Exploration and mining in Finland

Facing new challenges

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Ministry of Economic Affairs and Employment of Finland
Government program 2015

- Circular economy is essential, includes feed of primary raw materials to the loop

- Resource efficiency, make the most of side streams

- Cleantech solutions and energy transition need new raw materials

- Innovations – new raw materials utilised

- Research & skills >> new business
Finland still has a good reputation

• Fraser Institute ranking good for years, now a slight drop
• Geological potential is still there
• Transparent permitting procedures
• Streamlining of permitting has been done during recent years
• Authorities have put effort to co-operation, e-solutions and so on to improve customer experience
• Further development on digital solutions ongoing
Means of government support

• Capital investments and loans
  • Finnvera
  • Finnish Metals Group (2018)

• Skilled personnel
  • tailored courses for company needs
  • Updating training, re-education
  • Mining sector R&D prioritised

• Infrastructure
  • financial support for example to transport infrastructure
Mining Act 621/2011

• Renewal of mining legislation 2011

• Finnish chemicals and safety agency Tukes as mining authority

• Evaluation of the implementation of the Act is ongoing
  • Objectives
  • Unforeseen effects
  • Technical amendments done earlier
Network of authorities in mining operations

**Centre for Economic Development, Transport and the Environment**
- Environmental impact assessment EIA
- Permit to construct a mine dam

**Regional State Administrative Agency**
- Environmental permit
  - Granted by the AVI Agency
  - Supervised by the Kainuu ELY Centre
- Mining waste
  - AVI
  - ELY Centre
- Occupational safety

**MAANMITTAUSLAITOS**
- Proceedings establishing a mining area

**MUNICIPALITY**
- Land-use planning
- Building permit

**STUK**
- Permit for starting up a uranium extraction facility and its supervision
- Radiation monitoring of mines and environment

**GOVERNMENT**
- Uranium extraction permit

**Tukes**
- Mining permit
  - Right to exploit mineral deposits
- Preparation of ore
- Production and storage of explosives
- Mine safety permit
  - For excavation

Courtesy of Tukes
New challenges

• Social license to operate
  • Formalizing has been suggested … how?

• Public acceptance
  • Case by case, and day by day

• What is in it for us - Finland?
  • Minerals are non renewable "national wealth”

• Benefits for the community
  • Taxation benefits the whole country

• Actions against permitted projects
  • Public trust and respect for authority processes is deteriorating?
Parliament election on April 14th

• Mining has been a hot topic in public debate since 2018

• CETA-treaty between EU and Canada … investment protection mechanism
  • Need to improve legislation now, as it will not be possible later?

• Local benefits of mining
• Requirement of mining tax:
  • Some parties have even come with suggestion on the amount

• Stricter regulation, environmental issues
• Closure costs and the future of the community
• No go –areas
• Royalty to the state/community/future generations/pay the damages caused/rehabilitate old mine sites
What does the ministry do?

- Research project 2019-2020 – how does mining benefit the community/region/state?
- The value of national geodata (collected from operators)
- Fittness check of legislation (not only Mining Act) is ongoing
- Soft law –alternatives
- Proper mapping of financial flows of mining industry in relevant countries vs. Finland – conclusions – eventual actions
- Realism: all but one party leader was pro mining tax in early January, not joint in the method though
- Requirement of renewal of Mining Act – but very few concrete issues regulated in the Act are mentioned
National actions

• **State owned mining company since 2015**
  • Terrafame Group – renamed Finnish Minerals Group in 2018
  • aims to build leading ecosystem for Li-ion battery production in Europe
  • owns, manages and develops companies, investment programs and RDI-projects related to Finnish Li-ion battery and mining cluster.
  • long-term strategic owner of e.g. Terrafame Oy.

• **Batteries from Finland (2018-2020)**
  • Business Finland leading the programme
  • bring the Finnish battery industry together and act as a catalyst in the next years and the future
Finland-based Circular Ecosystem of Battery Metals (2019-2020)

Joint industry-academia project
- 8 large companies
- 14 SMEs
- 2 cities
- 4 universities
- 2 Research centers (GTK, VTT)
- 21 M€ budget

Key topics
- Sustainable primary resources
- Value addition in metal refining
- Battery recycling
- Precursors and active materials
- Circular business ecosystems

Aalto University
Interesting times
... to be continued!