 2030, an information campaign on natural disasters will be carried out.
- **Greenlandic initiatives:** Continued expansion of citizen information in the area of natural disasters, including the establishment of an interactive map with risk assessments and implementation of an information campaign on natural disasters. Continue work on the Carbon Capture and Storage (CCS) strategy published in 2023.

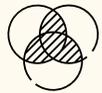


- **Greenlandic indicators:** The Mineral Resources Authority is part of several scientific and/or technological cooperation agreements and programs between countries, broken down by type of cooperation.
- **Greenlandic initiatives:** Conduct a feasibility study to identify the geophysical data types to be collected and a prioritizing the order of mapping. Identification of funding opportunities for regional geophysical surveys and satellite data. Continued collaboration with research institutions.

Key takeaways



Mining is global – operations often take place in remote and sensitive regions.



All 17 SDGs are linked – mining can contribute positively if managed responsibly.



Jobs and infrastructure – mining creates employment, drives innovation, and builds long-term infrastructure.



Environmental responsibility – energy efficiency, water management, and land rehabilitation are crucial.



Partnerships matter – transparency, fair governance, and multi-stakeholder initiatives strengthen impact.