

Fossil Fuel Free Kristianstad

ManagEnergy Conference 2008

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KRISTIANSTAD FOSSIL FUEL FREE MUNICIPALITY

Kristianstad

- 76 000 inhabitants
- South of Sweden
- Agriculture
- Food industry
- Absolut Vodka



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Kristianstad – Swedens lowest point



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Kristianstad Fossilbränslefri Kommun

Adapting to climate change

- New levys protect against floods. Cost approx. 30 M €
- Finished 2010 – 2012
- Planning: No new residential areas below + 3 m above sea level if not protected



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Programme

- Kristianstad has a long-term vision to become a Fossil Free Municipality (1999)
- Local Climate Strategy (energy, transports, waste etc) adopted 2005
- Increase the use of renewable energy sources (RES) such as biomass and biogas

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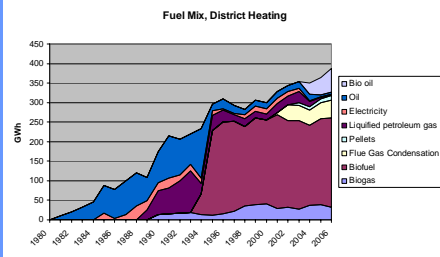


District heating. Combined heat and power plant
(15 MWel 65MWh (incl. Flue Gas Condensation))
2006: Heating 286 GWh och Electricity 42 GWh

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Fuelmix – district heating



2007: 99 % Bioenergy

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Small scale heating - Pellets



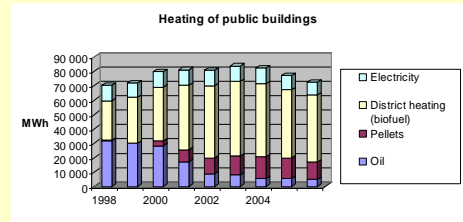
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Straw as fuel



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Municipal buildings, heating



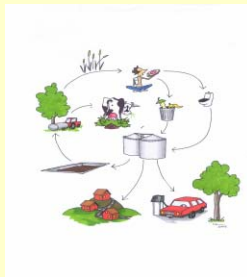
District heating and pellets (43) in municipal buildings

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Biogas Kristianstad

Biogas from three locations:

- Karpalund production plant 40 GWh
- Waste water treatment plant 7 GWh
- Landfill 20 GWh



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Biogas production plant

Co-digestion of

- Waste from food Industry (60 %)
- Organic Waste from Households (6 %)
- Manure from farms (34 %)

Digestion 70 000 tonnes
 Gas production 40 GWh
 Digestate: 63 000 tonnes



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City transportation

All 25 Citybuses
run on biogas

250 vehicles

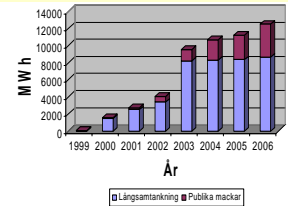


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Biogas sales

Capacity to produce
the equivalent of
4,4 million litres
petrol/year, gives a
CO₂ reduction
11 000 ton/ year



Biogas
KRISTIANSTAD

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Implementation with grants to households

| Project | Number |
|-------------------------|----------------|
| Window efficiency | 450 |
| Pellets | 250 |
| District heating | 1200 |
| <u>Attic insulation</u> | <u>180</u> |
| Sum | 2080 (11 %) |

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Mobility Management

- Bike to work, bike to school
- Public transport – pilot travellers
- Car pool
- Car sharing
- Ecodriving



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Wind power plants



20 wind power plants 2007 (25 GWh/year). In
progress: 100 more (400 GWh/year)

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Photo Voltaic



Pilot project: 2 PV-installations (11 MWh/year)

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Many actors

- The municipality coordinator
- Municipal energy company
- Municipal waste management company
- Public housing company
- Private companies
- Private households



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Reduced emissions of carbon dioxide 1990 -2006

| | Tons per year | Percent of total emissions in municipality 1990 |
|-----------------------|---------------|---|
| District heating | 115 000 | 28 % |
| Small scale heating | 13 000 | 3,2 % |
| Biogas for transports | 3 400 | 0,8 % |

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Future actions

- Plan for expansion of wind power (400 GWh/year) on shore
- Wind power off shore (500 GWh/year)
- Climate information with Mobility management
- Climate Alliance with local enterprises



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More information



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