

6. Hammarby Sjöstad (Stockholm - SE)

Project description

Hammarby Sjöstad (*Hammarby Sea City or Hammarby Lake City*) is a new district in Stockholm built on a previously industrial and harbour area. Hammarby is meant to provide 10000 apartments for 25 000 inhabitants and occupies 200 hectares of land, in Southern Stockholm, close to the city centre. Hammarby was planned to support Stockholm's request for hosting the 2004 Olympic Games.

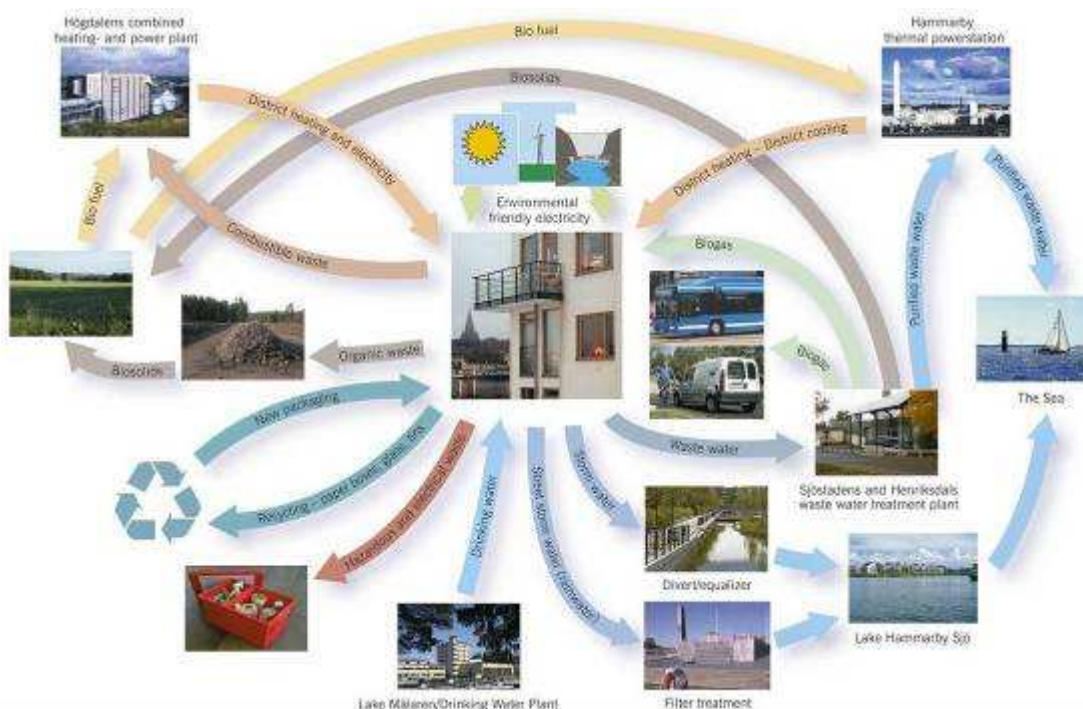
The district is Stockholm's largest urban development project for many years; the building activities started in 1994 and are foreseen to end in 2010.

Hammarby Sjöstad is a well-planned area with its own recycling model and local sewage treatment plant.

Energy is produced in the district heating plant in the area and is based on renewable fuels. Combustible waste is also recycled in the form of heat.



This integrated model for energy, waste and water management is known as the [Hammarby model](#).






Objectives

The **overall goal** is that the environmental impact caused by emissions from Hammarby shall be 50 % lower than the corresponding level for housing areas from the early 1990s. To obtain these goals, integrated planning, innovative solutions and new technologies have been necessary.

Objectives for 2015:

- **Transport & mobility:** 80% of travelling by using public transport; 25% electric / biogas vehicles
- **Energy:** energy consumption of buildings of 50 kWh/m² out of which 15 kWh/m² for electricity; 100% RES; usage of 80% energy from waste; biogas production from sludge; all waste and waste water coming from the inhabitants will be recycled and returned to the area in the form of renewable energy.
- **Water:** 60% reduction of water consumption/person
- **Waste:** 90% reduction of landfill waste and 40% reduction of all waste produced; reclaim of one half of the nitrogen and water, and about 95% of phosphorus, in the waste in order to use these as fertilizer for agricultural activities in the area.
- **Urban planning:** inner-city architecture; 10000 apartments for 25000 inhabitants living and working in Hammarby
- **Social:** citizen involvement; attractive and sustainable places to live and work

<p>Driving factors</p>	<p>Photo: Victoria Henriksson</p>  <p>Green image The idea of environmentally friendly Hammarby came into being in order to support Stockholm's application for hosting the 2004 Olympic Games.</p>	<p>Growing population Since 1990, Stockholm's population increased by 80 000 inhabitants, therefore the city needed to construct new dwellings by limiting its urban sprawl.</p> <p>Legal framework The Environmental Code (gathering all fundamental rules of environmental protection) came into effect on 1st January 1999 and is inflicted on all other legislation. It requires integration of environmental needs to every planning document, no matter the type of action (i.e. individual actions or high scale urban planning).</p>
<p>Financing structure</p>	<p>In Sweden the cities have a large legal and financial autonomy. Thus, Stockholm has a 4.4 billion annual budget and has developed its own Local Investment Programme for ecological sustainability (LIP) investing 693 million euros in its environmental programme. The Hammarby project is estimated to cost 15-20 billion Swedish Crowns</p>	
<p>Partners & Roles</p>	<p>There is great emphasis placed on the importance of collaboration and synergistic thinking between diverse actors, each having responsibility for different segments of the closed-loop integrated Hammarby system. The main partners are: the city of Stockholm, environment and health committee of Stockholm, real estate, infrastructure and mobility departments, environmental protection agencies, technical and economic partners (building company, land owners etc), the Local Investment Programme Council, researchers, urban planning and environmental coordination committee, Stockholm Water Company, Stockholm Waste Management Administration, Birka Energi, the environmental information centre (GlashusEtt). GlashusEtt was jointly created by Stockholm Water Company and Stockholm Real Estate Administration Office.</p> <p>The "Hammarby Model" was jointly developed by the water, waste and energy companies; this model binds together the entire environmental programme.</p>	<p>Photo: Björn Lofferud</p> 
<p>Results</p>	<p>Today, more than half of the project area is already complete and 10000 people live in the area.</p> <ul style="list-style-type: none"> • Land use: sanitary redevelopment, reuse and transformation of old brownfield sites into attractive residential areas with beautiful parks and green public spaces. To create a sustainable city area, in Hammarby Sjöstad the environmental program and the eco-cycle model were integrated in the planning process from the very beginning. The motto of the Stockholm City Plan 99 is "build the city inwards" meaning (re)develop already used land rather than using virgin land. • Energy: RES, biogas products and reuse of waste heat coupled with efficient energy consumption in buildings. 23 000 tons of sludge treated and 3 500 000 m³ of biogas produced. District heating is supplied to all Hammarby from 2 main sources: energy recovery from waste incineration and energy recovery from waste water treatment process • Water & sewage: as clean and efficient as possible - both input and output – with the aid of new technology for water saving and sewage treatment. • Waste: thoroughly sorted in practical systems, with material and energy recycling maximised wherever possible. Original waste collection system: individual households dispose of their solid waste into a vacuum-based underground collection system that allows for separating the waste into organic, recyclable and other forms. Combustible garbage is processed and returned to the community as electricity and hot water. • Transport: fast, attractive public transport – tramway, ferry (departure every 10 minutes), combined with cycling paths, car sharing system, individual car parking places are voluntarily limited, ensuring numerous bicycle parking places • Building materials: healthy, dry and environmentally sound; selected according to the Stockholm ecological construction programme taking into account the whole material life cycle causing limited impact on resources and environment • Economic: 8000 jobs created; reduced waste collection costs • Social: use of common space, various public and commercial establishments: schools and kindergartens, homes for elderly people, sports facilities, libraries, bookshops, concert hall, hair dressers, restaurants, pharmacies, post offices, etc. <p>The local Agenda 21 was established in close cooperation with the citizens; an environmental profile calculation tool was designed: www.miljoporten.stockholm.se. The residents' involvement is an important part of the environmental work. The environmental information centre GlashusEtt provides tips, advice and answers on how to use the technology and conserve resources.</p>	

<p>Next Steps</p>	<p>The project runs until 2016, and today more than half of the project area is complete. Further, when the project is complete, Hammarby Sjostad aims to achieve a compact urban community served by a fast train, pedestrian and bicycle-friendly environment in order to reduce the need for cars. All of these steps, taken together, will ensure a more attractive, healthier and more environmentally-friendly community.</p> <p>40,000 people from around the world have been to the visitors center to learn about Hammarby and the project is already inspiring developments in other cities around the world.</p>	 <p style="text-align: right;">Photo: Eddie Granlund</p>
<p>Friendly advice (to those wanting to build new eco-districts)</p>	<p>Projects like Hammarby can significantly reduce the use of fossil fuel use, help mainstream RES and EE, will provide significant cost savings for all residents while also improving human health and local, regional environment, reducing GHG emissions. Hammarby offers great example and potential for closed-loop economies in other towns and cities around the world.</p>	
<p>Online information</p>	<p>www.stockholm.se www.hammarbysjostad.se/qlashusett</p>	
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