

ECO-CITY CONFERENCE 2009 CASE STUDY - MALMO, SWEDEN

1. Government Policies

i. City of Malmo Environmental Programme 1998 - 2002

- The 2nd Environmental Programme for Malmo (1st being in 1990)
- Aim to reduce carbon dioxide emission by 25% by 2005 and by 60-70% by 2050
- Nitrogen emission to the Oresund sea is to be reduced by at least 30% by 2005

ii. City of Malmo Environment Programme 2003- 2008

- Environment Management System amongst Departments; On-site Monitoring; Indicators; Annual Reporting; Assess and Follow-up on environment management works; Inspections
- Identified 14 Environmental Objectives:
 - "Reduced Climate Impact"
 - "Clean Air"
 - "A Non-toxic Environment"
 - "Emission of o-zone depleting substances"
 - "A Safe Radiation Environment"
 - "Zero eutrophication"
 - "Flourishing Lakes and Streams"
 - "Good-quality Ground Water"
 - "A Balanced Marine Environment"
 - "Thriving Wetlands"
 - "Healthy Forests"
 - "A Varied Agricultural Landscape"
 - "A Good Built Environment"
- Under each Environmental Objectives are specific Environmental Targets (a total of 58 targets) as tangible actions towards achieving a more sustainable living environment

iii. Climate Change Programmes

- Additional grant for local investment programmes covering a number of measures aimed at reducing emissions of the greenhouse gas carbon dioxide.
- Substantial investments in reducing energy consumption and expansion of renewable sources of energy such as geothermy, solar heating and biogas.
- Investments on "green fuels" initiative and expansion of bicycle paths and the public transport system

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2. Entrepreneur/ Eco-Industry

i. The Organic and Fairtrade Guide

- A guide to shops and restaurants in which offer organic and fairtrade products
- Aim to inspire other businesses and consumers to catch on to the strong trend for ethical and

sustainable consumption

- First edition came out in 2006, financed by the City of Malmö's environmental grant, current is second edition
- Organic agriculture (no chemical pesticides, biological pesticides such as insects are used)
- Artificial fertilizers are not allowed in organic agriculture
- Suggestions on other more-affordable ways to shop ethically
- Eco-labelling: Allowing consumers to easily choose environmentally friendly products, also putting pressures on companies to produce more environmentally friendly products (i.e. computers, office appliances, mobile-phones, supermarket goods etc.)

3. Technologies

i. Bo01 Vastra Hamnen (Renewable and Waste Energy)

- The district is 100% supplied with locally produced energy from renewable sources.
- Electricity is generated by wind power and photovoltaic solar cells. A heat pump recovers energy from sea water and accessible aquifers.
- Solar collectors will convert solar energy into heat, transferred to the district heating network.
- Waste are cleaned and purified at a central treatment plant and turned into bio gas for cooking and is returned to the district through the existing natural gas network of the city
- Combustible trash are incinerated which generates the heating system for apartments in the district

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ii. PV Installation Programme (Solar Energy)

- Installation of PV plants on major public buildings such as school, museums, hospital etc. since 2001
- Majority of PV installations are placed on public buildings (70% of government subsidized)
- Government realize that solar electricity is a much more financially viable and sustainable energy source since it enjoys lower running costs upon initial investment, sellers are guaranteed with a fixed price in a long-term agreement from the government providing the investors security and profitability.

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4. Urban Revamp

i. Augustenborg

Eco-building

- Old building facades covered with external insulation and steel sheeting causing negative effect on the internal environment (i.e. damp, ventilation and temperature control)
- New buildings covered with skimmed painted renders
- A new school constructed with natural materials, adopting high-level of natural lighting, ground source heat pumps, solar thermal panels, composting toilets
- Improved accessibility for housing for senior residents (lift installations)

Mobility

- The "Green-link", world's first electric street train, were tested in Augustenborg during 2000-2001
- electric trains are quiet, emission free and narrow enough to use adapted cycle tracks along short stretches of their routes to shorten the travel time
- the trains provided direct access to local services such as health centres, chemists, banks
- designed and manufactured locally which generated local employment opportunities
- A car pool with cars driven on renewable energy has been available since 2001, started and managed by the inhabitants of Augustenborg, the pool cars can be booked via the internet or at the local grocery store

Greening

- The Augustenborg Botanical Roof Garden: a 9500m² roof top garden situated on top of several buildings and joined by foot bridges, the project is supported by the EU LIFE fund
- Using sedum and mosses to create light-weight roof covering, benefits include run-off minimisation, extended roof life, insulation, improved microclimate, increased biodiversity and aesthetic improvements
- Roof top gardens, green facilities, backyard gardens etc are commonly found in many of the residential development within the Augustenborg

Waste Management

- 15 recycling houses with full recycling and composting facilities for the 1800 inhabitants of Augustenborg
- Currently reached 70% of waste are recycled, with an aim that 90 percent of the waste from Augustenborg will be collected and recycled, re-used etc in the future.
- Some of the houses are based on design ideas from residents who had been involved in initial recycling pilot scheme and who visited recycling programmes in other Swedish cities

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ii. Bo01 Exhibition Area (Vastra Hamnen)

- In 1996, the Government decided to start funding Local Investment Programmes (LIP) to promote the transition of Malmö to an ecologically sustainable society
- Fundings were received In 2000 for the transformation of Malmö into ecological sustainability, the idea was to build an “ecological” district located in a harbour quarter in Malmö (The Western Harbour) that would function as inspiration on how to reach the goal of sustainability
- The project won the Campaign for Take-Off Award in 2000.
- The Western Harbour was reclaimed from the seabed in the 18th century and was an abandoned seaport and industrial area, environmental problems such as contamination was evident
- Exhibited in the 2001 European Housing Exhibition 8001 - City of Tomorrow
- Minimizing car dependency by creating footpath and a cycleway network, public transport system using environmentally friendly fuels, electric or gas powered vehicles.
- No substances listed on the Swedish Chemicals Inspectorate's list of hazardous materials used during the building process. Building materials are reusable when the buildings are demolished.

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RELEVANT LINKS

1. Government Policies

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2. Entrepreneur/ Eco-Industry

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3. Technologies

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4. Urban Revamp

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