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Jokkmokk municipality: Additional sectors for SEAPs

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Jokkmokk municipality

SEAP PLUS – Adding to SEAP: more participants more content across Europe
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5200 inhabitants

20.000 km2 area

65% protected nature

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Jokkmokk – Basic energy data

Overall energy use:
0,27 TWh per year

Overall electricity production hydro plants Lule river:
12,5 TWh per year

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Norrbotten Energy Agency Nenet

- Most northern REA in Europe

- Established 1997, with three years of EU funding
- Converted to a non profit Company in 2000
- Owned by all 14 municipalities and County Council in Norrbotten
- Staff: 13 inspired team members
- Budget: 1,5 mill. €


World Heritage Laponia

Categories

A AREA OF INTERVENTION		B POLICY INSTRUMENT	
A1	**Municipal - Residential - Tertiary Buildings**	**B1**	**Buildings**
A11	Building envelope	B11	Awareness raising / training
A12	Renewable energy for space heating and hot water	B12	Energy management
A13	Energy efficiency in space heating and hot water	B13	Energy certification / labelling
A14	Energy efficient lighting systems	B14	Energy suppliers obligations
A15	Energy efficient electrical appliances	B15	Energy / carbon taxes
A16	Integrated action (all above)	B16	Grants and subsidies
A17	Information and Communication Technologies	B17	Third party financing. PPP
A18	Behavioural changes	B18	Public procurement
A19	Other	B19	Building standards
		B110	Land use planning regulation
		B111	Not applicable
		B112	Other
A2	**Public Lighting**	**B2**	**Public Lighting**
A21	Energy efficiency	B21	Energy management
A23	Integrated renewable power	B22	Energy suppliers obligations
A24	Information and Communication Technologies	B23	Third party financing. PPP
A25	Other	B24	Public procurement
		B25	Not applicable
		B26	Other
A3	**Industry**	**B3**	**Industry**
A31	Energy efficiency in industrial processes	B31	Awareness raising / training
A32	Energy efficiency in buildings	B32	Energy management
A33	Renewable energy	B33	Energy certification / labelling
A34	Information and Communication Technologies	B34	Energy performance standards
A35	Other	B35	Energy / carbon taxes
		B36	Grants and subsidies
		B37	Third party financing. PPP
		B38	Not applicable
		B39	Other

A4	**Municipal - Public - Private Transport**
A41	Cleaner/efficient vehicles
A42	Electric vehicles (incl. infrastructure)
A43	Modal shift to public transport
A44	Modal shift to walking & cycling
A45	Car sharing/pooling
A46	Improvement of logistics and urban freight transport
A47	Road network optimisation
A48	Mixed use development and sprawl containment
A49	Information and Communication Technologies
A410	Eco-driving
A411	Other

B4	**Transport**
B41	Awareness raising/training
B42	Integrated ticketing and charging
B43	Grants and subsidies
B44	Road pricing
B45	Land use planning regulation
B46	Transport / mobility planning regulation
B47	Public procurement
B48	Voluntary agreements with stakeholders
B49	Not applicable
B410	Other

A5	**Local Electricity Production**
A51	Hydroelectric power
A52	Wind power
A53	Photovoltaics
A54	Biomass power plant
A55	Combined Heat and Power
A56	Smart grids
A57	Other

B5	**Local Electricity Production**
B51	Awareness raising / training
B52	Energy suppliers obligations
B53	Grants and subsidies
B54	Third party financing. PPP
B55	Public procurement
B56	Building standards
B57	Land use planning
B58	Not applicable
B59	Other

A6	**Local heat/cold Production**
A61	Combined Heat and Power
A62	District heating/cooling plant
A63	District heating/cooling network (new, expansion, refurbishment)
A64	Other

B6	**Local heat/cold Production**
B61	Awareness raising / training
B62	Energy suppliers obligations
B63	Grants and subsidies
B64	Third party financing. PPP
B65	Building standards
B66	Land use planning regulation
B67	Not applicable
B68	Other

A7	**Other**
A71	Urban regeneration
A72	Waste & wastewater management
A73	Tree planting in urban areas
A74	Agriculture and forestry related
A75	Other

B7	**Other**
B71	Awareness raising / training
B72	Land use planning
B73	Not applicable
B74	Other

Other/new SEAP sectors

Listed by CoM:

1)Urban regeneration

2)Waste and waste water management

3)Tree planting in urban areas

4)Agriculture and forestry related

Further sectors:

1) Consumption

2) Business Development

3) Integration of Climate Adaptation

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Waste and waste water management

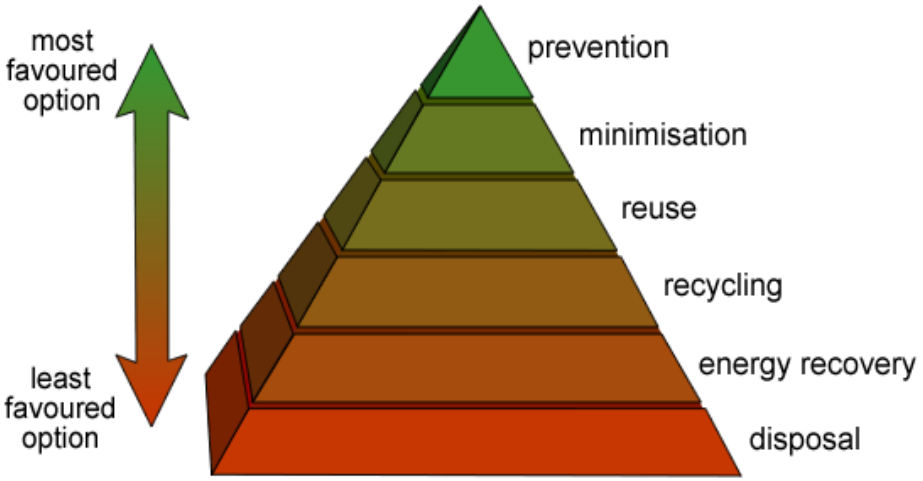
From CoM/SEAP guidelines:

Waste water treatment:

"Refers to emissions not related to energy, such as to CH4 and N2O emissions from wastewater treatment. Energy consumption and related emissions from wastewater facilities is included in the category 'buildings, equipment/facilities'."

Solid waste treatment:

"This refers to emissions not related to energy, such as CH4 from landfills.
Energy consumption and related emissions from waste treatment facilities are included in the category 'buildings, equipment/facilities'."



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Waste and waste water management

- The EU's Waste Framework Directive includes a 50 % recycling target for waste from households, to be fulfilled by 2020;
- If the rate of increase in recycling between 2008-2013 in Latvia can be maintained, the recycling rate would reach 24 % in 2020,
- Therefore, it will require an extraordinary effort in Latvia to move the recycling rate to 50% by 2020.

Prevent, minimise and reuse:

- Water/Waste saving campaign for citizens and companies;
- Cheap offer for e.g. low-flow devices for citizens and installing them in municipal buildings etc.
- Building a (physical) recyling and repair center for everybody;
- Include waste prevention & recycling in public procurement;

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Waste and waste water management

Recycling:

- Improve separate collection system for (municipal) waste;
- increase the connection rate of inhabitants to a waste collection system;
- Public procurement of waste management services should include environmental criteria;
- Consider creating a Private-Public-Partnership and/or joint procurement with neighboring municipalities to get better economy for the more expensive sorted waste management.

Energy recovery:

- Fulfilling the European Directive for reduction of biodegradable waste in landfill sites;
- Investigate (organic) waste material potential, incl. collection of food waste from households and companies;
- Consider biogas production from wastewater, organic waste etc.

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Agriculture and forestry

- Agriculture contributes to over 20 percent of GHG emission.
- Agricultural intensification has impacts on ecosystems;
- Doubling of production led to 7 fold increase in nitrogen, 3.5 fold increase in phosphorus fertilization.

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Agriculture

Main sources of emissions

- Enteric fermentation
- Manure management
- Fertilizer application
- Open burning of agricultural waste
- Land use changes

Some solutions

- Promote organic farming, use regional and seasonal products
- Promote sustainable soil management
- Reduce fertilizer and pesticide application in general
- Reduce not-sustainable land-use management

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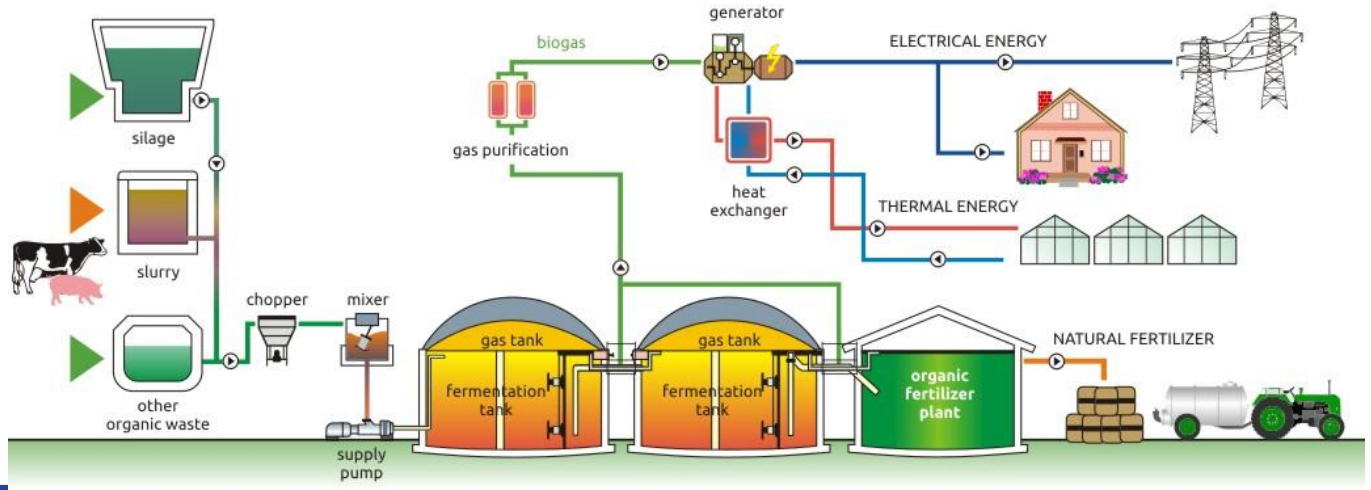
Agriculture

Methane to energy: Areas of biogas use

- Production of heat and steam
- Electricity production/ co-generation
- Vehicle fuel

Per 1 MW power installed capacity up to 7 permanent jobs can be created.

Diagram of a biogas plant



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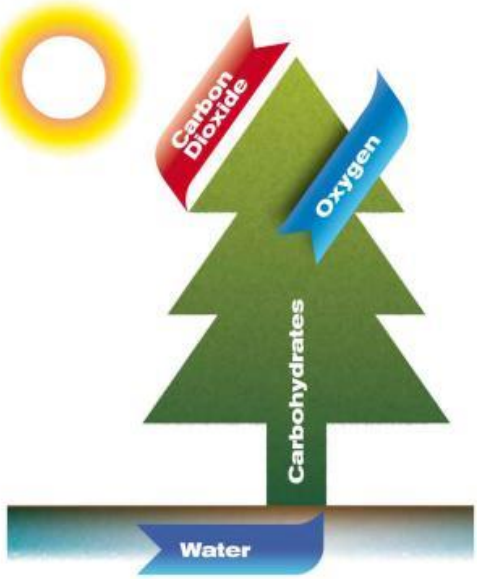
Forestry

- Promote the use of wood in buildings, furniture etc being a CO2-sink and replacing other materials;
- Optimise fertilizer application; focus on sustainable soil use;
- Use of forest products for energy production (burning, gasification) replacing non-renewable products;
- Optimise forest management for uptake of CO2 (Better site preparation; increased stem number, right type of tree)



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Tree planting in urban areas

- A single mature tree absorbs carbon at a rate of 21.6kg per year
- Tree planting helps to create new habitat for our native fauna
- Trees improve air quality
- Trees buffer storm water and prevent erosion
- One mature tree has the same cooling effect as 10 room-sized air conditioners – this can reduce local energy consumption by as much as 10%
- Trees have a positive impact on health
- Road side planting encourages careful driving
- Trees and green spaces improve property prices by as much as 15%

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Urban regeneration

Urban regeneration can be defined as the integrated local redevelopment of deprived areas (neighbourhood, city, metropolitan area).

It covers many aspects of city life: physical, social and environmental. Approaches depend on a city's history, and therefore policies must be integrated and area-based.

Methods and Actions to Achieve Urban Regeneration

1. Economic Development
2. Physical Improvement
3. Environmental Actions
4. Neighbourhood Strategy
5. Training and Education

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Consumption

- Carbon footprint of consumption in municipal area
- Carbon footprint of public sector
- Green public procurement
- Promote regional products
- Promote products from organic farming
- Promote FairTrade products

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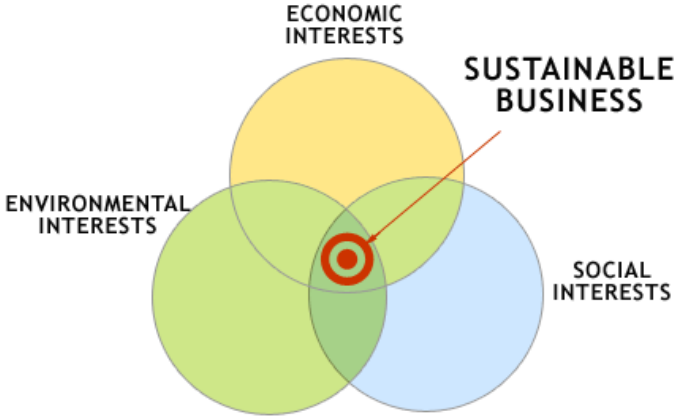
Sustainable Business Development

- Round Table with Business Leaders
- Define business fields,
  e.g. sustainable tourism and
  develop joint projects;
- Support local business by giving
  energy&climate consultancy
  to reduce energy costs;



- Work together with other stakeholders in the region or in Latvia to develop and introduce easy-to-apply environmental management systems for SME's;
- Promote "Buying Local" – Do awareness raising!

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Integration of Adaptation and Mitigation

Example for Spatial Planning – look at www.amica-climate.net/online_tool0.html

Mitigation Benefits --- Adaptation Benefits	Energy Efficiency/Savings	Use of Renewable Energies	CO2 Sequestration (in biomass)
Thermal Comfort	Medium Density Housing Including Mixed Use; Traffic Reduction by Integrating Transport Modes; Trigeneration (CHCP); Green Roofs	Renewable Energies for Cooling	Urban Forestry
Risk Prevention (climate extremes)	Flood-Resistant Construction Timber	Replacement of Oil Heating in Flooding Areas	Forest and Watershed Management
Urban Biodiversity	Research on and Planting of Adapted Shade Trees	Energy Wood from Urban Biomass	Research on and Planting of Adapted Trees

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GHG Observatory Energy Loupe

Technical description

Data - Basics

- Online-tool for the counties Norrbotten and Västerbotten (29 municipalities);
- Covers energy use and direct CO2 emissions on local and on regional level;
- Main input data
  - energy demand 1990, 1995 and 2000-2013 based on Statistics Sweden;
  - Adjustment of district heating based on local data
- Emission factors used based on IPCC, for electricity Scandinavian electricity mix.

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