Summary of news from Sweden

- First biogas statistic of production and utilization in nine years, annual statistics now expected
- Voluntary agreement of emission control at biogas plants now officially started
- Since April 2007 - 1 000 € bonus when buying a new eco-car
- Norrköping biogas plant – digesting grain and residue from ethanol production – now in operation
Biogas plants in Sweden 2005

- 233 biogas plants
- Total production of 1.3 TWh → less than 1996

Source: Swedish Energy Agency
Biogas utilization in Sweden 2005

- 160 GWh vehicle fuel 2005, 230 GWh 2006

Source: Swedish Energy Agency
Development of gas vehicle market

Delivered volumes of methane gas for vehicles
(Source: Swedish Gas Association)

Volumes
* 1000 Nm3

Year


Biogas 54 %!

May 2007
Voluntary agreement of emission control

- Co-ordinated by the Swedish Waste Management (SWM)
- So far 11 biogas plants (majority of co-digestion plants in Sweden) and 7 upgrading plants joined
- Thorough investigation of CH$_4$ emissions every third year, starting 2007
Institutional framework

- Since 1 April 1 000 € Bonus to new Eco-cars

- Proposal to reinforce congestion fees in Stockholm from 1 August 2007, gas vehicles, ethanol and electricity hybrids will be excepted.

- New car tax since October 2006. Tax based on fuel and CO₂-emissions. Gas models reduced with about 50 % compared to petrol.

- Compulsary to provide biofuels at filling stations, 5 &10 M€ 2006/2007 as 30 %investment help for biogas. Now 5,6 M€ granted to 57 filling stations.

May 2007
Institutional framework

Discussions, not finally proposed nor decided on:

- Specific investment support to farm plants, based on manure digestion
- Specific support for utilization of bio fertilizers
Government policy on Environmental Targets – May 2007

• 85% (last year target 75 %) of all new governmental cars should be Eco friendly, 25 % of all new emergency services vehicles

• New government has launched a commission for a sustainable development
Selected news from SE biogas plants

• General – large over capacity in co-digestion plants

• General – discussion of local grids for farm plants

• Norrköping - new biogas plant with raw material from ethanol plant, biogas used for vehicles

• Bjuv – new plant (25 GWh/year) manure and organic industry waste, upgrading with PSA and injection into the gas grid built with out investment support

• Lidköping – new plant for organic waste from food industry studied
Selected news from SE biogas plants

• Örebro, Östersund, Falköping, Lund, Varberg, Helsingborg – ongoing projects for new upgrading plants (sewage)

• Water scrubber dominating method
Seminars

• Nordic Biogas Conference 5-7 March 2008
  Malmö, Sweden
R & D – example of two ongoing projects

- **Pre-treatment with electroporation**
  - waste and sugar beet
  - goal – reduce hydraulic retention time with 30 %
  - goal – 10 % increase in $m^3 \text{CH}_4$ per ton TS
  - evaluating hygenisation
  - Luleå University

- **Software for optimizing of biogas process**
  - goal - Increase load in digestion chamber
  - goal – less process disturbance and downtime
  - Bioprocess Control
  - Svensk Biogas

May 2007