



Best Practice: Carbon Neutral by 2025

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CITY: COPENHAGEN

POLICY AREAS: ENVIRONMENT; ENERGY; CITY PLANNING

BEST PRACTICE

The Copenhagen Climate Plan was adopted unanimously by the City Council in August 2009. The plan will lead the City of Copenhagen towards a 20% reduction of its carbon emissions by 2015, and towards reaching the ambitious target of becoming the world's first carbon neutral capital by 2025. The goal of carbon reductions is anchored in the Environmental Department in the Technical and Environmental Administration of the city.

ISSUE

Since 1990, the City of Copenhagen has reduced its CO₂ emissions by more than 20% in terms of electricity, district heating and transport. The Copenhageners emit on average 30% less CO₂ than the Danish average, and the city cycle paths, public transport, recreational areas, pedestrian streets, wind turbines, district heating networks and visionary town planning are making the Danish capital a model for cities around the world.

Nevertheless, the City of Copenhagen wants to go even further. Furthermore, Copenhagen wants to reduce its CO₂ emissions by an additional 20% between 2005 and 2015 and has set for itself the target of becoming the world's first carbon neutral capital by 2025.

Over 70% of the world's CO₂ emissions come from cities. Cities hold the key to the global climate challenge. The City of Copenhagen wants to lead internationally with its Climate Plan, and inspire others to follow suit.

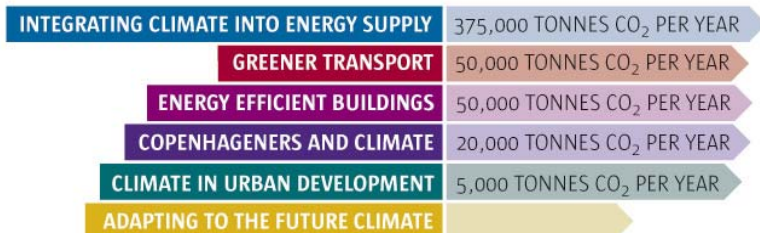
GOALS AND OBJECTIVES

Copenhagen Climate Plan

The City's Climate Plan is to reduce carbon emissions by 20% from 2005 to 2015, going from an emission level of 2,500,000 tonnes CO₂ to 2,000,000 tonnes per year. This corresponds to saving 500,000 tonnes of CO₂. By far the greatest proportion of energy use in Copenhagen is for electricity and heating. This is where the greatest impact needs to be made. But Copenhagen also has to reduce vehicle traffic and develop the city to make sure it is ready for weather patterns expected from climate change. Finally, all of those who live in the city must be environmentally conscious in their everyday lives.

This goal requires that climate consciousness be integral to everything that the City of Copenhagen undertakes. In other words the Climate Plan isn't sectoral, all areas are included. In this way the Climate Plan supports the work which the municipality has initiated. At the same time Copenhagen will increase its influence on the national and international agenda.

The goals of the Copenhagen Climate Plan require a targeted effort each year, containing concrete actions. Therefore, the Climate Plan includes 50 specific initiatives which will, when carried through, secure the necessary CO₂ reductions in Copenhagen throughout the next 5 – 15 years. The initiatives are inter-related, and have been grouped into six action areas. As a result they are also presented thematically, not according to priority. The six areas are:



44 of the 50 initiatives to reach the 20% reduction will be initiated in 2011.

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Copenhagen Carbon Neutral by 2025

In addition to the Climate Plan, which will make Copenhagen reach a 20% carbon reduction by 2015, the city is developing a wide-ranging action plan that will lead the City toward carbon neutrality by 2025.

Green Energy Production, Green Energy Consumption, Green Mobility, and Climate Adaptation.

The 2025 action plan will point out specific projects with a substantial carbon reduction and green growth potential, within the above tracks. Each track will contain a number of specific initiatives, and common for most of them are that they have to be implemented through partnerships with knowledge institutions and private companies.

Examples of initiatives are: Energy retrofit of municipal buildings, setting up more than 100 wind turbines both on and off shore, power production based on biomass, hydrogen-electric and electric cars, and an integrated and intelligent energy supply. Common to all initiatives is the development of a number of long term comprehensive project plans to ensure the propulsion of the projects.

The Action plan will be presented for the city council in 2012.

More info: www.kk.dk/climate

IMPLEMENTATION

The City of Copenhagen has set up a Climate Secretariat. The role of the Secretariat is to support the initiatives of the 2009 Climate Plan and to follow the implementation of the 50 initiatives in the Plan closely. At the same time it functions as a coordinating unit, within the different administrations of the city. Another major task of the Climate Secretariat is to develop the 2025 climate action plan that will be present to the City Council in 2012.

Integrating climate into energy supply

Reaching the 2015 target

In Copenhagen 98% of all homes are connected to the City's district heating system, which is powered by both power plants and the incineration of waste. Today, 73% of electricity is generated by coal, natural gas and oil. Joining forces with energy companies, vast CO₂ reductions will be met by upgrading the energy supply using biomass in power stations, erecting wind turbine parks, increasing reliance on geothermal power and renovating the district heating network. These efforts will result in a 75% decrease in CO₂ emissions.

Reaching the 2025 vision

A new, integrated energy system is needed to fulfill the vision of a carbon neutral Copenhagen. Copenhagen's power infrastructure is ideally suited for adding a diversified selection of renewable energy sources. What is still needed is a system for storing energy over time and seasons which can operate regardless of wind and weather conditions.

Greener transport

Reaching the 2015 target

One third of people working or studying in Copenhagen travel mainly by bicycle. But the number of cars is increasing. Thus, the challenge is to make traveling by metro, bicycle, bus and train more attractive. The municipal vehicle fleet will be converted into hydrogen-powered and electrical cars. All city administrations will develop implementation plans for environmentally friendly transport.

Reaching the 2025 vision

Developing a transport system which contributes to a carbon neutral capital requires goal oriented urban planning, based on reduced transport needs, improved access to public transportation and improved bicycle and pedestrian flows. An infrastructure to support electrical and hydrogen-powered cars must be created.





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Energy efficient buildings

Reaching the 2015 targets

Copenhagen has a strong focus on climate, both in new construction projects and in renovation projects. Energy conservation must be a requirement for buildings which the municipality rents. The City will advise owners of private and public buildings, consultants and trade workers about necessary energy conservation measures. Advanced heat sensitive photographic techniques will be used to visualize heat losses from buildings.

Reaching the 2025 vision

By 2015, a number of the City's buildings will have become significantly more livable. New building construction initiated after adoption of the Climate Plan will make up 15% of the municipality's total real estate holdings. Therefore, it is important that the buildings meet the best energy efficiency standards. Energy savings among Copenhageners, businesses and the municipality are central to the reduction of emissions needed to achieve carbon neutrality by 2025.

Copenhagengers and climate

Reaching the 2015 targets

Copenhagengers emit much less CO₂ than the average Dane. The City will continue to focus on electricity and heating consumption, means of transport, purchases and waste recycling in households, work places, schools, institutions and the City itself. A strong focus is on reaching children and youth, education and changing personal habits.

Reaching the 2025 vision

New collaborative modalities and partnerships will be created, and the City will take the lead. Copenhagen will employ additional specific initiatives to raise awareness, inspire and educate residents.

Climate in urban development

Reaching the 2015 targets

City planning will include a focus on the availability of public transport and easy-to-use bike routes. Buildings that are constructed or renovated must be green – including grass on rooftops and plants along the external walls, serving to insulate against cold in the winter and heat in the summer.

Reaching the 2025 vision

Municipal plans will actively ensure the creation of neighborhoods with minimal transport and energy requirements. The City will create pilot projects in certain areas focused on climate-friendly planning for the future.

Adapting to the future climate

The City will develop a Climate Adaptation Plan, which will ensure that climate adaptation is undertaken in the best and most cost effective way possible, including long-term investments and planning.

COST

The initiatives in the Climate Plan will be financed by different parties. Utility companies supplying the City of Copenhagen with water, district heating and electricity play an important role in financing windmills and the change of power production from coal to biomass. The City of Copenhagen finances a range of different initiatives, and the costs will be integrated into the annual budget. Certain areas, such as building renovation schemes, will have their own budget headings.

RESULTS AND EVALUATION

A yearly status of the progress of the initiatives will be developed. Every year the Copenhagen Green Account is created and the yearly status of the Climate Plan and the Copenhagen Green Account will in the future be based on the same methodology. More info: www.kk.dk/greenaccounts



Best Practice: Carbon Neutral by 2025

TIMELINE

The Copenhagen Climate Plan was adopted by the City Council in August 2009. 44 of the 50 initiatives in the Climate Plan have been initiated, and a number will keep running throughout 2011 and up to 2015.

The 2025 Climate Action Plan will be developed throughout 2011 and 2012, and will be presented to the City Council in 2012.

LEGISLATION

In order for the City to reach the targets in 2015, it is important that certain taxes, specifically those on bio-fuels, are not raised. The City of Copenhagen plans to lobby the Government for the right to introduce congestion charges, since these will be an important way of regulating the number of cars in the future. Furthermore, experiences from other cities show that the extent of air-pollution in the inner city will fall.

LESSONS LEARNED

A focus area for the municipality is external financing. Financing for the initiatives will be found within the City's budget, but at the same time the City will apply for external funding. A lesson learned is that there should be a stronger focus on co-funding of future projects, and that the application of funds should be upgraded in the future.

Another lesson learned is that there must be buy-in from all affected parties. The Climate Plan was adopted unanimously by the City Council as a result of strong involvement of the different administrations in the City.

TRANSFERABILITY

The Copenhagen Climate Plan has been developed with a strong political focus. The findings in the plan can be used internationally, nationally as well as locally. The concrete initiatives are transferable to other cities and regions.

CONTACTS

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More information can be found on:

www.kk.dk/greenaccounts

www.kk.dk/climate

www.kk.dk/english