REMIX – 9th Peer review visit

Lapland

Joensuu, Finland, 9th PRV of REMIX on 13th of March 2019
REMIX INTERREGIONAL LEARNING PROCESS

- Based on good practices and peer reviews
- Impact only this programming period
- Link to policy instrument and IE programme Research and Innovation
- Full endorsement by regions
- Not a strategy
- “Implementation oriented actions”
QUESTIONS - Lapland - Arctic Industry and Circular Economy Cluster

Industrial circular economy
What are the current industrial level circular economy activities in your region?
How are you or your organisation involved?
What are the materials/side-streams/industries you work with?
Any particular products your region is developing or producing from mining/metallurgy side-streams?
Is there any industrial scale pilots going? How are the pilots funded or how they should be funded?
Who is responsible for overall management of circular economy? What is the role of (1.) SMEs and (2.) large companies?
QUESTIONS - Lapland - Arctic Industry and Circular Economy Cluster

SMEs support services for innovation in mining value chain
How are your region’s SMEs supported to develop innovation?

Shortage and miss-match of skills* (including topics of digitalization and training/education)
What are the actions in your region for skills development for mining and metallurgy?
Is there any kind of training or education available in your region? If yes, what kind?

*Skills can mean: new technology or mineral specific knowledge (for instance valorization or exploration, digitalization) or business/export skills and orientation in whatever part of the value important to your region.
LAPLAND – S3 Industrial Modernisation thematic partnership

Mining industry and global value chains

Joensuu, Finland, 9th PRV of REMIX on 13th of March 2019
Background of REMIX

The vision of the EC is to increase the self-sufficiency in the production of the critical minerals by the 2050 → **Need for innovations in EU in the fields of raw materials and mining (metallurgy)**

**Implementing the resource efficiency agenda (circular economy) in order to tackle the major societal challenges.**

**Implementing the policies**
- Communication between the policies
- Regions with the mineral resources have strategically important role in Europe while developing more sustainable mining industry
- Growth and Jobs agenda, SMEs.
- Balancing the impact - mining & sustainable development.
REMIX and MIREU were initiated by the Regional Council of Lapland (RCL) after discussions with DG GROW, in 2015, including EIP Raw Materials Commitment February 2016 lead by RCL:

- Regions involved started to work to improve raw materials value chain policies and are actively seeking synergies between regional development programmes and strategies such as smart specialisation (RIS3)
- **S3 Industrial Modernisation – Mining industry and global value chains**
- **INTERREGIONAL COOPERATION**
Lapland in facts & figures

- Surface area: 100,366 km²
- Water: 7,699 km²
- Population: 178,530
- Population density: 1.8 /km²

Employment:
- 69,000 jobs
- 9,100 private enterprises
- 50% in private enterprises

Annual revenue:
- €13,300 M
- 70% from private enterprises
- Fastest growing economy in Finland

Mining & metal industry:
- €5,000 M
- Annual revenue

Forest bioeconomy:
- €1,300 M
- Annual revenue

Agricultural production & reindeer husbandry:
- €340 M
- Annual revenue

Tourism overall demand:
- €1,000 M
- Fastest growing industry in Lapland
- Annual growth 9%
- 20% in 2017

4th largest export region in Finland of Finnish export
7%
World’s northernmost bio, mining and metal industry hub
Only chromium mine and the largest gold mine in Europe
9 national parks in the area
World’s cleanest air and Europe’s purest water
World’s largest wild organic harvesting area
Strong educational structure: University of Lapland, Vocational College Lappia, Lapland Education Centre REDO and Sami Education Institute
Lapland University of Applied Sciences,
Research institutes: Geological Survey of Finland (GTK), Natural Resources Institute Finland (LUKE), Sodankylä Geophysical Observatory (SGO) as the most notable
National circular and bio-economy centre in Kemi
Growth potential of industries related to the Arctic business of Lapland

- Metal industry
- Forest industry
- Local food
- Natural products
- Tourism
- Biofuels
- Mining and industrial services as well as environmental eco-industries
- Mines
- Green construction
- Arctic testing
- Reindeer herding

The industry's growth potential in Lapland

- High
- Low

= turnover
ECOSYSTEM OF ARCTIC INDUSTRY
Kemi-Tornio’s circular economy innovation platform

- Worlds northernmost hub of bio-, mining-, metal industry and services
- 1.7 Mt of by-products and residues (excluding waste rock)
- Responsible for 80% of Lapland’s industrial production, with over 5 billion EUR of exports annually (7-8 % of the total export value of Finland)
- Industrial symbiosis estimated at 700 million EUR annually
Lapland’s economic backbone

Mining and metal Industries

Bioeconomy

Tourism and related service sectors

Positive cumulative impact

Refining new products and services

New industries rising from the needs of the leading industries
Independent new industries emerging alongside the leading industries

Creation and guidance of the next generation industries
..more specific industrial focus...

Three economic backbones of Lapland underlying the emerging Arctic business

International spearheads for the emerging Arctic business

Arctic circular economy

Arctic sustainable tourism

Growth in business by increasing the refining of natural resources

Emerging industries as new business facilitators

The new industries will emerge with the support of four strategic business spearheads
Smart specialisation in practice

An example of circular economy-based thinking by utilising industrial side-streams

Processing of slag
Case: Tapojärvi Oy

Geopolymer service production

Ca-based slags

Metals

Increase of value through refining raw materials

Slag

Filler

Aggregates and sand

Side-streams, products and new value chains generated in the processing stages

1000 X
Thank you!

Questions welcome

Project smedia