



Borås Energi och Miljö

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Sweden



- 9 million People
- 450 000 km²
- Forest 53%
- Lakes & Rivers 9%
- European Union
- Nordic weather
- Swedish Language
- ~40 Universities
- World leading in R&D for a sustainable society

Borås city

- Founded in 1621
- History as a textile city
- 100 000 inhabitants
- 13th city in Sweden
- A small city with a big vision: To become a sustainable society!



About Borås Energy and Environment AB

Owners:	City of Borås
Sales:	€ 100 million
Number of employees:	225
District heating:	662 GWh
District cooling:	7,5 GWh
Electricity:	183 GWh
Vehicle fuel:	3 088 000 Nm ³
Public filling stations:	3
Amount of processed waste:	210 000 tonnes
Delivered drinking water:	6 500 000 m ³

Valid for 2012.



Waste management in Sweden

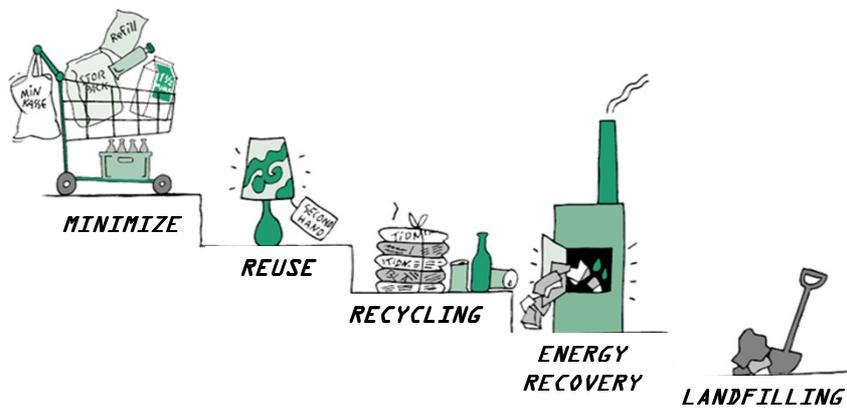
The EU's decision sets the framework for the Swedish waste management.

Parliamentary environmental objectives control the environmental aspect on waste management.

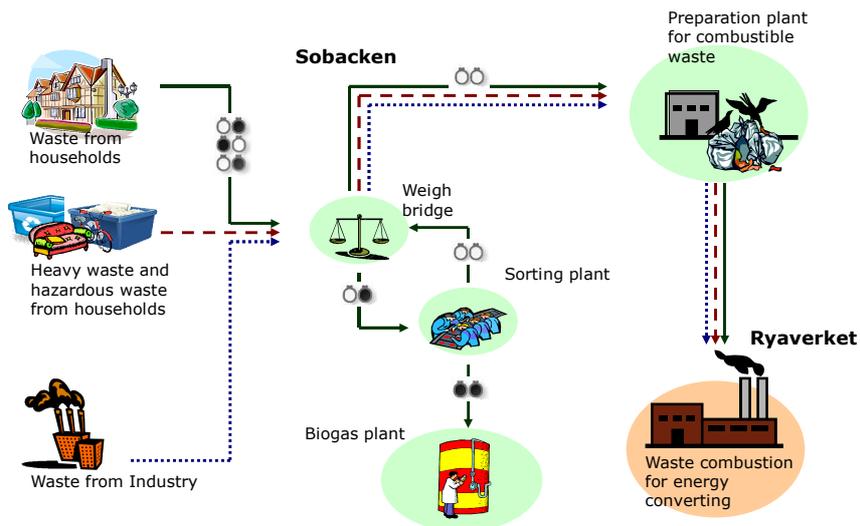
Drivers for waste management in Sweden

- | | |
|------|--|
| 1991 | Municipal waste treatment plan |
| 1994 | Producer responsibility |
| 1998 | The local investment program (LIP) |
| 2000 | Landfilling tax (~ 27 EUR/tonne) |
| 2002 | Landfill ban on combustible waste |
| 2005 | Landfill ban extended to include all organic waste |
| 2006 | Landfill tax increased for the 3rd time (~ 47 EUR/tonne) |
| 2006 | Incineration tax (~ 8 - 47 EUR/tonne) |

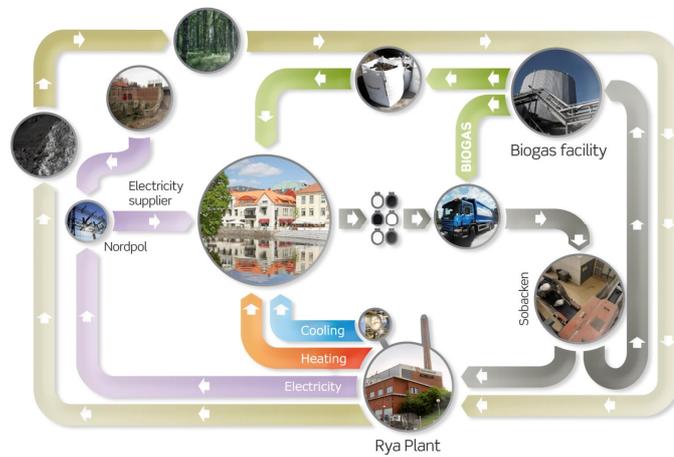
The waste hierarchy



Converting energy in Borås...



Borås: the sustainable city



Biogas

- Continued increase in deliveries – target 5 million Nm³ within three years.
- A third public filling station was opened January 2011.



Use for the gas

- 15 waste collection cars,
 - 50 local busses
- ...and an increasing number of company cars, Taxi, and private cars



We are heating and cooling Borås

- District heating \approx 662 GWh**
- 30 000 apartments
 - 2 000 private houses
 - 40 000 people living in the city enjoys district heating

- District cooling \approx 7,5 GWh**
- Hospital, shopping centre, hotels



District heating provides heat for Borås municipality

- 16% of single-family homes.
- 88% of apartment buildings.



Reduce use of energy in Borås, through energy analyses and energy efficiency measuring

- Accredited control agency for energy declarations.
- KeepAnEye helps customers track their energy consumption.



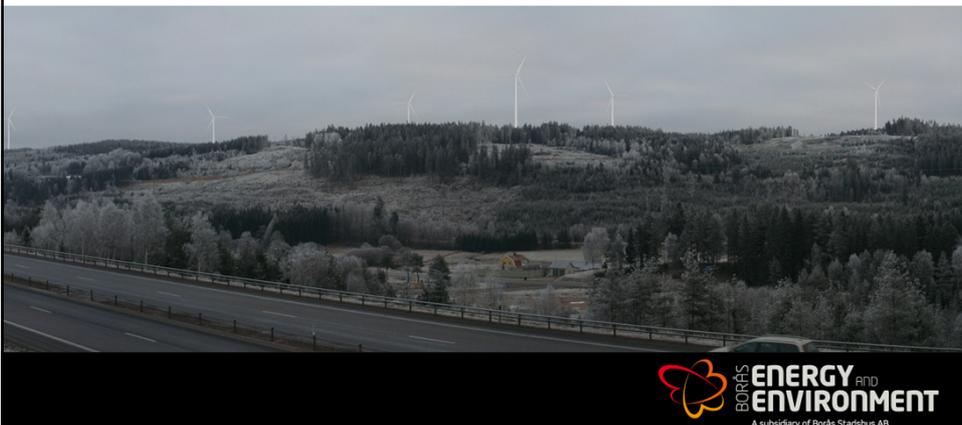
More renewable electricity

- Rebuilding turbines.
- Increasing renewable electricity by 50 GWh/year.



Wind power – renewable electricity

- Planning for two wind parks
- Pre study for a first step to start up 14 wind mills , with the capacity to produce 70 Gwh



Waste Recovery - development network.....

- City of Borås
- Borås Energi and Environment
- University of Borås
- SP, Swedish Technical Research Centre

Waste Recovery in Borås
– International Partnership
www.wasterecovery.se



- SAKAB
- Uponor
- Metso
- FOV
- Navet
- KTH
- Sweco
- Biogas Systems

Partners to Waste Recovery Collaboration



Biogas in Indonesia



October 2010

February 2011



Waste Recovery Academy

- A coalition between Boras Energy and Environment, University of Boras and SP Technical Research Institute of Sweden.
- Basic training program in waste identification, collecting, fractioning, sorting and energy converting.
- Indonesia, Palu region, Sulawesi
- Mekong Countries
- Brazil, St. Catharina region
- Russia, St. Petersburg region



Boras Energy and Environment, of Royal interest.....



Global Sustainable Cities Network

Swedish cities chosen by Clean Energy Ministerial, CEM:

Waste to Energy:

- Borås
- Linköping
- Göteborg
- Umeå

Demand Side Management:

- Stockholm
- Malmö



United Nations International Event

IPLA Conference in
Boras September
2013



Borås – a city free from fossil fuels



Information campaigns for Borås residents

- Recycling and sorting information.
- Information campaign for schools.
- The summer's coolest job, Kanal Boris.
- Kretsloppet 18 September 2010 (fun run).



