

City of Borås

# Energy and climate strategy

In this brochure you will find a description of how we work with strategic energy planning in the City of Borås. The brochure is also a summary of the energy and climate strategy adopted in the City of Borås.

The Illustrations is done by Ida Brogren

# Energy and climate strategy

The City of Borås has the ambition to be a leading environmental municipality in Sweden. This means that we will be a good example for others and take advantage of networking with other municipalities in and outside Sweden. Our work is not finished but we have taken a big leap towards a climate neutral energy system. Since the year 1990 we have reduced the emission of carbon dioxide from energy use by 40 percent. Our goal is that carbon dioxide emissions in 2020 will be reduced by 60 percent compared to 1990. But our work will continue after 2020. In this brochure you will find our future image for 2035. The future image gives you an idea about how we plan society to meet the challenges of reducing carbon dioxide emissions and at the same time create a society that is even better to live in for our inhabitants.

The City of Borås is the second largest municipality in western Sweden. Borås offers a rich choice of public services, trade and commerce, cultural events, recreation and education, as well as a highly specialized labour market. The City of Borås has around 110 000 inhabitants. In the City of Borås there is a university with 15 000 student. The university provides education in textile and design, library and information, data and businesses and several engineering programs.

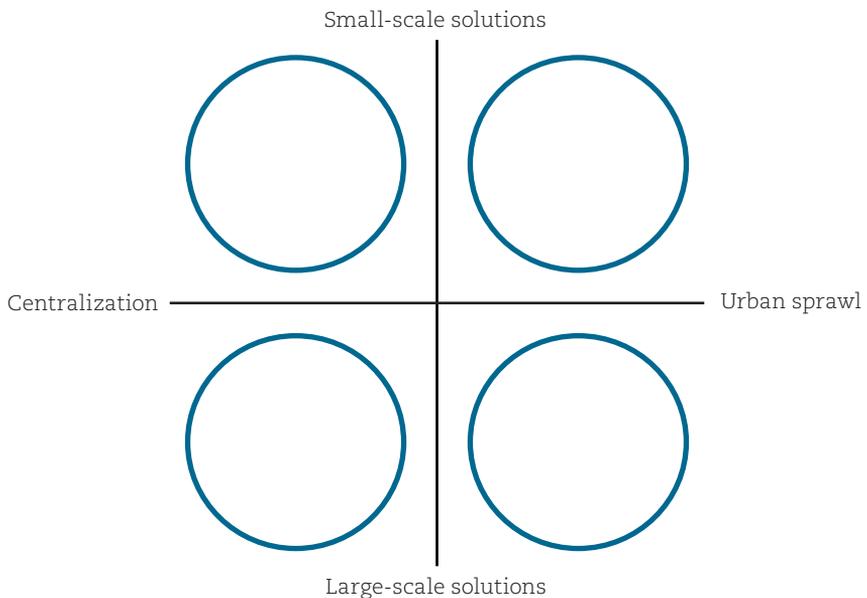
Nature is always nearby in Borås. The city is embraced by parks and green areas, stretching into the built-up areas. The beautiful countryside is always within easy reach, for pleasure and for exercise.

# Working methods

Our energy consumption depends on where we live and work and how the society is organised. This is the reason why our work with the energy- and climate strategy is combined with urban planning.

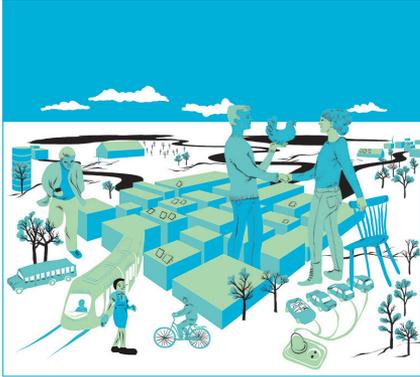
The method we use is scenario planning with four different scenarios. The scenarios have been valued against criteria's for sustainable development. The future image is a mix between the scenarios. From the future image we use the back casting method to find the strategies needed today to reach the municipality we want for the future.

To ensure that we work with both energy and land use we combine these two parameters in the scenario matrix. The most important rule in this exercise is that all scenarios must be ecologically, economically and socially sustainable.



The Scenarios were made by municipality officers from many different sectors. The work also included municipality owned housing and energy companies.

Small-scale solutions



Centralization



Urban sprawl



Large-scale solutions

The future image is a spatial vision of a sustainable Borås in 2035, combining various aspects from all four scenarios. The focus of the future image is energy issues related to land use, city development, and transport.

# Future image: The City of Borås year 2035

The number of inhabitants has increased and is still increasing. Inhabitants are aware of how they can live their lives with a low emission of greenhouse gases by conscious consumption, good transport choices, and smart energy use.

The municipal administration and companies are role models in energy efficiency both for buildings and transportation. The residents of Borås and many other actors in the municipality contribute in the work to reach a sustainable society.

Borås is a dense and multifunctional city. This makes it easy to walk or ride a bicycle because the daily services are located within a convenient distance. The inner city is characterized by a vibrant city life with car-free areas serving as meeting places. Urban life with car-free areas is even available in the villages and townships.

A compact structure for housing in villages, townships and the city has made it possible to maintain and improve services locally. This compact urban structure also reduces the need for transportation.

In strategic locations, there are transport hubs where it is possible to park the car and conveniently travel by bus, bicycle or, for example, by electric cars. It's easy to fuel the car with biogas or other renewable fuels. There are also plenty of charging stations for electric vehicles. The infrastructure for bicycles is coherent and enables inhabitants to use the bicycle as a transport method for both short and long distances.

Digital infrastructure is available in the entire municipality which makes it possible to have business enterprises in the entire area. The digital infrastructure influence cultural events, for example the possibility to have webcasted "live concerts" in community centres.

In Borås, district heating is the main source for heating. District heating is based on biofuels and waste. The proportion of biofuels in the district heating production has increased.

The local electricity production has increased based on investments in a combined heat and power plant based on biofuel. The small-scale electricity production is significant and caused by many small electricity producers.



# Strategies to reach the future image

We have identified eighth strategies that we need to work with. Some of them are ongoing and some are in the planning stage. Each strategy has responsible advisory boards or corporations within the municipality organisation. The municipality leads the process and involves citizens, businesses and other organizations.

## » Make a sustainable lifestyle possible

More than half of a household's greenhouse gas emissions come from consumption. Meeting places are created where sustainability issues are in focus. Here you can discuss sustainable lifestyle, urban development, sustainable transportation, climate, environment and energy issues. Through exhibitions, advice and arrangements, inhabitants become involved in the development of a sustainable city and conscious consumers.

## » Work with climate friendly procurement and green finance

Within the municipality organisation the consumption of goods generate climate emissions which are higher than the climate emissions from energy use. By cooperating with other municipalities, we can develop methods for procurement that reduce climate emissions from consumption. Through conscious economic investments and loans, municipal companies can contribute to a more climate friendly finance sector.

## » Create a resource efficient urban structure in the whole municipality

A conscious planning of settlements increases the chances of a sustainable mobility system, which is why we want to integrate sustainability and energy issues into urban planning by using a systematic approach.

## » Reduce the climate footprint from buildings

The climate footprint from buildings depends on the choice of materials and the energy efficiency of the buildings. The existing building stock requires much more energy per square meter than new buildings. The climate footprint of buildings should be reduced through a life-cycle perspective for new constructions and renovation.

## »» Energy efficiency and reduced greenhouse gas emissions in industry

Reduced energy consumption means both reduced emissions and reduced costs. Energy efficiency improvements have already been implemented in some industries, but there are still many good profitable investments to do. The municipality-employed energy and climate advisor can inspire industries to take action.

## »» Increase the use and production of renewable energy

Greenhouse gas emissions from the transport sector has not decreased since 1990. Fuel is a significant part of the total carbon dioxide emissions from energy use. The City of Borås will promote renewable fuels by using them in their own vehicle fleet. Another important action is to plan an infrastructure for renewable fuels, for example, charging of electric cars.

## »» Increase the local production of renewable energy

Renewable energy production needs to increase as the use of fossil fuels leads to carbon emissions.

Increased biomass production is a challenge while at the same time preserving the biological and recreational values in our forests. The City of Borås will test methods that allow biomass production and develops the biological and recreational values.

## »» Participate in development and innovation projects

To meet the challenge of reduced emissions and still create good quality of life for people, we need many new solutions. The City of Borås will share experiences and learn from others in order to encourage best practice to be widely spread. The City of Borås and the municipal companies will cooperate with universities, industries and other actors to encourage development and innovation.

# Networking and challenges

The City of Borås participates in several networks and challenges. For examples the Covenant of Mayors and the Swedish network for Climate Municipalities.

The work described in this brochure has been related to the EU project SPECIAL, focusing on supporting cities' and municipalities' capacity in integrating a sustainable energy perspective in spatial planning (mainly focusing on cross-disciplinary planning processes and organisation and introducing new planning methods and tools). Our work is also related to the EU project Step-Up where the City of Borås was a companion city.

The City of Borås takes part in the EU project SINFONIA. The SINFONIA project is a five-year initiative to deploy large-scale, integrated and scalable energy solutions in Bolzano and Innsbruck. To ensure the projects scalability and transferability models and methods used in Bolzano and Innsbruck will be tested and validated in five 'early adopter' cities Pafos (CY), Rosenheim (DE), Seville (ES), La Rochelle (FR) and Borås (SE).

The Swedish Energy Agency has supported our work within the programme of Sustainable municipality. The methods used are developed by a team of researchers from the KTH and LTU technical universities, headed by professor Ulf Ranhagen. The planning approach is summarized in the booklet "Sustainable municipality, 4 big leaps and 20 small steps – Conceptual guidelines on sustainable spatial planning". [www.energimyndigheten.se](http://www.energimyndigheten.se)

You can find more information about the working methods used in the book "The SymbioCity Approach – A conceptual framework for sustainable urban development" [www.sklinternational.se](http://www.sklinternational.se)



If you would like more information about our work in the City of Borås please contact:

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