

# Stockholm

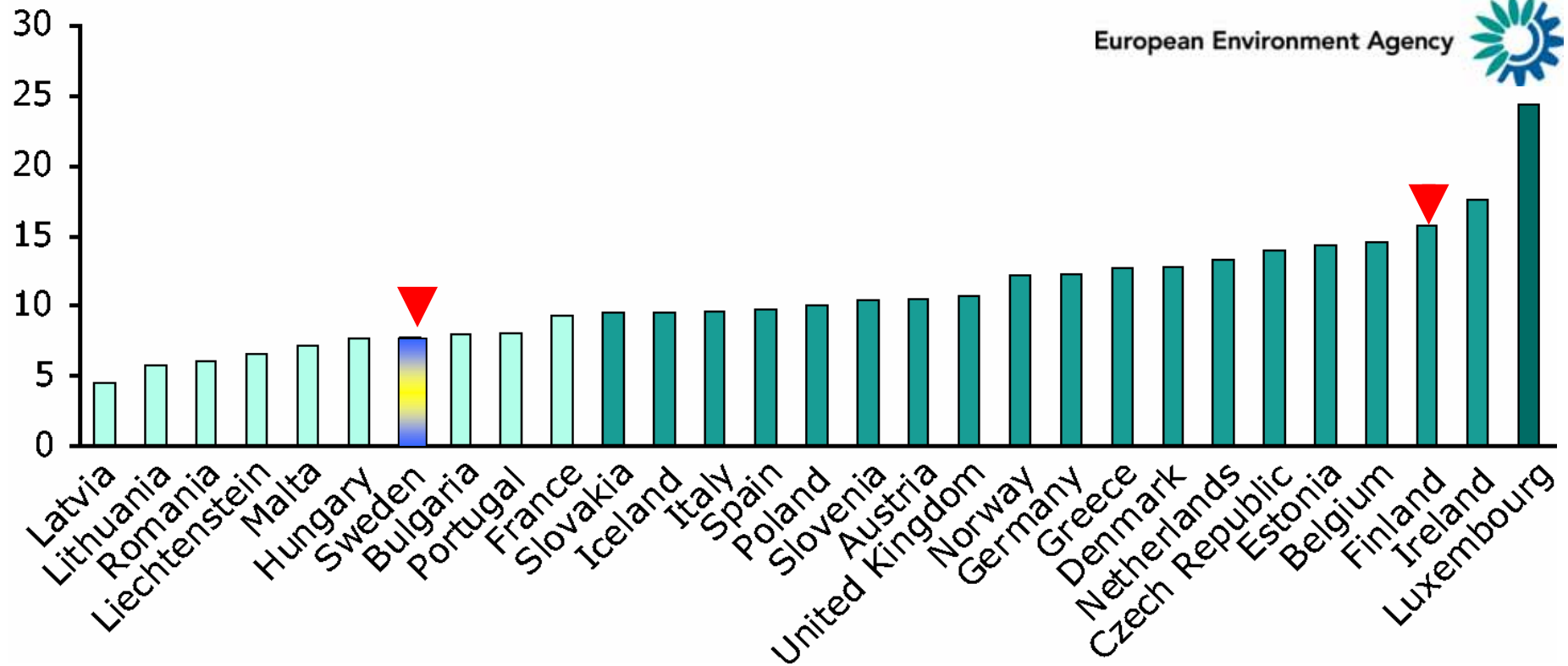
## from 5,3 to 3,0

An aerial photograph of Stockholm, Sweden, showing the city built on islands and connected by bridges. The foreground features a large body of water with many small boats docked along the shore. The city buildings are visible in the background, and the sky is a pale blue.

Örjan Lönngren  
City of Stockholm

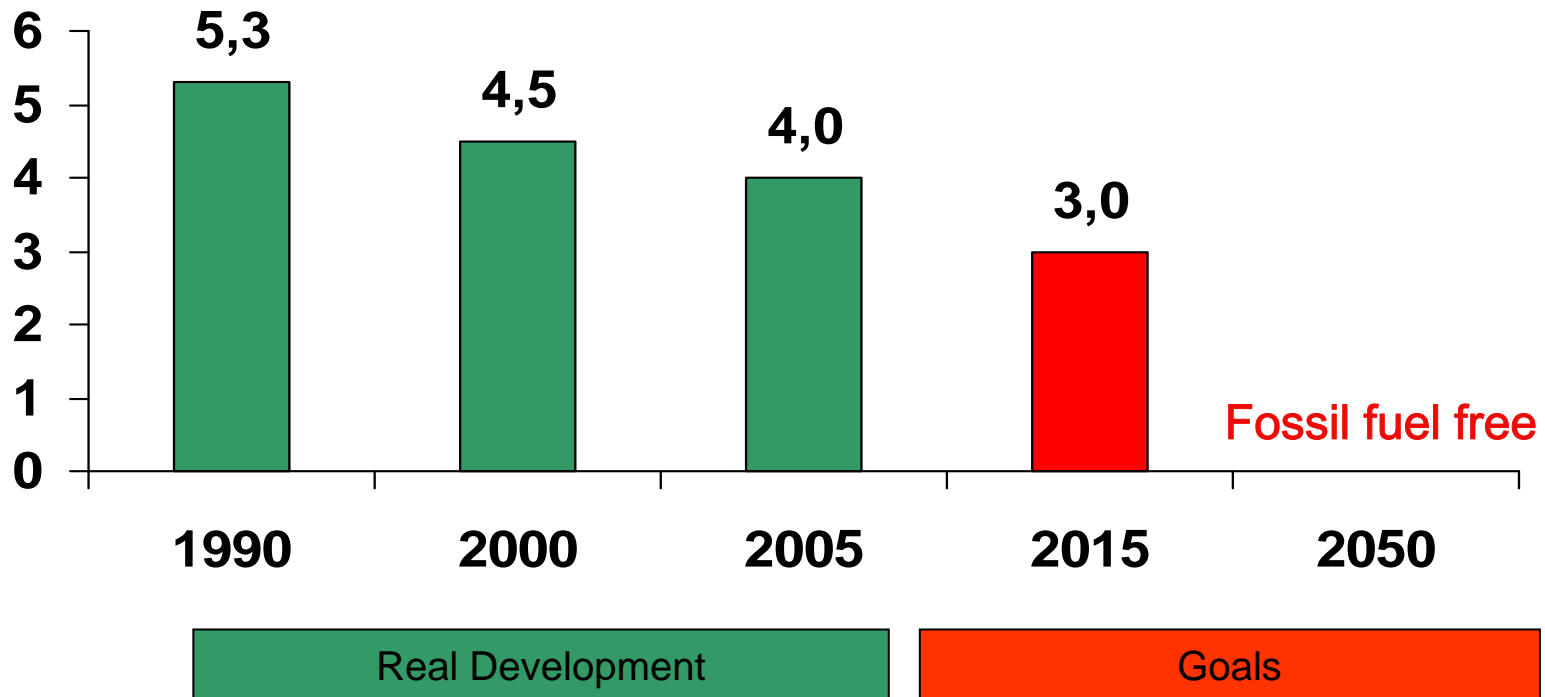
# Emissions of carbon-dioxide

tonnes CO<sub>2</sub> eq/capita



# Goals and achievements

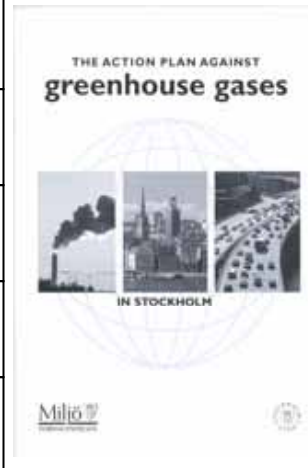
Tonnes CO<sub>2-ekv</sub> per capita



## Cities for Climate Protection Systematic work

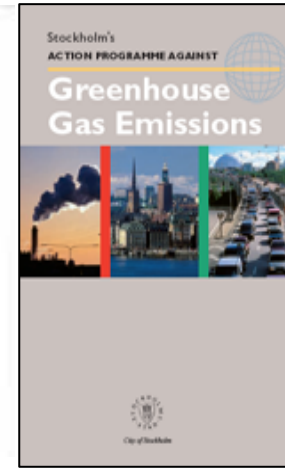
1. Baseline emissions inventory and forecast
2. Setting an emission-reduction target
3. Developing a local plan to meet the target
4. Implementing the local plan
5. Monitoring and reporting on progress

## Action programmes



1996

2000



2000

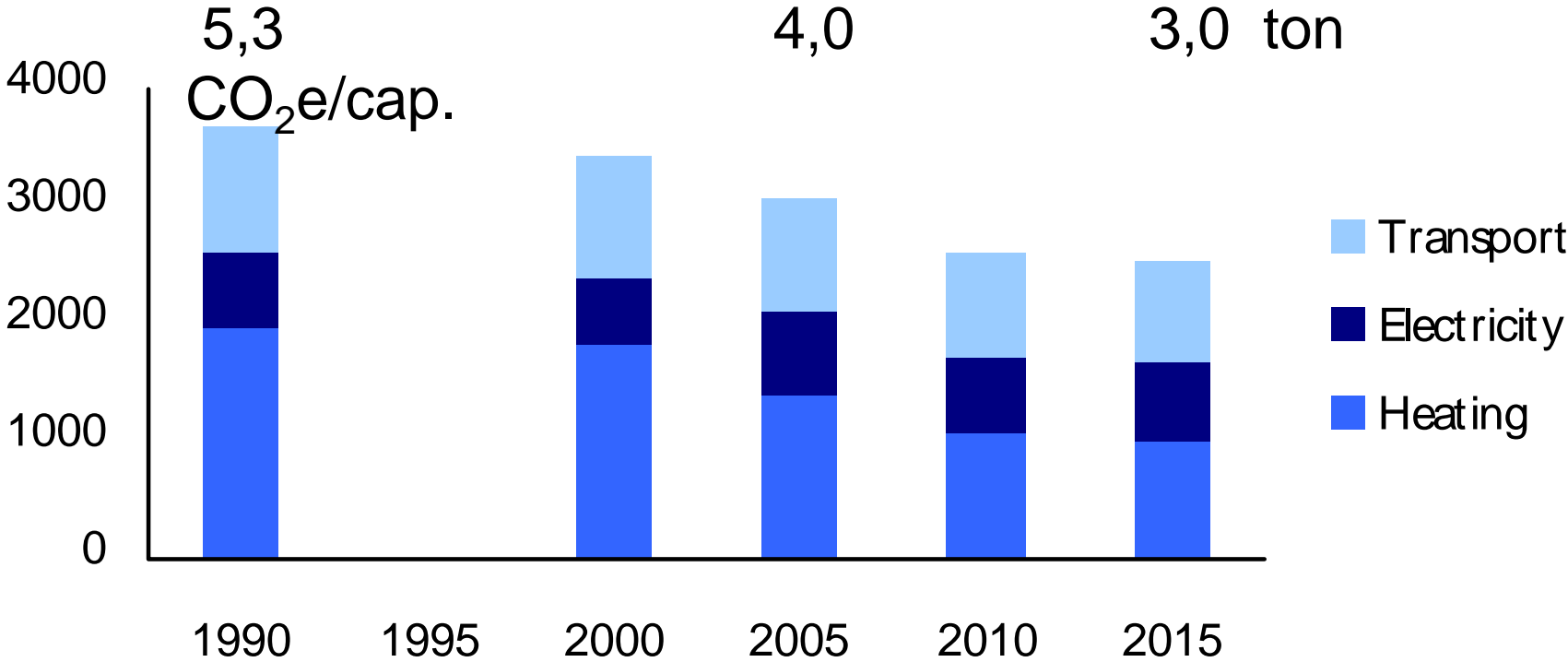
2005



2008

2015

# Total emissions of CO2



# 11 packages for municipal entities 2005-2015

	Ton CO2 eqv	GWh
1. 100 %Green electricity	35 000	0
2. Reduced warm water, municipal housing	2 100	21
3. Optimization of building systems	3 700	55
4. Optimization of building use	14	2
5. Speeded change of appliances	44	21
6. Insulation improvements in building	14 300	149
3-6. Higher potential through better implementation	19 000	170
7. Renewable energy, solar	800	8
8. Conversion of fossil fuel furnaces	24 000	8
9. Saving from better business travel	1 000	-
10. All municipal veh. are clean vehicles 100%	2 000	-.
11. More efficient goods transports	?	?
<b>Total for all municipal administrations and companies</b>	<b>83 000</b>	<b>264</b>

# 12 packages for the rest of Stockholm 2005-2015

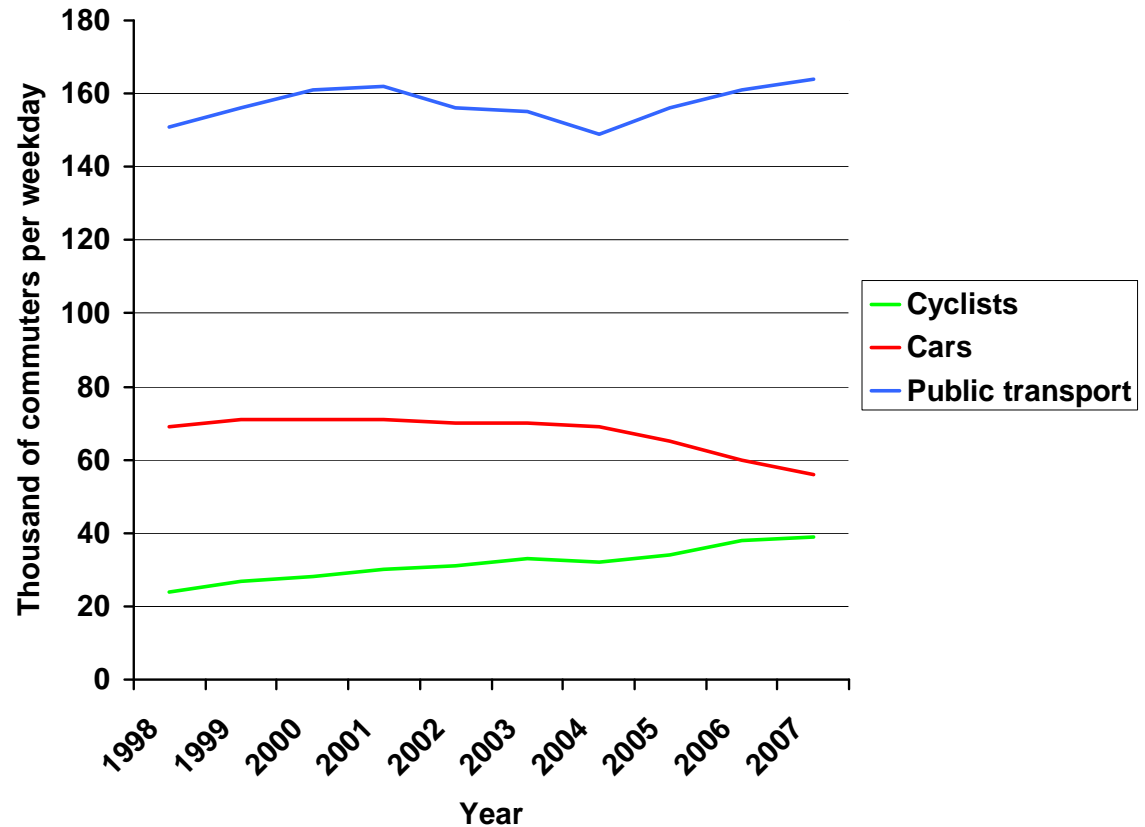
	Ton CO2 eqv	GWh
1. Energy efficient new developments	6 100	61,0
2. Improvements of existing building stock	25 000	230,0
3. Reduced warmwater use in buildings	1 300	13,0
4. More efficient use of el. in office space	4 700	50,0
5. More efficient use of el. in industry	7 600	80,0
6. Renewable energy, solar	160	1,7
<b>Total heat and electricity</b>	<b>45 000</b>	<b>436</b>
7. More efficient transport of people	28 800	-
7a. Improved walking, cycling	-	-
8. More efficient good transport	8 900	-
9. More efficient construction machines	20 000	-
10. Renewable fuel in cars, vans and machines	9 800	-
11. Renewable fuel in buses	9 700	-
11a. Biogas from food-rests	Inkl above	-
12. 20% renewable in diesel fuel	5 000	-
<b>Total transport</b>	<b>82 200</b>	<b>-</b>



# Transport



## Car, cycle and public transport to the inner city





# Sustainable transport by Carrots & Sticks!

## Sticks

- Environmental zones for lorries and busses
- Congestion taxation

## Carrots

- Improved cycle lanes
- Increased public transport use
- New ways of transport
  - Car-sharing clubs
  - Better information
  - Adaptive traffic signals
- Goods logistics
- Clean vehicles



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# Attractive public-transport

## Marketing

- free tickets for special groups i:e new citizens
- Mobility planning Surveillance
- trip-guarantees
- smart-cards
- 75 % market share in rush-hour

## Vehicles

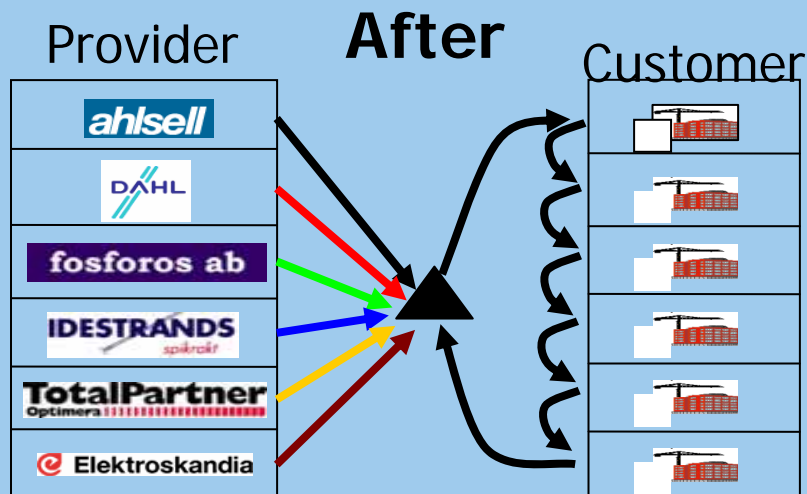
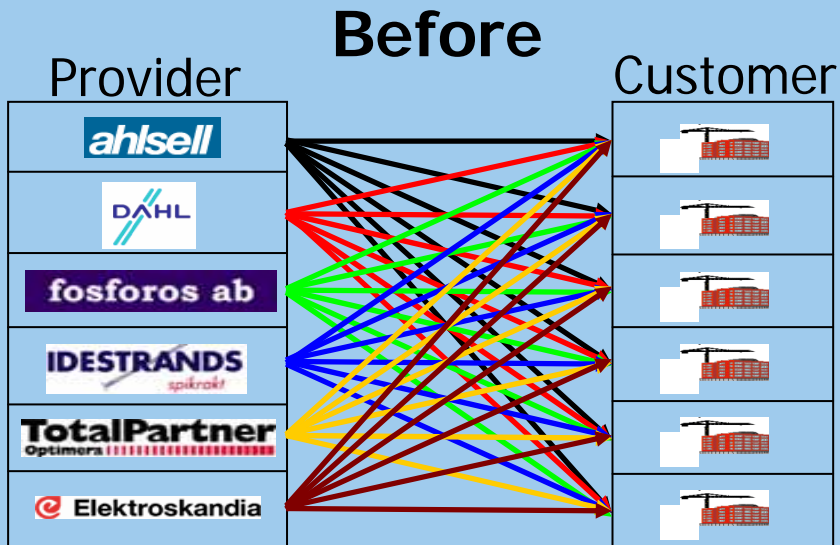
- Metro and commuter trains run on green electricity
- Fossil fuel free busses:
  - 50% by 2011
  - 100 % by 2020



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# Goods distribution O-central Old town



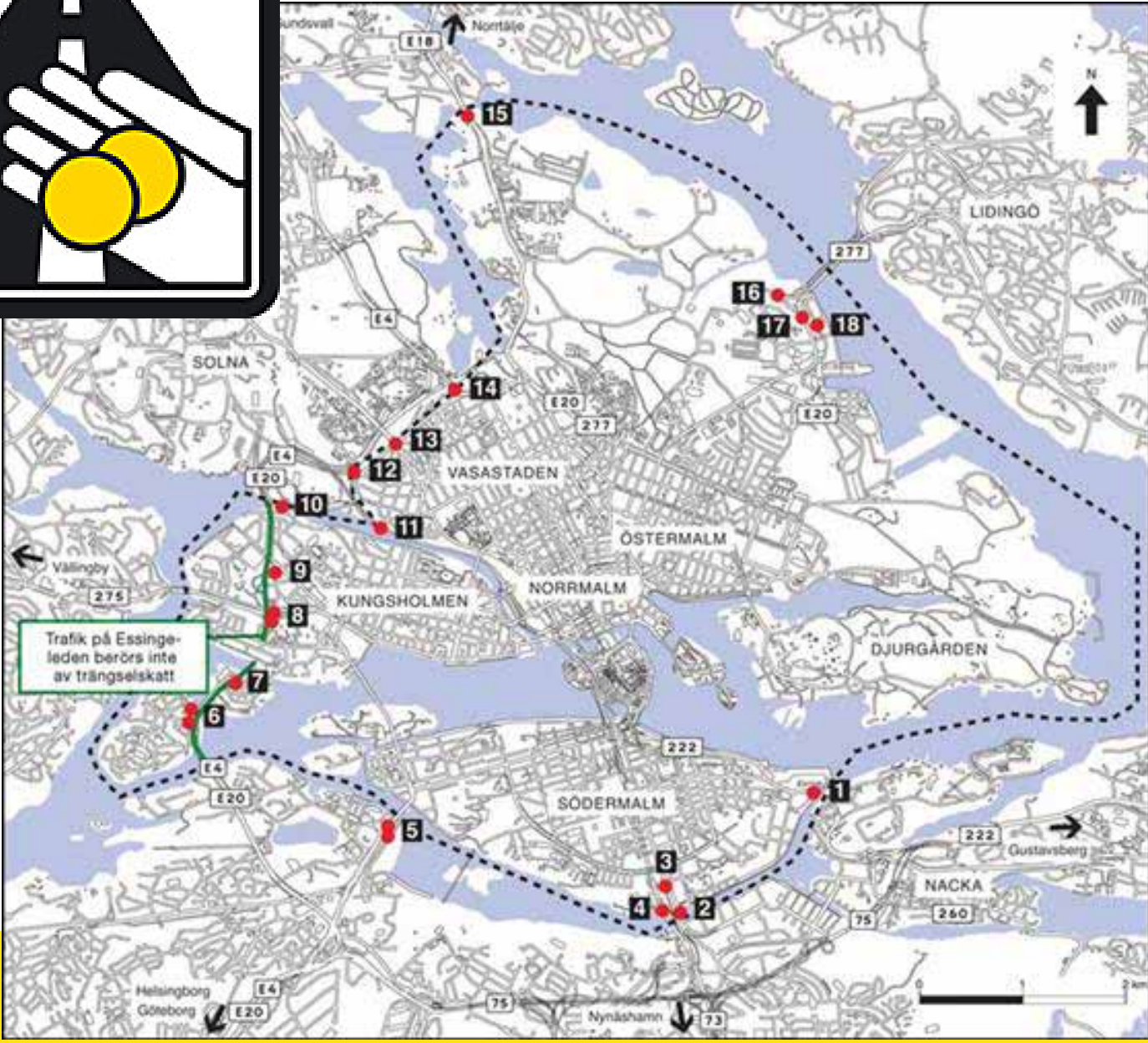
## Logistic centre building material

- Less transport, better environment, lower costs
- require an active partner
- Can be supported by incentives

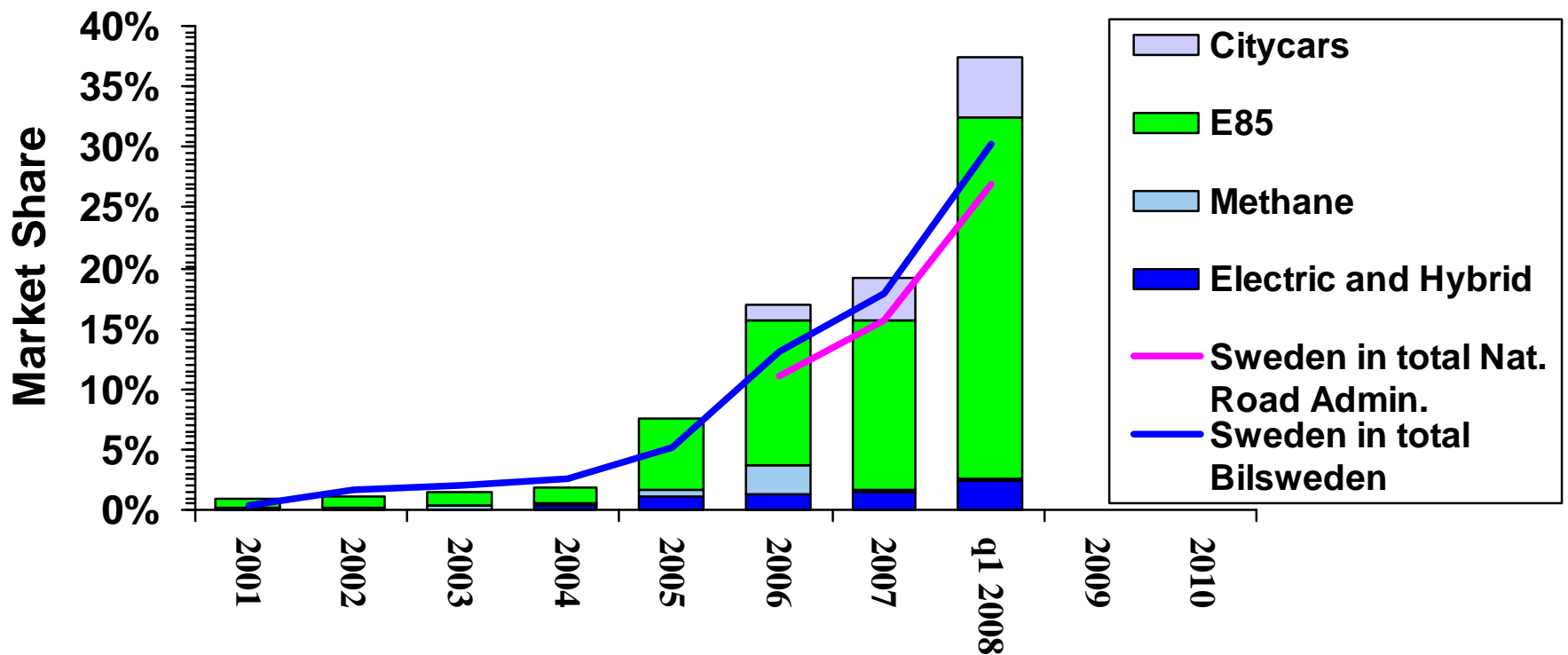


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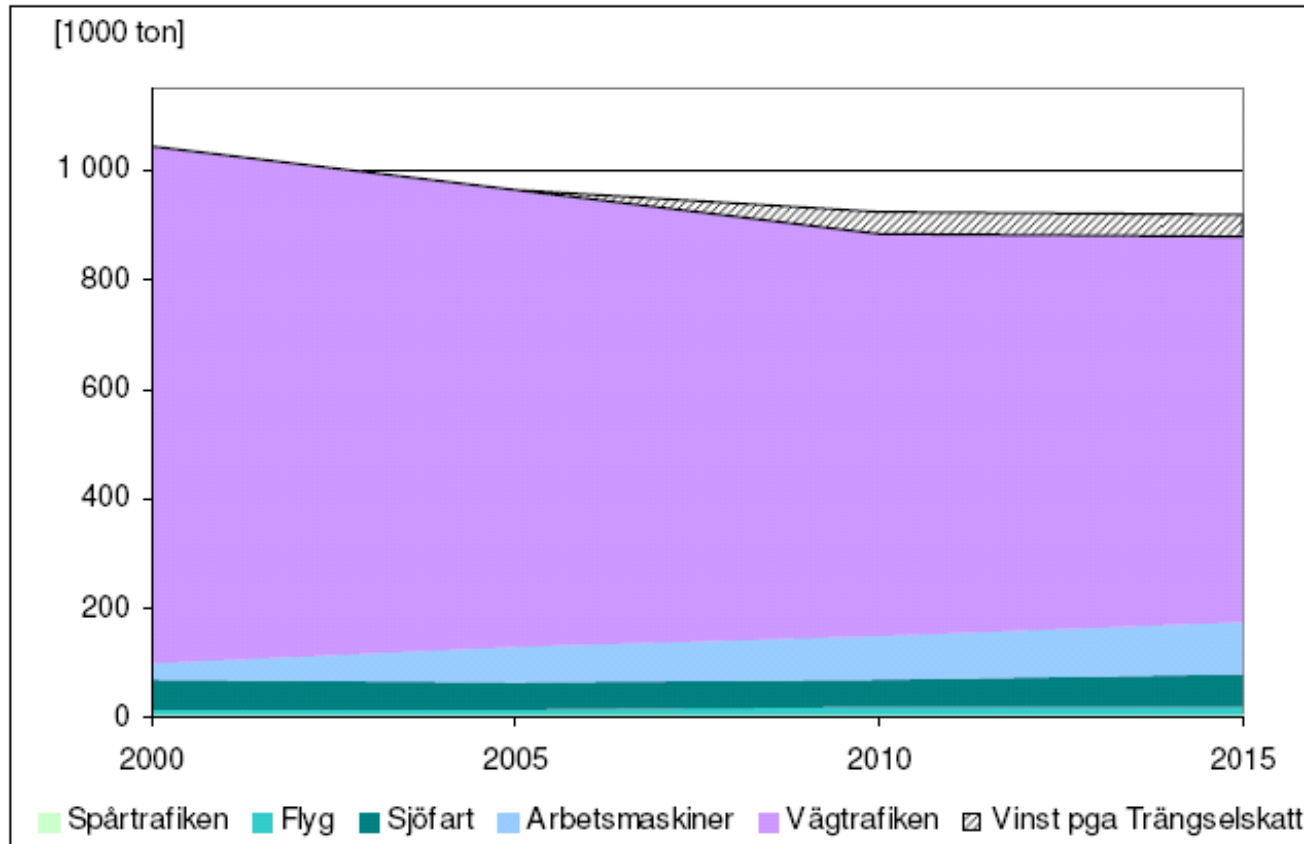
# Congestion-charging zone



# Sales of Clean vehicles Sweden & Stockholm region 2001-2008



# Emissions from traffic





# Heating

# District heating & Co-generation

- Co-generation, biofuels, waste
- Heat pumps from sewage water
- Market share 75 %
- Fossil fuel 21 %
- District cooling



# Support for energy efficiency

## **Energy advice centre**

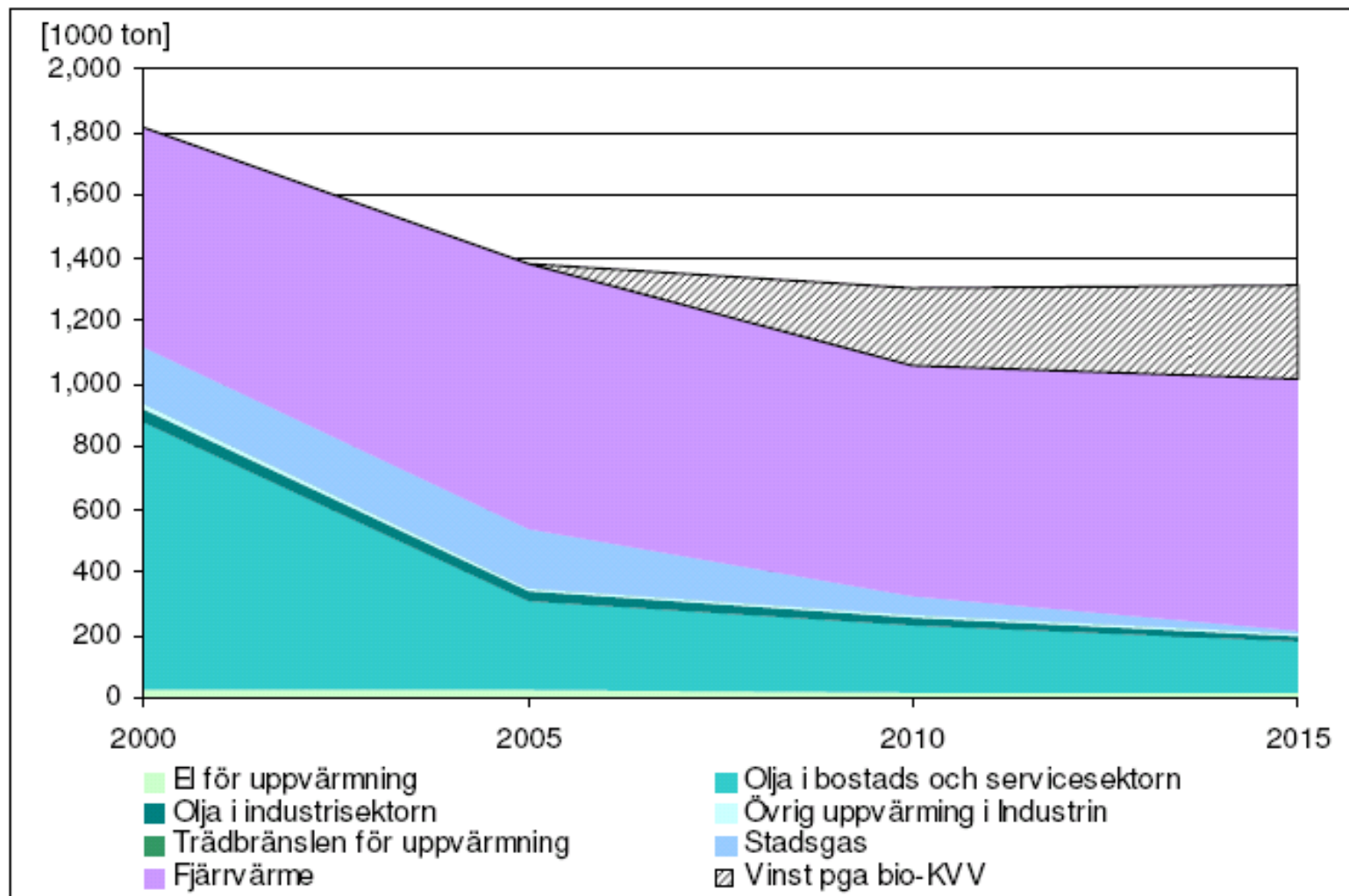
- Private houses and buildings

## **Energy Centre for the city's own buildings**

- Support energy efficiency measures in the city's companies and administrations
- Energy statistics



# Emissions from heating





# Electricity

10 % less use of electricity in the municipal of Stockholm  
2006 – 2010

100 % "green electricity" in the municipal of Stockholm 2010  
(electricity from water and wind)

Projects with LED-light in traffic signals

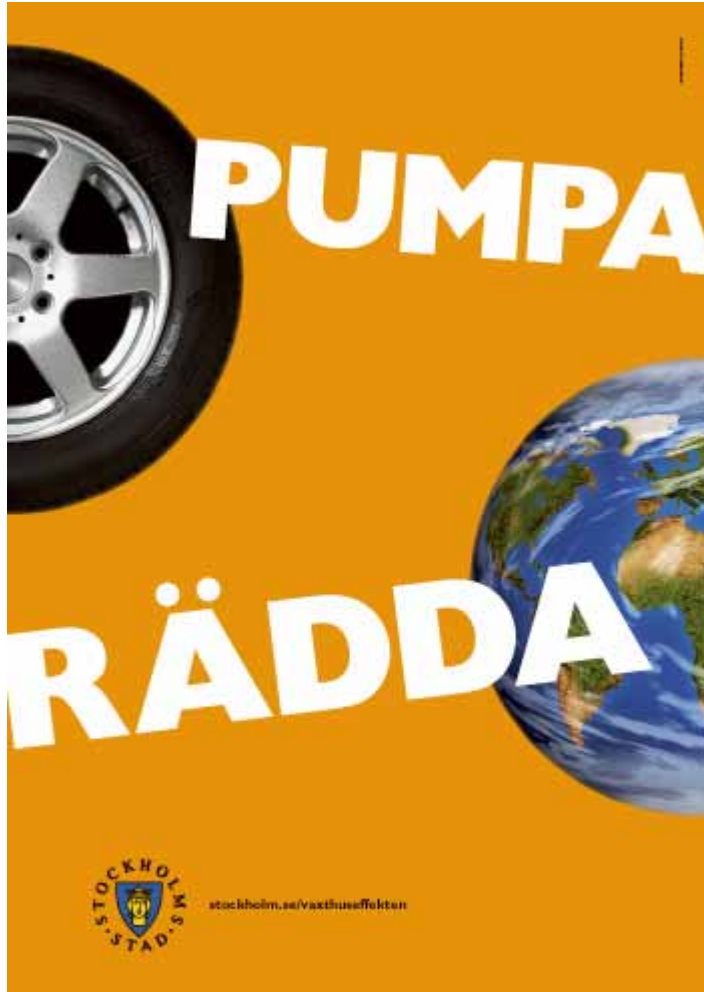
Project with LED-lights in schools and other buildings





# Information projects

# Emissions from inhabitants



## Tyre pressure campaign

Jan 2006 - Aug 2007



## Smarter consumption

Jan 2005 - June 2007

## Climate First Aid – Schoolproject

Sept 2005 – June 2009

## Climate Neutral Inhabitants

Sept 2008 – Dec 2010

**THANK YOU !**



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