



Vision and strategy for sustainable development: Swedish SEAP examples

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2nd Twinning Riga/Livani
7-9 November 2012

**5200
inhabitants**

**20.000 m²
area**

**75%
protected
nature**



World Heritage Laponia

















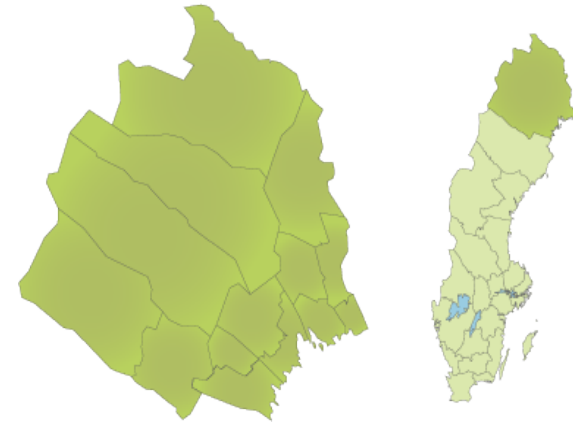
Sweden: Facts and Figures

- Area: 450,000 km²;
Longest north-south distance: 1,574 km
- Population: 9.4 million inhabitants
- Total final energy use: 411 TWh (2010)
 - 34% Fossil fuels
 - 19% Biofuels, peat, waste
 - 32% Electricity
 - 15% District heating
- Electricity production: about 45% hydro, 45% nuclear, 10% fossil
- Average 2008–2010 GHG emissions in Sweden were 13.2 % lower than the base-year level, well below the burden-sharing target of 4 % for the period 2008–2012.



Norrbotten: Facts and Figures

- about 250.000 inhabitants in 14 municipalities
- Land area 98 249 km², about 24% of Sweden
- Sparsely populated: 0,4 person/km²
- Important businesses:
 - hydropower production (20 hydropower plants, producing over 14 TWh of electricity)
 - Mining and steel production
 - Forest and papermills
 - Reindeer herding
 - Tourism
- Highly energy intensive primary industry, about 75% of Norrbotten's total energy demand.



Objectives Sweden's climate policy

By 2020:

- Swedish GHG emissions -40% compared to 1990
- 50% of Sweden's energy demand from renewable energy sources
- 20% more energy efficient compared to 1990
- 10% share of renewable energy in the transport sector

By 2030: Sweden will have a vehicle fleet that is independent of fossil energy

By 2050: Sweden's net GHG emissions will be zero



Objectives Norrbotten climate policy

- By 2020 the energy use in Norrbotten's real estates will be 25 % less compared to 2005
- By then the energy use within the industry and transport sectors should be 20% more efficient
- The use of renewable energy have increased by 20% (comp. 2005)





Jokkmokk was the first municipality in Northern Sweden that signed the CoM on 12 October 2009!

SEAP Jokkmokk: Vision

An energy system based on the efficient use of renewable energy sources from the region, being part of a concept of sustainable use of raw materials.

Developing Jokkmokk to a national and international well-known best practice example on sustainable energy.



Leading principles

1. Reduce energy demand (e.g. insulation of houses)
2. More efficient use of energy (e.g. more efficient appliances).
3. Increase share of renewables (e.g. biomass instead of electricity)

Energy savings and increased use of regional energy sources supports the local economy.

Investments in renewable sources of energy have a big potential for regional economic development in the future.



Action Plan until 2015

1. Energy and CO₂ inventory (on a yearly basis)
2. Energy efficiency strategy for municipal buildings
3. Awareness raising and information for schools
4. Awareness raising, information and consultancy for citizens and SMEs
5. Energy efficiency strategy for municipal housing association
6. Extension of municipal district heating
7. Green procurement
8. Energy efficiency strategy for transport sector
9. Strategy for increased use of alternative efficient fuels in transport
10. Making local conditions more attractive for pedestrians, cyclists etc
11. Improving public transport
12. Energy efficiency strategy for local SMEs
13. Increasing use of new renewable sources of energy (e.g. wind power)
14. Strengthening and developing local sustainable biomass production
15. Capacity training and cooperation with partners

SEAP - Targets (examples)

Buildings

- Reducing energy demand for heating in municipal buildings (-20% till 2020).
- Switching from heating fossile or electricity based heating systems in municipal buildings to district heating or other environmentally friendly alternatives.
- Reducing energy demand in municipal administration by 3 % per year till 2020.
- Increasing share of "Green Electricity" i municipal buildings at least 10% compared to 2009.

Transport

- Reduce energy use within transport.
- Increase use of public transport (2% per year till 2015).

Other business

- Improvement of district heating plant through waste heat use.
- Information campaign schools, SMEs and public.

SEAP – first results (examples)

Buildings

- Model project in a school: adjustment heating system leads to energy demand reduction of -30%
- Start of first phase of Energy Performance Contracting project with a 20% energy reduction target for municipal buildings.
- Switch to 100% Green Electricity for municipal buildings

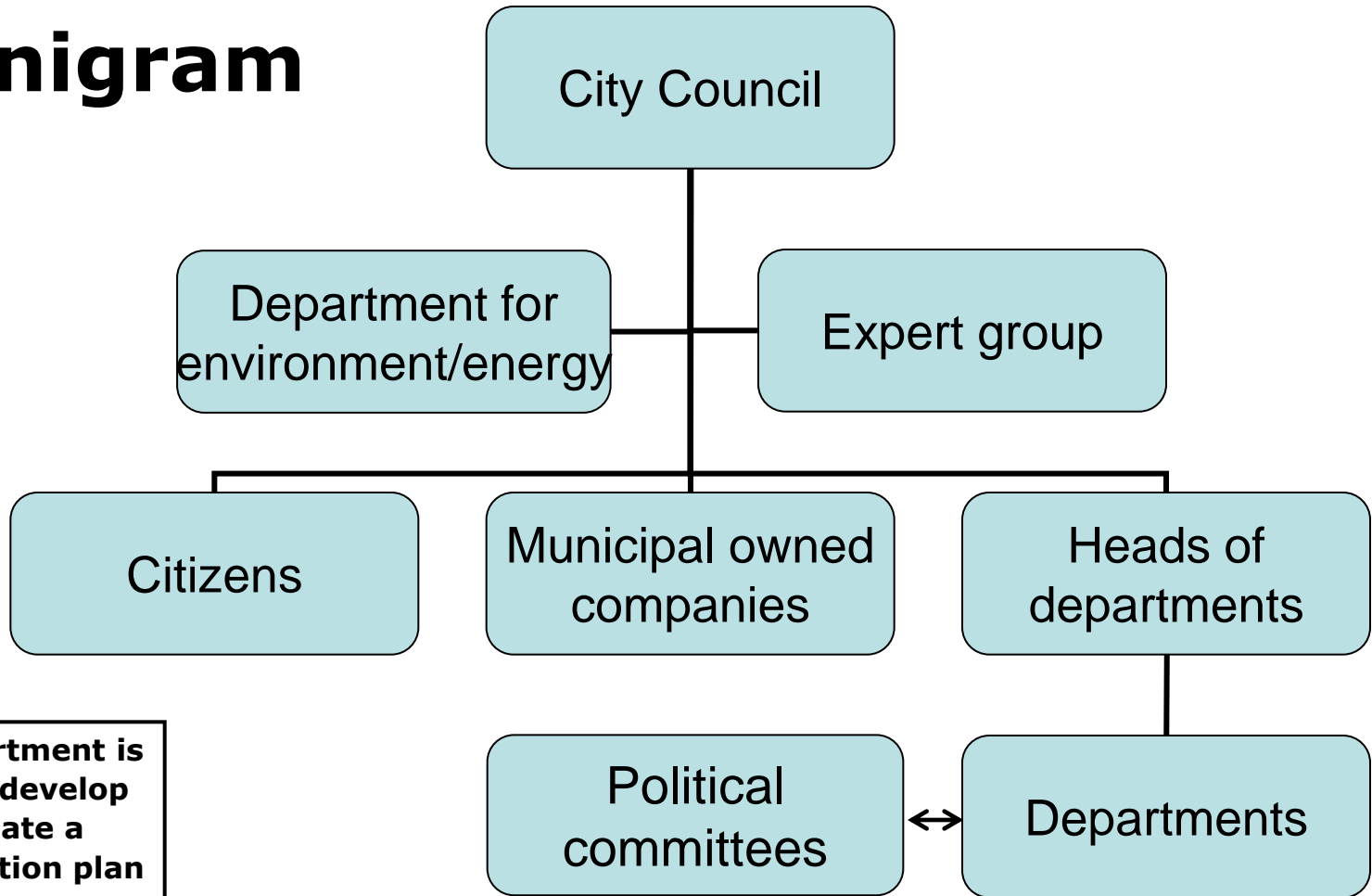
Transport

- “Eco-driving” training for municipal staff
- New public procurement policy leads to more efficient municipal car pool with reduced total costs over lifetime.

Other business

- Improvement of district heating plant through waste heat use.
- Information campaign schools incl. Memorandum of Understanding between municipality and pupils on behaviour change reg. energy use.
- New projects, e.g. SEAP-Plus!

SEAP Organigram



Every department is obliged to develop and update a concrete action plan at least every second year

Piteå: SEAP targets

Piteå signed the Covenant of Mayors in 2009 with the following targets:

- In 2020, CO2 emissions from fossil fuels are -50% compared to 1998 (whole community)
- In 2020, CO2 emissions from fossil fuels are -90% compared to 2008 for municipally owned fleet.
- In 2020, Piteå is a net exporter of renewable energy.



Piteå: SEAP activities

- Planning for a series of interconnected wind farms, ready in 2020 with a capacity of up to 4 GW.
- 2011 start of two 2nd generation biofuel production plants from forest and paper production waste products.
- 2012: building of an innovative PV plant adapted to Northern Sweden.
- Energy efficiency projects in municipal buildings, leading to about -15% energy demand.
- Green public procurement, e.g. food, leasing cars.
- Awareness raising campaigns in schools.



Piteå: Activities

- Designating a new residential area to sustainable building “Sustainable Furunäset”.
- Aims at leading to a truly sustainable district where in a continuous learning process step by step new buildings with high quality are added and experience from earlier building phases are transferred to the next.
- Builders have to follow specific rules based on a contract with the municipality.
- In the long run, the quality strategy for sustainable buildings in a model area shall be a model for a general policy on sustainable building in Piteå.





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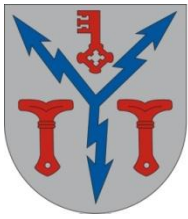
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Klimatstrategi



SEAP





JOKKMOKKS KOMMUN

Jokkmokk Climate Competence Centre

- Awareness raising about climate change and climate protection
- Training centre for local authorities, students, SMEs
- Youth information campaigns on energy and climate
- Meeting place for climate and energy experts, trying to create synergies between different projects
- Developing new projects and background information in cooperation with different stakeholders and experts



NNCC

Northern Network on Climate Change



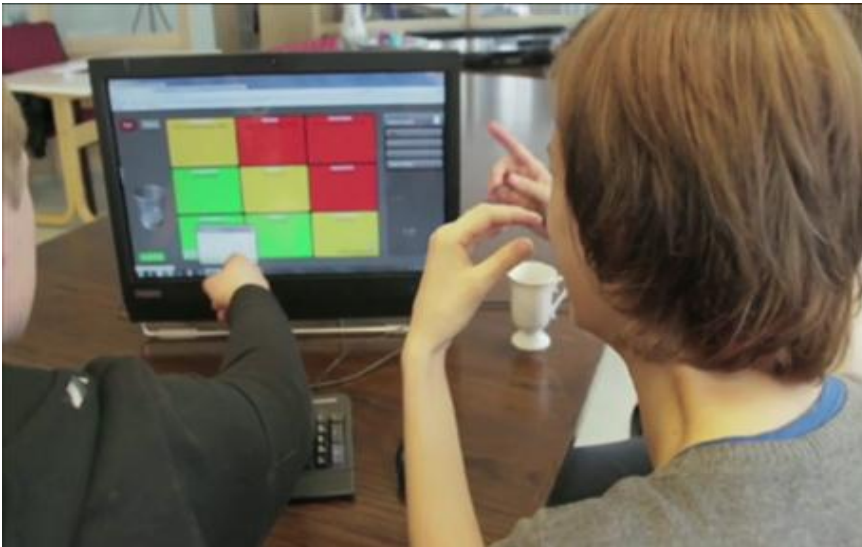
JOKKMOKKS KOMMUN



Gränslösa möjligheter
EUROPEISKA UNIONEN
Europeiska regionala utvecklingsfonden
**INTERREG
IV/A/NORD**

Development of tool “What If Climate Change”

Vulnerability analyze and development of strategies for municipalities, companies and schools



Development of tool “Climate Catalogue”

- 1) Setting climate and energy targets and develop SEAP structures
- 2) Energy and Land Use
- 3) Transport and Land Use
- 4) Public Procurement
- 5) Sustainable Business Development
- 6) Education and Schools
- 7) Change management and adaptation

Trainings for local and regional decision makers, technical staff and multipliers

Content:

- Basic knowledge on Climate Change and Sustainable development
- Regional and local energy and climate strategies, targets and action plans
- Basic info on energy efficiency and renewable energy sources
- Group work using "WhatIf" tool
- Group work using a Catalogue of Measures



Jokkmokk Winter Conference

**International forum for young researchers, entrepreneurs,
students and decision makers**
2012: 350 participants from 25 countries





Jokkmokk Winter Conference

What the conference offers

- A conference with strong youth perspective – organised by and for young people
- Scientific information on climate change and sustainable development
- Creating new contacts and networks
- Meeting place with politics and business
- Learning opportunity from indigenous peoples



Involving youth and students

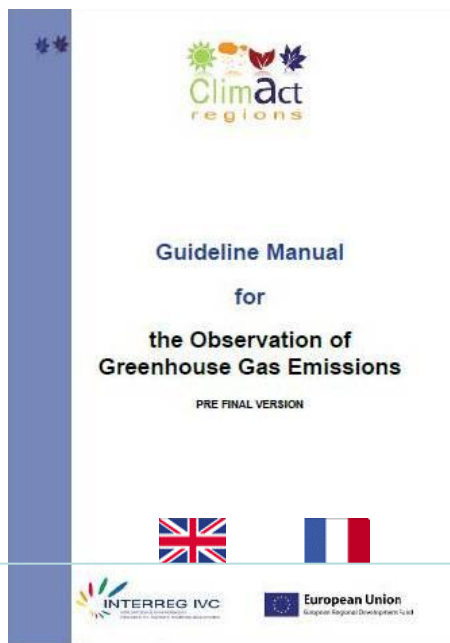
- Local organized trainings for both students, teachers and politicians
- Formal "contract" (MoU) between student representatives and City Council
- Youth participation in local energy policies



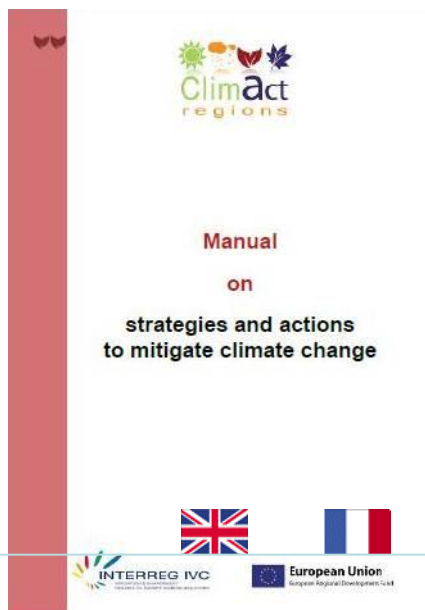


Manuals on

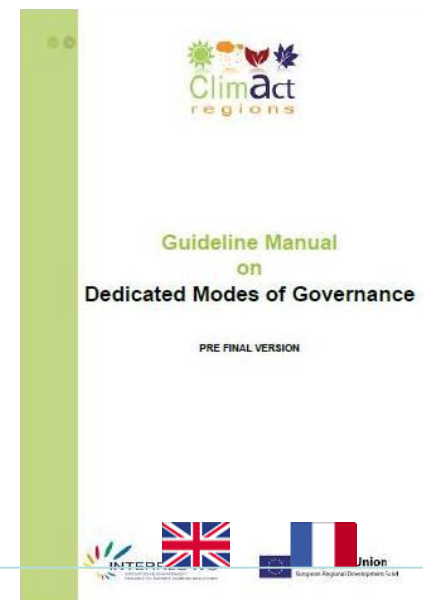
Setting up a greenhouse gas & energy observatory



Developing climate protection policies



implementing good governance







CLIMATE SUMMIT

WHAT IF IT'S
A BIG HOAX AND
WE CREATE A BETTER
WORLD FOR NOTHING?

- ENERGY INDEPENDENCE
- PRESERVE RAINFORESTS
- SUSTAINABILITY
- GREEN JOBS
- LIVABLE CITIES
- RENEWABLES
- CLEAN WATER, AIR
- HEALTHY CHILDREN
- etc. etc.



10/19 USA TODAY
JOEL RITT