

Smart City Bergen: Innovation and Green Solutions in a World Heritage Centre



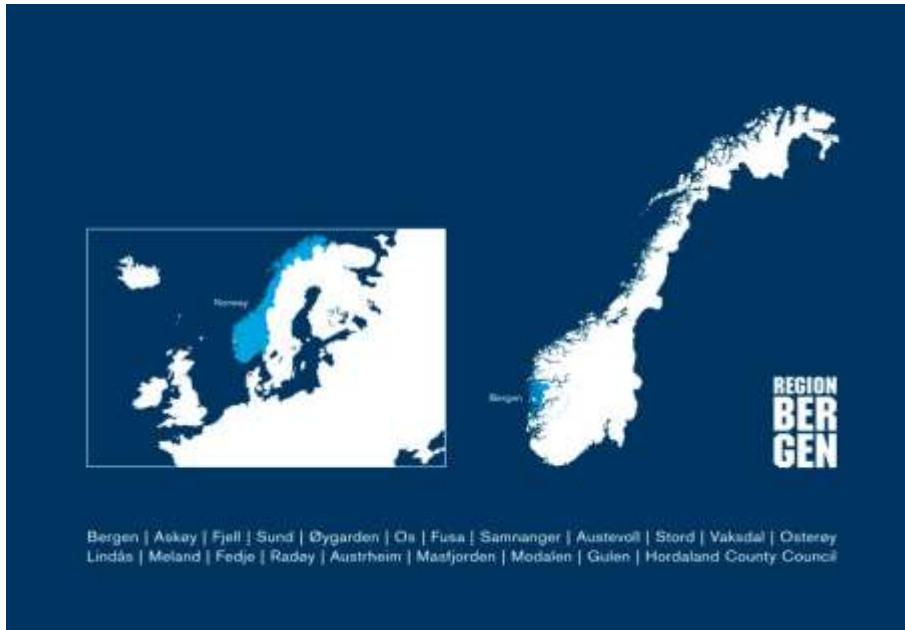
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Bergen – facts and figures



- City of Bergen is the second largest city in Norway
- 280 000 inhabitants -> 300 000 by 2024
- 25 000 students
- Non-Norwegians constitute 16,8 % of the population of Bergen
- Workforce 190.000.



CITY OF
BERGEN



Bergen - European City of Culture - An ideal combination of nature and culture

Bergen has one of the world's oldest symphony orchestras, the country's first national theatre, a host of international festivals, and a whole range of museums and institutions



CITY OF
BERGEN

Bergen UNESCO City of Gastronomy

- member since December 2015



United Nations
Educational, Scientific and
Cultural Organization



Designated
UNESCO Creative City
in 2015



CITY OF
BERGEN



The Creative Cities Network is currently formed by 116 Members from 54 countries covering seven creative fields: Crafts & Folk Art, Design, Film, Gastronomy, Literature, Music and Media Arts.



and a whole range of

All

Crafts & Folk Art

Design

Film

Gastronomy

Literature

Media Arts

Music



Bergen – strategic focus on clusters

The City of Bergen has cluster development as essential for creating a dynamic growth region:

- ENERGY
- MARITIME SECTOR
- MARINE SECTOR
- ADVENTURE, CULTURE AND TRAVEL
- MEDIA
- DESIGN
- CULTURE BASED BUSINESSES



Bergen supports organizations that
facilitate
innovation and entrepreneurship





GREEN STRATEGY

THE GLOBAL GOALS

For Sustainable Development

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE AND JUSTICE STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



THE GLOBAL GOALS
For Sustainable Development

POLITICAL PLATFORM

Bergen is to be Norway's **GREENEST CITY**

- More sustainable and energy-efficient buildings
- Better balance between residential and commercial buildings in the city districts
- 10% reduction in car traffic by 2020
- Non-fossil transport: walking, cycling and public transport is prioritized in planning
- More efficient recycling and environmentally friendly waste handling

City masterplan



Bergen must achieve sustainable growth that protects the climate and environment

Bergen must promote green architecture and renewable energy

Bergen must encourage smart, green mobility that makes better use of the transport network's capacity

The city authorities must promote joint use and a sharing culture so that resources are used more efficiently

Bergen must facilitate, and support, a green transition in the research and business communities

A FOSSIL-FREE CITY



Fossil-free transport



Fossil-free heating



Fossil-free port



Fossil-free waste handling

Goals for a fossil-free Bergen in 2030

To be achieved in accordance with the following plan:

2020: Bergen will reverse the trend and reduce direct greenhouse gas emissions by 30% compared with 1991

2030: Bergen will be fossil-free, meaning that no oil, coal or gas is used in Bergen

2050: Bergen will be a 1.5-degree city. The goal is for the people of Bergen to limit their climate footprint in line with the UN agreement on climate change

Climate budget



- The City Government has launched a climate budget for 2018 as a part of the Financial Budget
- “We’ll count carbon dioxide the same way we count money”
- The climate budget consists of several measures distributed across different sectors, mainly Energy/buildings and Transport

Fossil-free transportation



Four strategies for the transport area

The background features a stylized illustration of a tram with passengers, several cyclists, and a group of pedestrians, all rendered in shades of green and yellow against a light background.

1. Coordinated and climate-friendly area and transport planning
2. Climate-friendly travel habits
3. Shared mobility – mobility culture changes
4. Transition to low-emission technology – phase-out of fossil fuels



Main goals – transport and mobility

- All transport growth to be handled by walking, bicycle, public transport and unoccupied car seats
- Reduce car traffic by 20% by 2030
- Reduced car ownership (1,35 -> 1,0)
- Fossil-free transport sector by 2030



Road capacity issues?

- 1,15 persons in each car during rush hour
- 95 % of passenger seats are not in use



Cooperative and Connected Mobility in a City

Multimodal (cars,
buses, trucks, trams)

Traffic Management
(cooperation with
public and private)

Integration with **Urban
Planning and Mobility
Strategies**

Upgrading and
complementing
**existing Urban ITS
Systems**

Focus on **enabling
local policy goals**
(modal shift, access
control, parking)

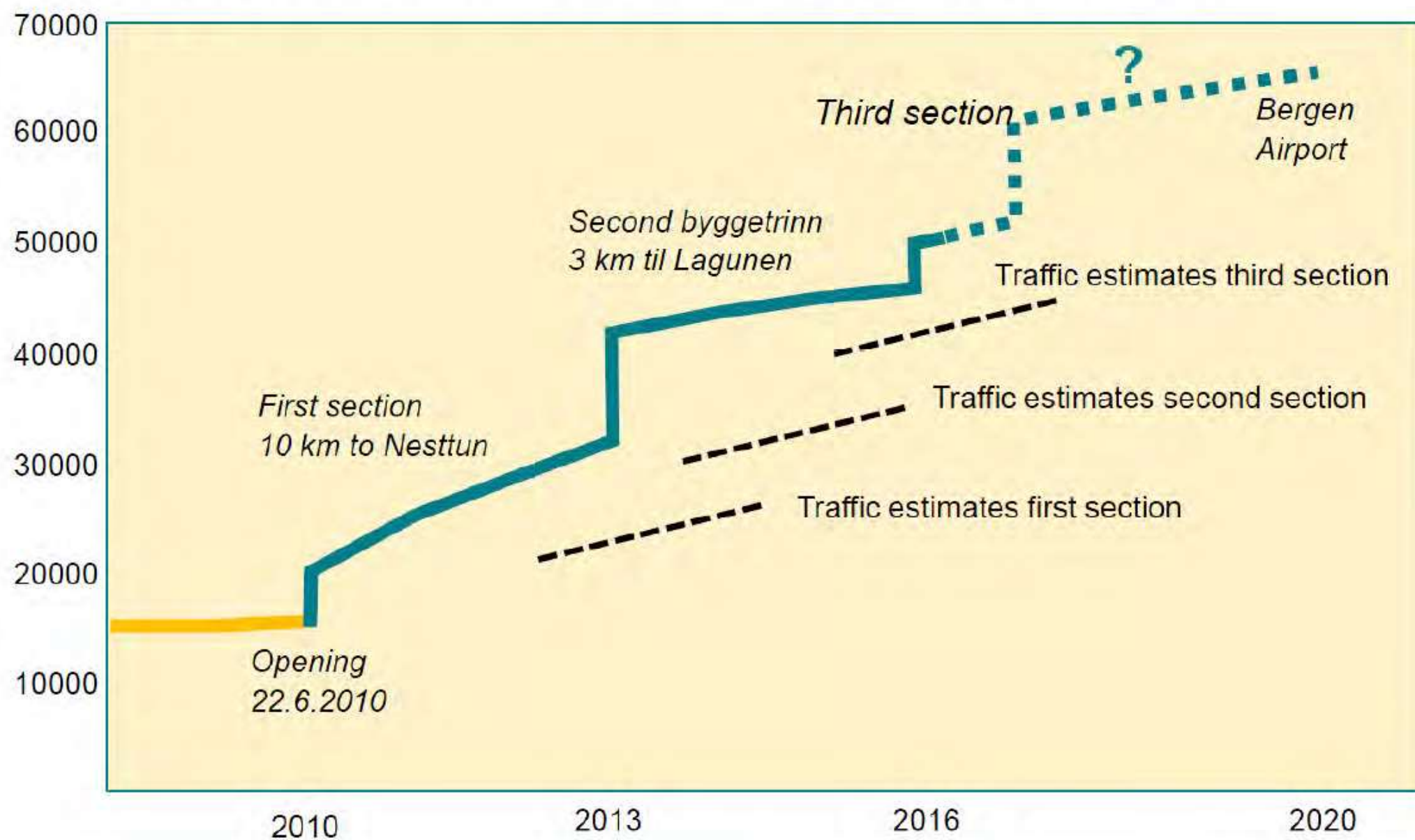
City building objectives



Bybanen will strengthen the city through:

- reinforcing urban development goals
- supporting environmentally sustainable development
- being a visible, integrated, and identity-building element in the city
- contributing to the efficient use of resources

Passenger numbers for Bybanen since opening in 2010 has exceeded model predictions





Adopted by City Council in 2010:

1. Sentrum - Rådalen-Flesland (phases 1+2+3)

2. Sentrum - Fyllingsdalen (phase 4, recommended as phase 5)

3. Sentrum - NHH - Åsane (phase 5, recommended as phase 4)

Bybanen operates in a network with bus

Mobility hub Møllendal



Bus

HC

Bicycle

E-car sharing,
9 slots w/semi-fast

Mobility hub Møhlenpris



Sykkelhangar - for beboere

Parkering: El-bil/
bildelingen

Bossnedkast

Sykkelparkering - bøyler

	Oslo	Bergen
Electric Vehicles – percentage of total	6,9 %	9,6 %
Percentage of new cars sold	25,8 %	27,4 %



BERGEN
KOMMUNE

FOSSIL-FREE HEATING



Three strategies for buildings

1. From fossil to renewable energy
2. Energy efficiency
3. Energy and environmental qualities in buildings and areas



Fossil-free waste management



Three strategies for consumption pattern, waste and resources



1. Reduce the climate impact of consumption
 2. Reduce the amount of waste and increase reuse
 3. Use waste as a resource
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Adaptation to climate change

The background of the slide features a stylized illustration. At the top, a large, dark green rain cloud is shown with numerous diagonal lines representing rain falling over a city skyline. The skyline consists of several green buildings of varying heights. Below the city, there are rolling green hills. The overall color palette is dominated by shades of green, from light lime to dark forest green.

The City of Bergen's main strategy is to include work on adaptation to climate change in the municipality's work on risk and vulnerability and in other municipal planning



» Whatever took you to where you are, is not what will take you to where you want to be



Thank you for your attention!

