



36th Euroheat & Power Congress
27-28 May 2013, Vienna, Austria

Sustainable City Development and Urban Planning

Chances to become sustainable
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Cities in action

- In the last 15 years more than 3,200 local authorities have participated to the European Sustainable Cities & Towns Campaign and the Aalborg Charter



- 4,430 are the signatories of the Covenant of Mayors: the commitment is to reduce CO2 emissions by 2020 more than 20 %





Citizens awareness is increased!





Architects and contractors up-to-date

■ Manitoba Hydro Place, 2008,
Winnipeg. KPMB Architects. LEED
Platinum.



■ Genzyme Center, 2004,
Cambridge. Behnisch Architekten.
LEED Platinum





Architects and contractors up-to-date

- Quartiere Casanova, Bolzano (IT)
CasaClima A standard for the whole neighbourhood





How to approach the problem

- Sustainable development should concern:
 - Energy issues (economic, strategic, policies...)
 - Resources issues (water, waste, environment)
 - Quality of life issues (social, services, mobility)
- Innovation should be applied to:
 - Governance models
 - Relationship between IT and hard technologies
 - Involvement of all the different stakeholders and actors



Greenfield or brownfield?

- The major issue is related to the reuse of areas already built or deserved to some use
- New towns and new areas are in Europe the minority of the development
- The existing areas are not sustainable within the common vision of 2020 or 2050 (nearly zero ...)
- Eco-quarters?



Energy efficiency sprawled?

- Exploit the enormous potential coming from the residential and tertiary buildings
- Start the implementation of the European vision (Only Nearly Zero Building by 2050)
- Involving the citizens in the transformation and adaptation projects
- Increase the market of renovations and refurbishment



How much can renewables contribute?

- The European vision is ambitious and can be reached only together with ambitious changes in the existing building stock
- The Directive 2009/28/CE is aiming for a large increase of the energy production from RES, in order to respect the 20 % covering of the gross final consumption 2020
- Obligations are set for new constructions but how to transform the existing building?
- RES-DH is a good option, but tight together with Energy efficiency goals



Flexibility as an answer?

- The development of the building stock to nearly zero set new framework for the energy supply
- Good definition: DHC as a ‘modern bridge’ towards sustainability



Incentives policies can help?

- Incentives helps in defining the vision and the aims, preventing from a fragmented action
- Incentives helps investors in focussing on topics
- Incentives have not to be a barrier to action while they are not existing
- Incentives are useful for the monitoring



Involvement of the industrial sector

- Industry
 - as energy provider
 - as energy consumer
- Innovation in energy concepts definition
- Development of Eco Industrial Parks, in order to increase efficiency, lower consumptions, share infrastructures, use RES in a more advantageous cost/benefit ratio



Innovative policies: Denmark

- By 2035 electricity and heat production shall be 100 % RES
- Municipalities are responsible for local heat planning
- DH companies can get up to 100 % municipal guarantee for loans and fixed interest rate



Smart cooperation models needed


- Crailsheim (DE): the DH provider has proposed to cover RES obligations for new buildings which will be connected to their DH network by RES production from their big solar plant
- If accepted: New service for heat suppliers leading to new large collector fields
- If accepted: Advantage for the customer, who would avoid to operate a plant and to take care of compliance with the German law (EEWärmeG)




Smart cooperation models needed:

Amsterdam


amsterdam city
[Search]




Almere Smart Society
 Almere Smart Society, is a vision of living and working in Almere, in all its facets supported by ICT and technology. [More →](#)




AmsterdamOpent.nl
 AmsterdamOpent.nl is the platform where civil servants of the city of Amsterdam can propose questions and ask the Amsterdam people to share their ideas. [More →](#)




Apps for Amsterdam
 Apps for Amsterdam 2 is the second open data contest of the municipality of Amsterdam in which developers are challenged to build apps based on municipality's data. [More →](#)




Climate Street
 Together with entrepreneurs, a typical Amsterdam street, the Utrechtsesstraat, is transformed into a sustainable shopping street where innovative technologies are tested. [More →](#)




E-harbours - Innovative energy contract Zaanstad
 The Municipality of Zaanstad has negotiated a new energy contract, that saves energy, stimulates the local production of renewables, and reduces energy costs substantially. [More →](#)




E-Harbours - ReloadIT
 The core of Zaanstad's showcase 'ReloadIT' is Innovative technology for clean mobility. [More →](#)



Energy Management Haarlem
 250 customers in the Haarlem region tested an energy...



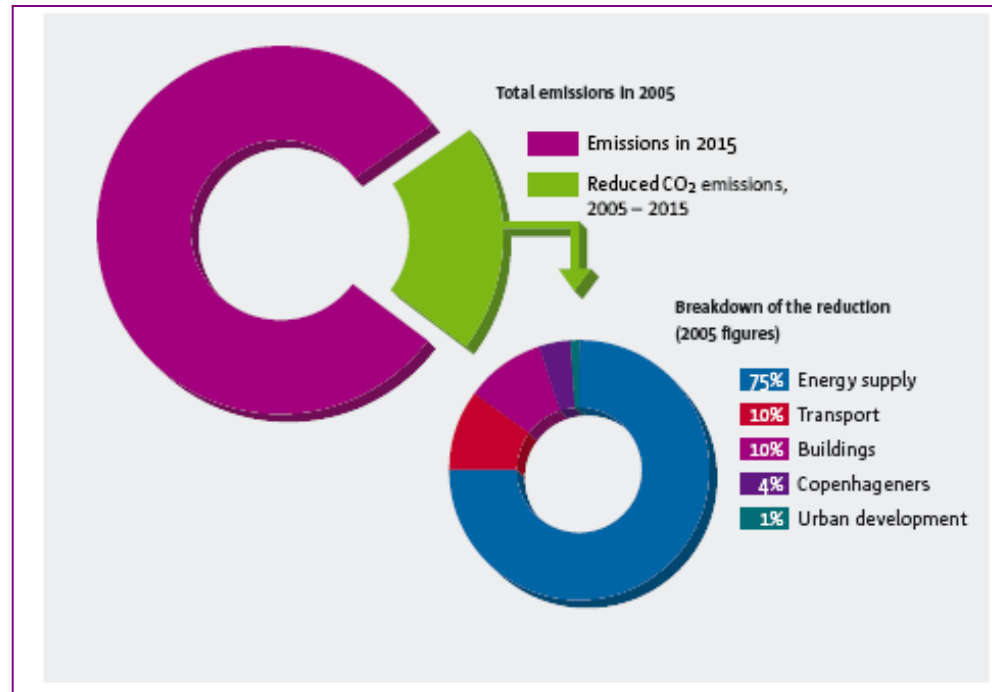
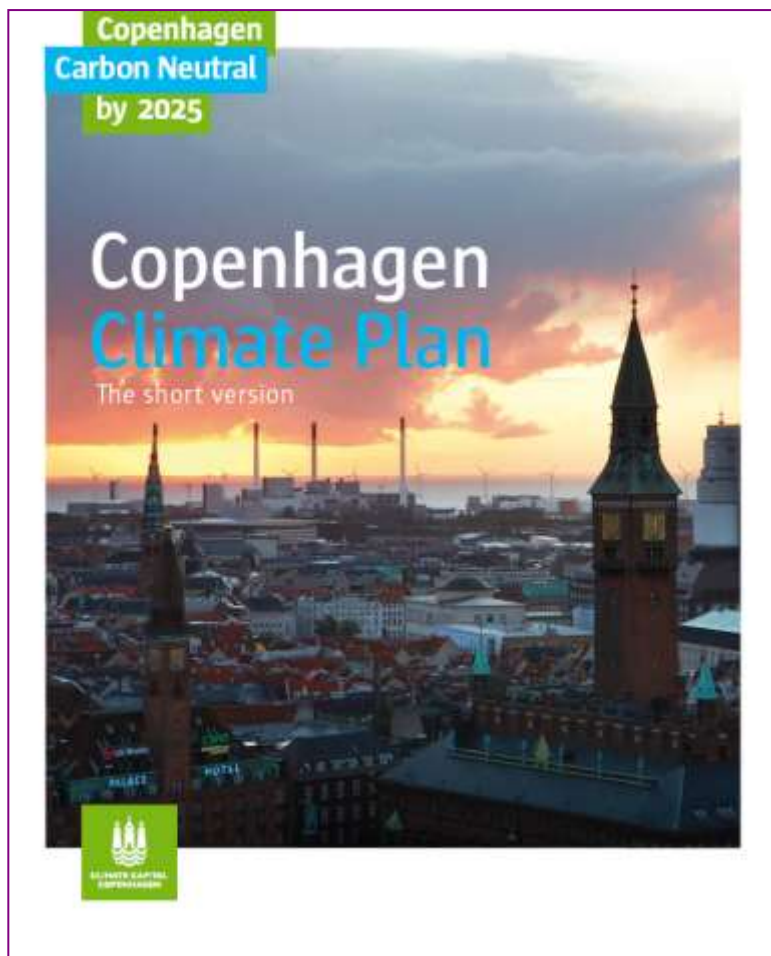
Fuel cell technology
 Using innovative local energy generation technology will enable



Geuzenveld - Sustainable Neighborhood



Good examples from big towns:

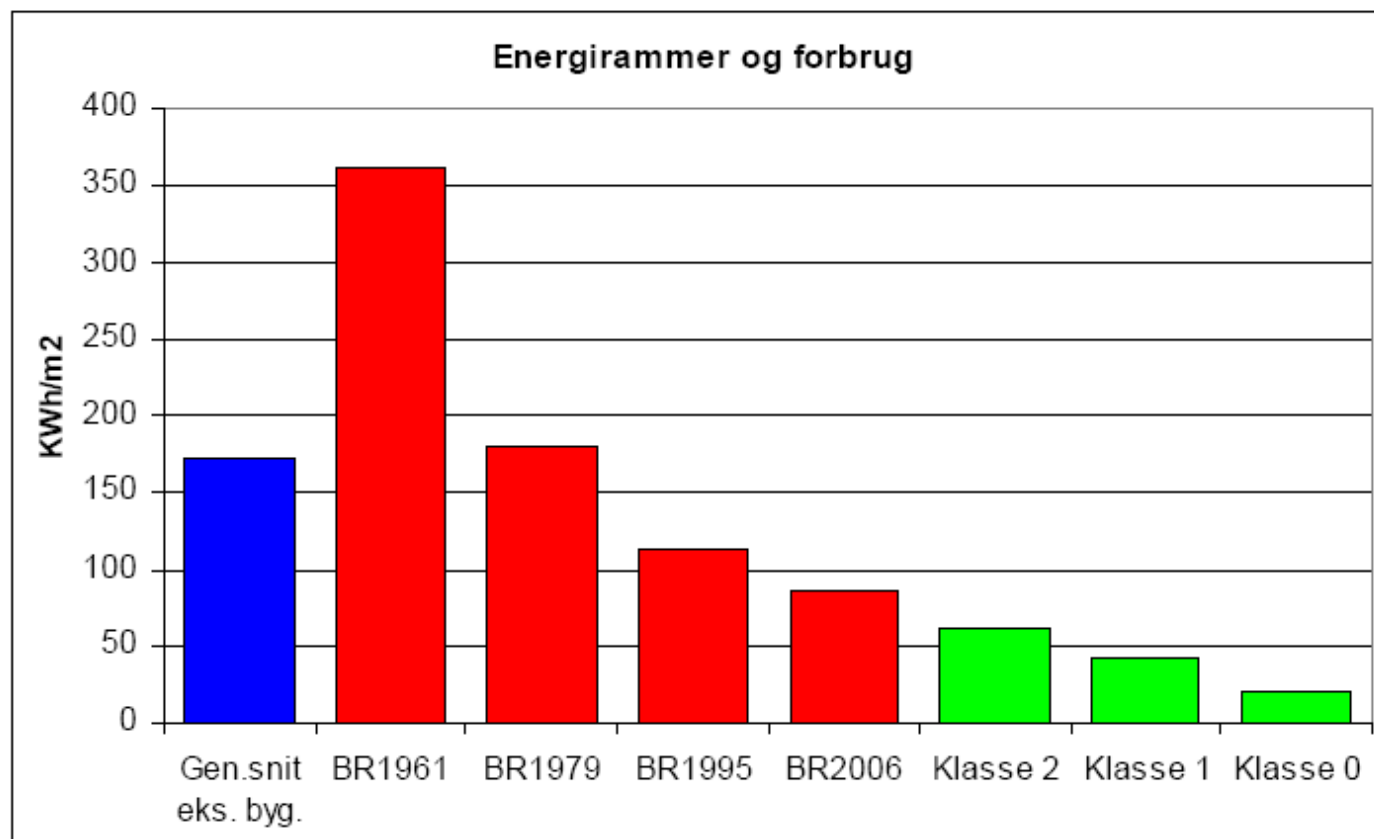




38 % of connections by bike. In the city increase to 57 %.
Big investments on public transports



Low energy standards for buildings

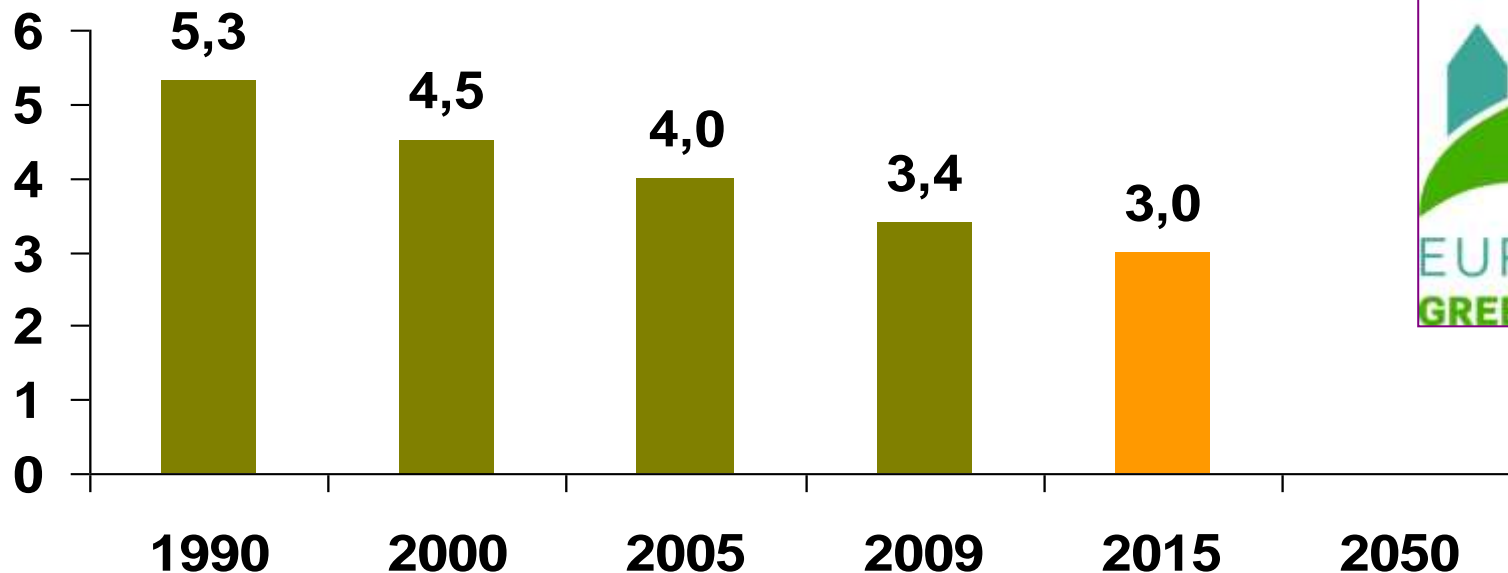


Figur 3: Det gennemsnitlige energiforbrug per kvadratmeter i eksisterende bygninger set i forhold til de historiske energikrav til nye bygninger



Stockholm fossil free by 2050

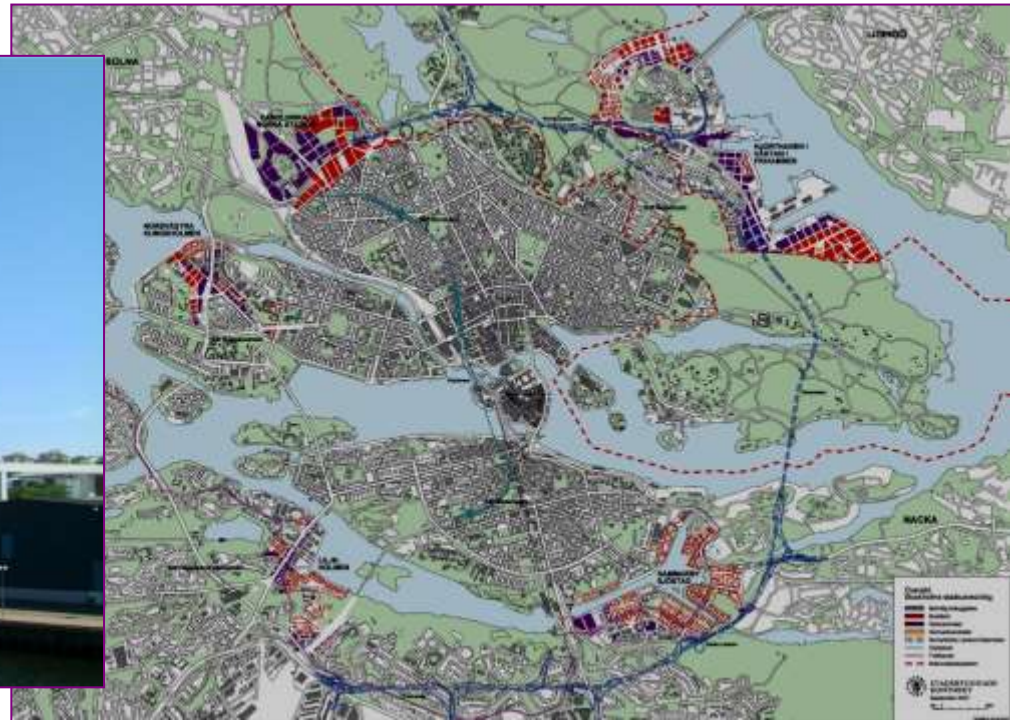
Tonnes CO₂-ekv per capita





Stockholm fossil free by 2050

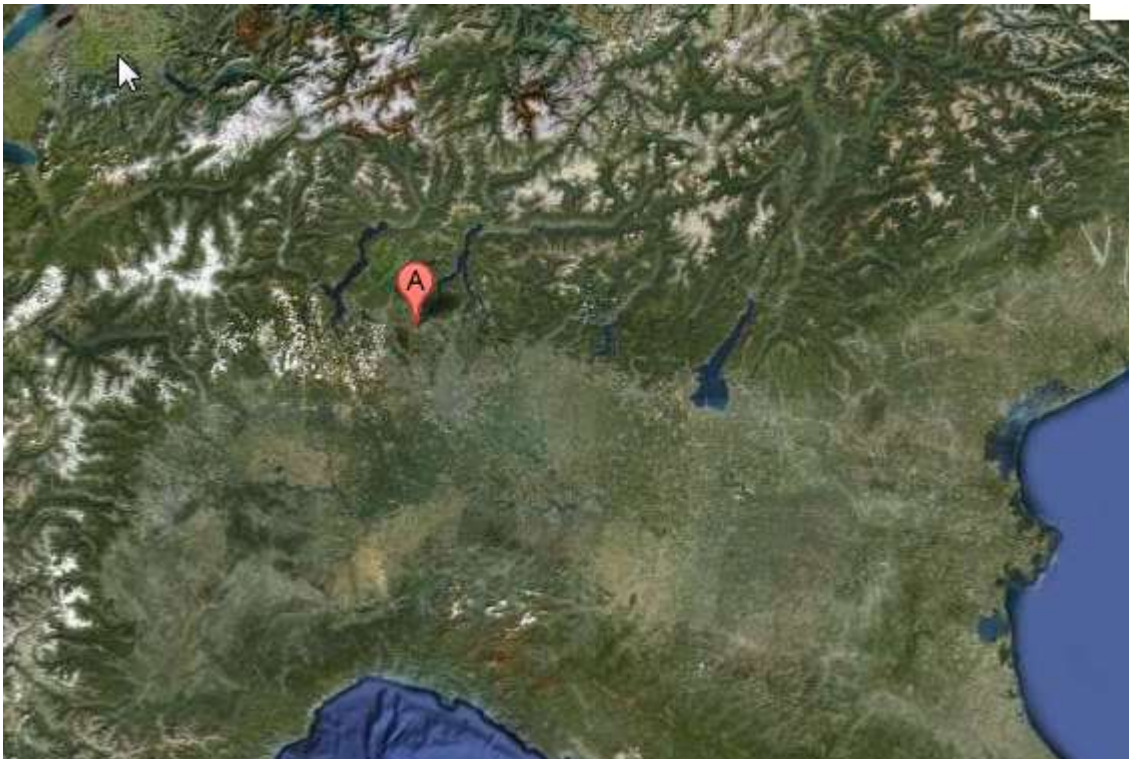
- DHC, CHP, heat waste recovery from water depuration, subsidies for energy audits to private citizens, refurbishment on public buildings, new standards





Good examples also in small towns:

- Villa Guardia (IT): small town with about 8.000 inhabitants





Good examples also in small towns:

- Policies commitment:
 - Covenant of Mayor signed
 - SEAP developed
- Renewable DH: Biomass CHP 5 MWth, 1 Mwe
- Energy audit on public buildings
- Public Light Plan



 Thanks for your attention!