Lithium Cluster
in Central Ostrobothnia

A Wide-ranging Opportunity for Mining Companies and Businesses in the Field

The Area of the Lithium Province of Central Ostrobothnia is Over 500 Square Kilometres

The first indications of a lithium-rich mineral, spodumene, in the bedrock of Kaustinen were the boulders found by Arvo Puumala in 1959 at Nikula village. The find sparked wide area surveys by Suomen Mineraali Oy. This led to locating the Emmes and Jänislampi deposits in Alaveteli along with the major Länttä deposit in Ullava. Partek Ltd conducted extensive surveys to utilise the deposits, but the world market was not in favour of starting lithium production.

The Geological Survey of Finland (GTK) has been explored the lithium resources in the area since 2003. The most significant new locations found by GTK, Leviäkangas and Syväjärvi, have been reported to the Ministry of Employment and the Economy to enable an international tender process. In addition to prospecting work, GTK will continue to conduct an extensive survey of lithium potential, covering an area of almost 1,000 square kilometres, based on the analysis of till specimens. The Western Finland Office of GTK is also operating in the "Kaustisen seudun litiumvarannot" project (lithium resources in the Kaustinen area) funded by the ERDF. This has partly speeded up the resource mapping.

The Norwegian and Finnish-owned company Keliber Ltd have been researching the lithium resources in the area. The company has a mining concession and several claims in the area. The company aims to begin mining in the next few years. The prospects are good since the lithium spodumene resources in the area are the most significant in the whole of Europe.

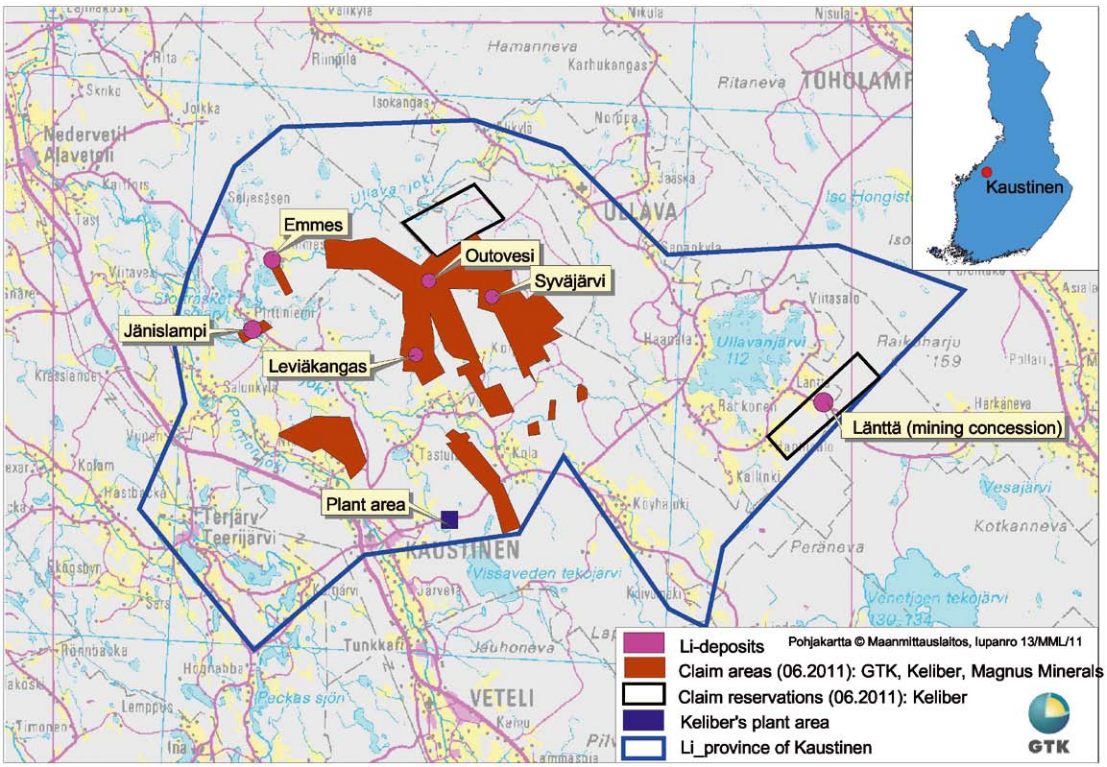

Figure 1: Lithium Province in Central Ostrobothnia

For more information of the lithium province, contact
Olavi Kontoniemi, GTK (olavi.kontoniemi@gtk.fi)

Lithium Value Chain

The growing importance of lithium as a global chemical for the battery industry has been noted in the region. The Regional Council of Central Ostrobothnia has started developing the lithium cluster based on the lithium value chain together with institutions of higher learning, research institutes, mining and chemical companies, and business parties. The aim is to improve the economic impact of the lithium mine about to open in the region. A specific aim is to promote the preconditions for survey and mining operations for lithium in the region and to support the research and business operations in connection with the manufacturing processes of ore-based chemicals, especially used by the battery industry. The cluster is also linked to the recycling of metal chemicals and studying the waste streams, and developing the business operations linked to them.

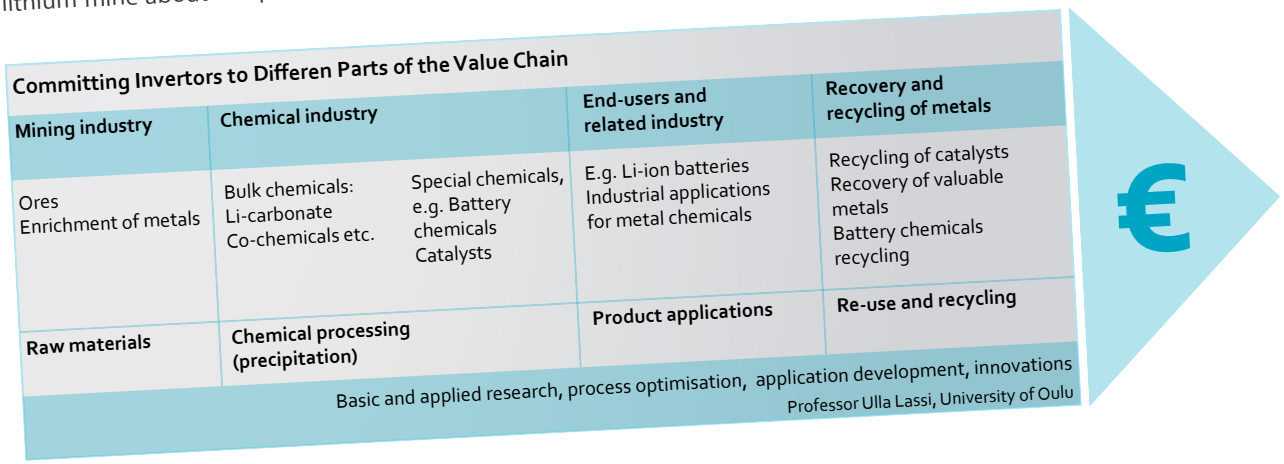

Figure 2: Lithium Value Chain

For more information, contact
Regional Director Olli Breilin, GTK (olli.breilin@gtk.fi)
or Planning Manager Jussi Rämet, Regional Council of Central Ostrobothnia (jussi.ramet@keski-pohjanmaa.fi)

Expertise on Chemical Processes – from Ores to Metal Chemicals

An Oulu University research group for applied chemistry working at Kokkola University Consortium Chydenius, and scientists at the laboratory and bench scale research laboratory at Centria the research and development unit of the Central Ostrobothnia University of Applied Sciences, are working together with chemical industry companies in the region, Ketek Ltd and the Western Office of GTK. Their aim is to found an expertise locus based on the characteristics and opportunities of lithium and battery chemicals. The research group works tightly together with companies, for example in research projects funded by Tekes and the Academy of Finland. An internationally unique dry room for manufacturing and testing battery cells will be built in Kokkola. The research group for applied chemistry can offer their research services directly to mining and chemical industry companies.

For more information, contact Professor Ulla Lassi, Kokkola University Consortium, University of Oulu (ulla.lassi@oulu.fi)

Opportunities for Entrepreneurship and Manufacturing

The largest locus of chemical industry in the Nordic countries is located in Kokkola. The sector for large-scale industry possesses great expertise in e.g. manufacturing battery chemicals. International large companies operating there include OMG, Boliden and Kemfine. Additionally, Kokkola port is one of the leading bulk ports in Finland. Land use enables the growth of existing industrial companies and the flexible locating of new companies in the area.

A significant portion of the deposits in the lithium area is located in the Kaustinen sub-region. The region, with the majority of businesses being small businesses, offers building and subcontracting services that are especially needed in the building phase of the mine. In the production phase, employment and multiplier impact will have the central role.

The Central Ostrobothnia Adult Education Institute trains experts in process and chemical engineering for the needs of mining companies. The Adult Institute has trained over 200 refinery employees for Finnish mines since 2000. The Central Ostrobothnia Adult Education Institute trains technical engineers, for whom the emphasis is on chemical engineering.

For more information, contact
Managing Director Jonne Sandberg, Kosek Ltd (jonne.sandberg@kosek.fi),
Development Manager Petri Jylhä, Kaustinen sub-region (petri.jylha@kase.fi)
and Principal Tapani Salomaa, Central Ostrobothnia Adult Education Institute (tapani.salomaa@kpakk.fi)

KESKI-POHJANMAAN LIITTO
MELLERSTA ÖSTERBOTTENS FÖRBUND

European Union
European Regional Development Fund

Leverage from the EU
2007–2013