



Copenhagen  
Carbon Neutral  
by 2025

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# CPH CARBON NEUTRAL 2025

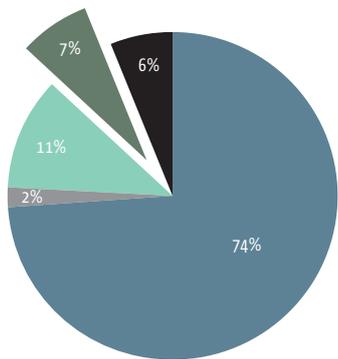
## - ENERGY CONSUMPTION

In 2010, heat and electricity consumption in Copenhagen caused the equivalent of 75 % of the total CO<sub>2</sub> emissions in Copenhagen. In the expectation that Copenhagen will grow by nearly 100,000 residents by 2025, provide space for 20,000 new jobs and construct 6.8 million sq meters of new buildings, the CPH 2025 Climate Plan sets the scene for significant carbon reductions in both residential and commercial building to ensure that the growing city and its users are efficient with their resources.

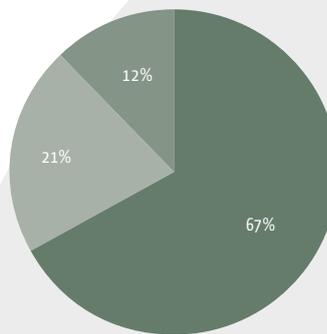
The effort is comprehensive and covers all sectors in Copenhagen, although there is a particular focus on electricity consumption in commercial and service companies, where there is a trend towards an increase in consumption up to 2025. The energy consumption initiatives are planned to prepare both the existing buildings and new buildings in Copenhagen for the future. Since over 70 % of buildings in Copenhagen were built before the introduction of the first building regulations, there is a large potential to make the existing city buildings more energy efficient.

### SHARE OF TOTAL CARBON REDUCTION

84.000  
TON CO<sub>2</sub>



### ALLOCATION OF REDUCTIONS FROM ENERGY CONSUMPTION INITIATIVES



### MAJOR GOALS FOR ENERGY CONSUMPTION IN 2025 COMPARED TO 2010

- 20 % reduction in heat consumption.
- 20 % reduction of electricity consumption in commercial and service companies.
- 10 % reduction of electricity consumption in households.
- Installation of solar cells corresponding to 1 % of electricity consumption in 2025.



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## - ENERGY CONSUMPTION

### MAIN INITIATIVES

- Improvement of building structures and conditions, including the development and testing of a new financial model for the implementation of energy savings and work to change legislation on increased level of energy efficiency
- Energy efficient buildings in Copenhagen. Procedures and guidelines must be established, as well as funds targeted for increased climate retrofitting. A model for energy savings in commercial and service companies must be developed, tested and implemented.
- Motivate and support the dissemination of solar cells.
- Innovation and profiling, for example in the form of partnerships. Establish knowledge building and exchange of experience as well as creating partnerships for the construction of private lighthouse projects.
- Copenhagen as the smart city. Establishing a digital infrastructure for public data, supporting the potential for increasing the flexible use and dissemination of the concept of the smart building and improving the framework for the use of onshore power for cruise ships.

### ECONOMY

When coal is phased out in favour of biomass in the future of district heating in Copenhagen, the heat will become more expensive, seen from an economic point of view. So, major economic benefits can be gained by reducing energy consumption in buildings. This also means that investment in new energy production can be minimized.

The City of Copenhagen's total cost for implementing the initiatives that will form the basis of the reduction of energy consumption in Copenhagen is expected to be at least DKK 100 million up to the year 2025. This implies amongst other things, concept and model development as well as funds for demonstration projects.

There will be a total economic saving of about DKK 1 bn by 2025 by reducing heat consumption by 20 % and electricity consumption by 20 % respectively in companies and 10 % in households. In 2025, an average household will save about DKK 4000 per year if these goals are achieved.

The total investment in new construction and retrofitting of existing buildings will require investments of up to DKK 180 bn up to 2025. It is expected that 6.8 million sq metres of new buildings will be erected in Copenhagen between now and 2025. This will mean a total investment of around DKK 130 bn. When new buildings are built to the highest standards in the building regulations, costs can increase by up to 5 %, which would represent an additional cost of up to DKK 6 bn. The cost of low energy buildings is expected to adapt quickly to the current level. The current renewal rate of buildings, equivalent to 11.3 million sq metres are expected to be retrofitted up to 2025. This will mean investment of around DKK 40 bn. If the annual retrofitting rate is increased by half a percentage point, which is the goal in the climate plan, 13.7 million sq metres will be retrofitted. This will entail additional investments of around DKK 8 bn. Of these, investments in additional energy retrofitting represent DKK 3.6 bn.

The total estimated investment in solar panels in the private sector is more than DKK 425 million up to 2025.