

Planning for climate changes

- and a better city



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Presentation overview

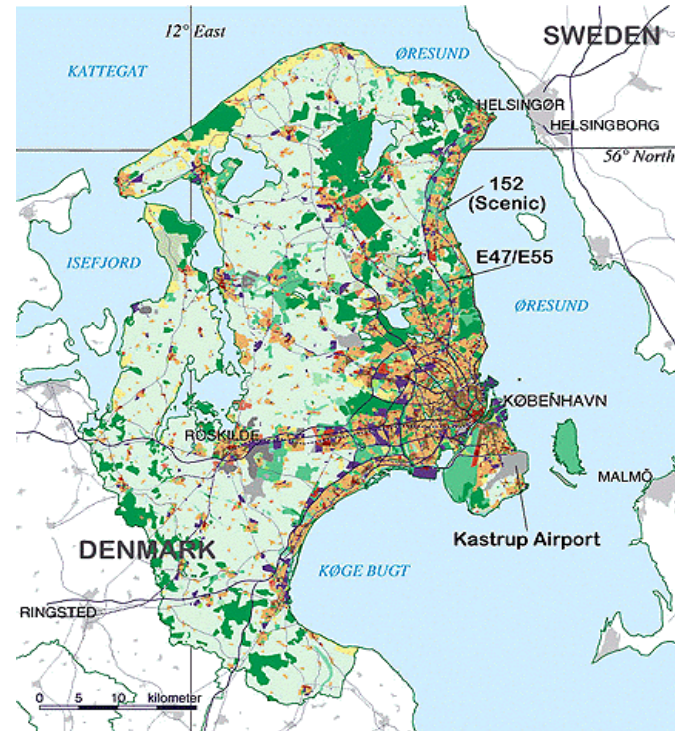
- A very short introduction to Copenhagen
- Copenhagen - Climate Capital of the world
- Planning for climate changes - and a better city
- What challenges is Copenhagen facing concerning climate changes?
- Climate adaption planning - examples



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Copenhagen, Denmark



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A brief introduction to Copenhagen

- Area: 89,6 km²
- Inhabitants:
 - appr. 500.000
- Greater Copenhagen - 1,8 mio
- 10 community districts



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DYNAMIC URBAN DEVELOPMENT AND A SOUND ECONOMY

- 15 years ago, Copenhagen was on the verge of bankruptcy, with high unemployment, social problems etc. Now the region is a dynamic centre of development.



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URBAN DEVELOPMENT

- more than just projects and objects



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Copenhagen in the future



Climate capital of the world

- Best city in the world for cyclists
- Center of world climate policy
- A green and blue capital
- A clean and healthy capital



2015 20 % CO₂-reduction



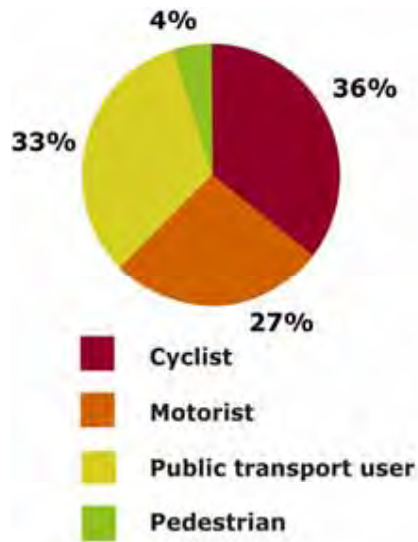
2025 CO₂-neutral Copenhagen

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Climate capital means more bicycles

- We are on our way to becoming the world's best city for bicycles
- In 2015 50% of all copenhageners will bike to work or school - every day!



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Climate capital means a city with green and blue urban spaces

- Our vision is a green and blue capital where
- 90% of all copenhageners have less than 15 minutes walk to a park or a beach
- Copenhageners will visit the green areas twice as often as they do today



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Climate capital means a healthy city

- We want to have a clean and healthy big city
- By 2015 no copenhageners will be disturbed by harmful noise - at home or at work
- No Copenhageners will suffer health damage through polluted air
- 20% of all food sold will be organic - and in public institutions 90% of all food will be organic
- Copenhagen will be Europe's cleanest capital



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A metropolis with a human touch

- More urban life for all
 - By 2015 80% of all copenhageners are satisfied with the activities in the city
- Copenhagen - a city for pedestrians
 - By 2015 we have 20% more pedestrians
- People stay longer
 - By 2015 the copenhageners spend 20% more time in urban areas



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With Copenhagen's Climate Plan we are aiming even higher

We want to be the first CO2 neutral capital in the world

5 goals for Copenhagen:

- Energy - from coal to wind
- Transport - from cars to bikes and hydrogen cars
- Buildings - higher energy efficiency
- Urban development - focus on low energy consumption
- Behaviour - we want to make copenhagengers behave more climate friendly.



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What has Copenhagen achieved?



Optimal conditions for cyclists

- 36 % of Copenhageners go to work place or school by bicycle
- Copenhagen cyclists in average ride 1,200,000 kilometres each day
- 350 kilometres of bicycle lanes and 40 kilometres of green bicycle routes
- New bicycle bridge across the harbour and one across a busy road
- Reduction of bicycle related traffic injuries



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What has Copenhagen achieved?



Energy production

- One of the biggest district heating systems in the world – 97 % of households connected
- Surplus energy from electricity production is reused
- Wind turbines on Middelgrund
- One of the world's best waste management systems
- 90 % of all building waste is reused
- 70 % of all household waste is incinerated

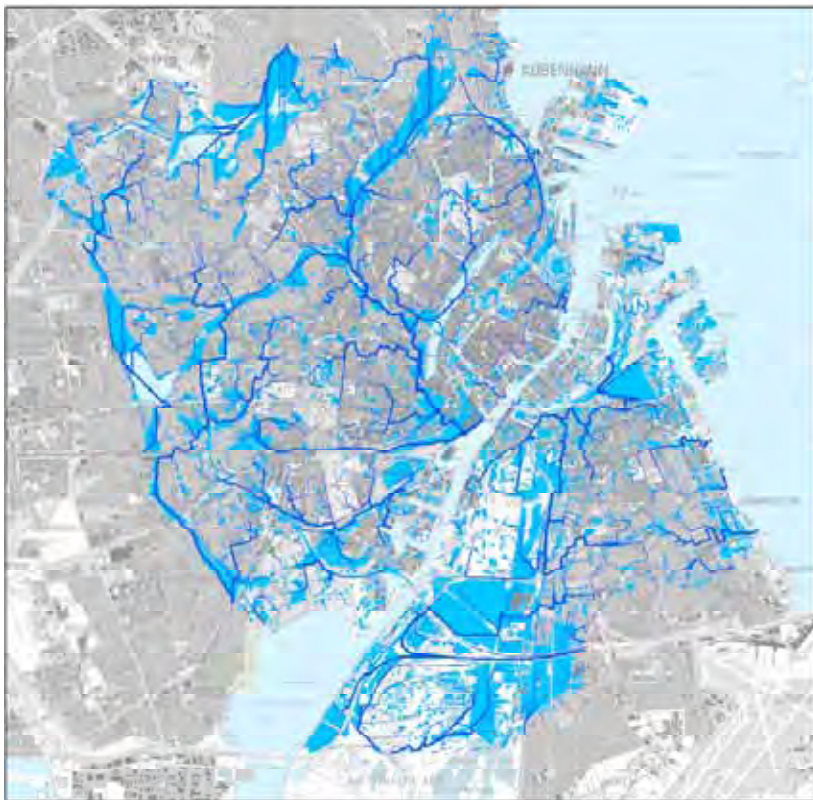
Economic growth and environmentally friendly development can go hand in hand!



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Climate change challenges - rain



Expected increase in rain fall

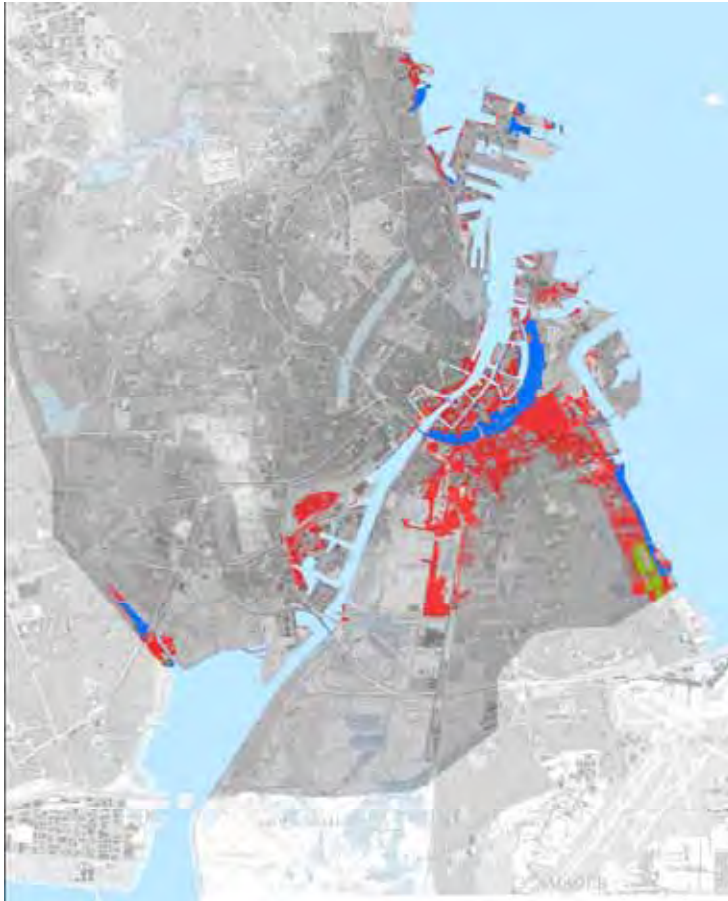
- more violent rain
- risk of flooding of certain areas in the city
- Pressure on the city's sewage system
- Need to calculate investments needed
- Need to look for preventive measures



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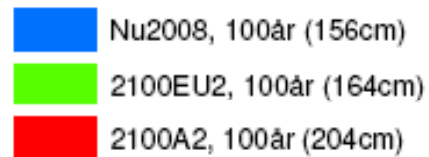
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Climate change challenges - flooding



Increased risk of storm flooding

- Different scenarios
- Need for analysis of investments needed to prevent flooding



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Other aspects of climate change

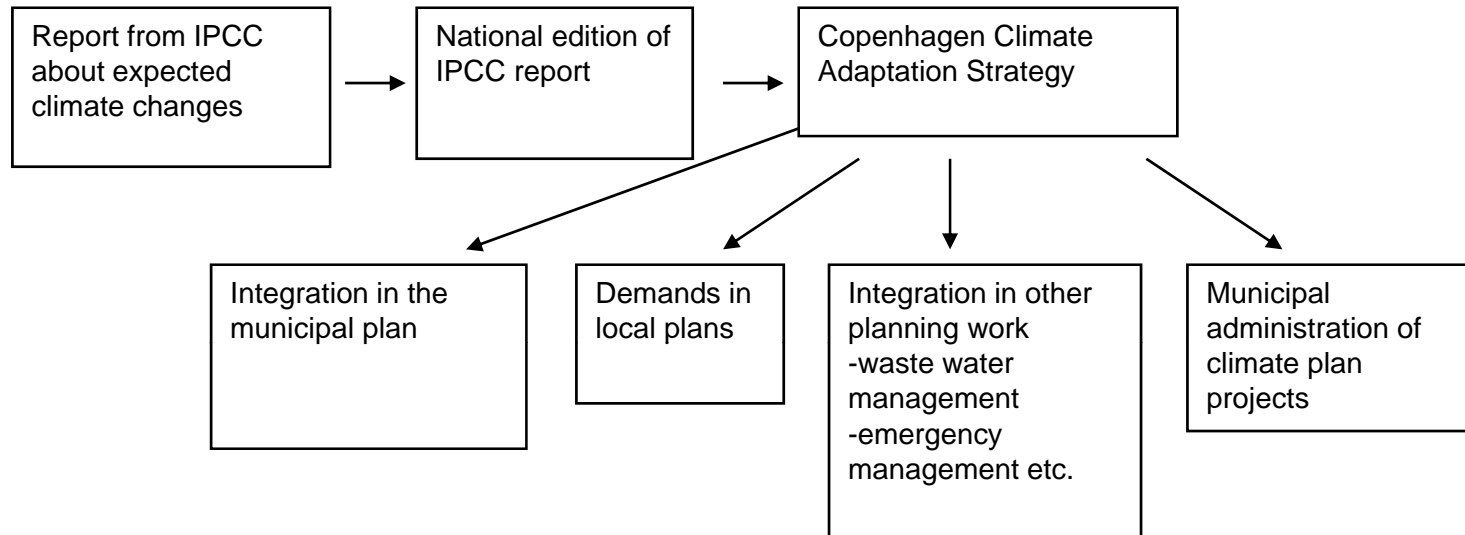
- Heat island effect
- Biodiversity
- Ground water



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Strategy for Climate Change in Copenhagen



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Focus on the added values

- Better urban quality of life for the copenhageners every day
- A greener and more healthy city
- A city that promotes an active urban life
- Changes that will make a difference - even if the climate doesn't change



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Climate adaptation plan - integrated in all aspects of planning

- Overall municipal planning
 - New urban developments
 - Special conditions
 - Green areas
- Local plans
 - Local use of rain water
 - Green roofs and facades
 - Pocket Parks
- Sector Plans
 - Biodiversity
 - Water management



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Climate changes

Initiatives e.g.:

- Local drainage of rainwater
- Green roofs, wall fronts, trees
- Adaptation of buildings
- Climate adaption plan

A better urban life:

- A city adapted for future requirements
- Green city
- Recreational areas



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A green and climate proof structure



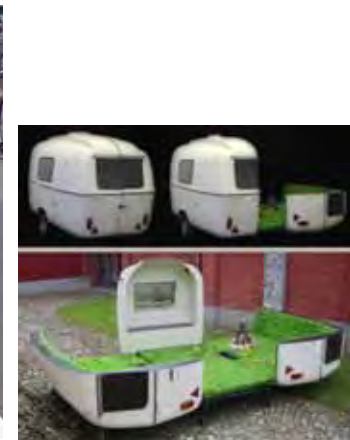
- A green city is an attractive city
- A green city an active city
- A green city can absorb excess rain-water
- Pocket parks
- Green connections



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Pocket parks are green urban breaks



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Pocket parks and climate

- Pocket parks are small urban breaks
- Pocket parks - local and diverse
- Pocket parks can absorb excess rain water
- Pocket parks can cool the city on hot days



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Re-opening underground streams

- Re-opening streams will increase their capacity to carry/store excess rain water
- Re-opened streams will increase the attractiveness of green areas
- Re-opened streams will support a greater biodiversity in the city



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Local use of rain water

- Cleaning and filtering local rain water
- Used as local water features in the new city district Ørestad



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Green roofs

- Isolate and cool the building interiors
- Cool the city air
- Absorbs and delays rain water



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Thank you for your attention

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