

# Stockholm – fossil-free 2050

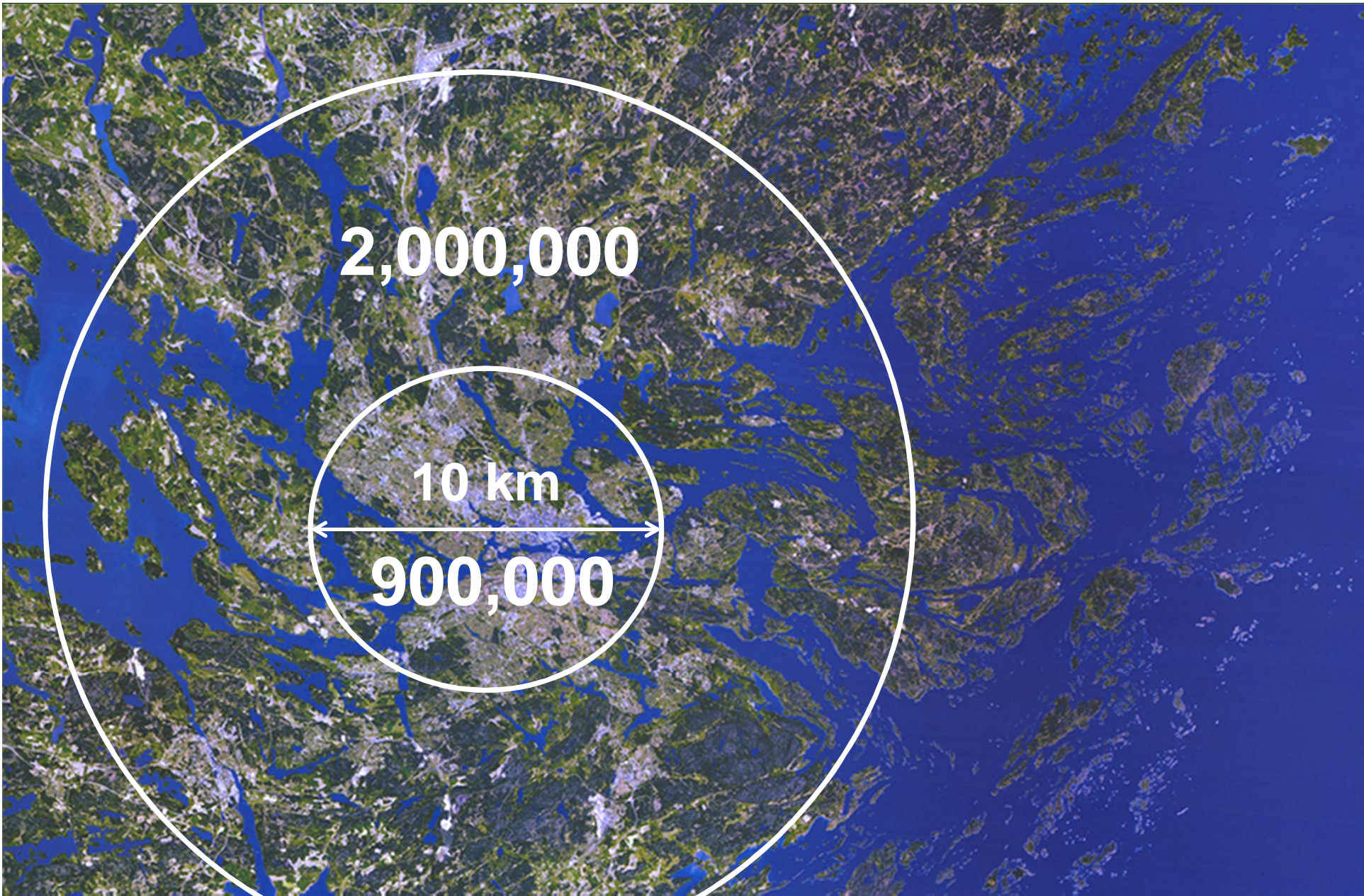


Jonas Ericson  
Clean Vehicles in Stockholm

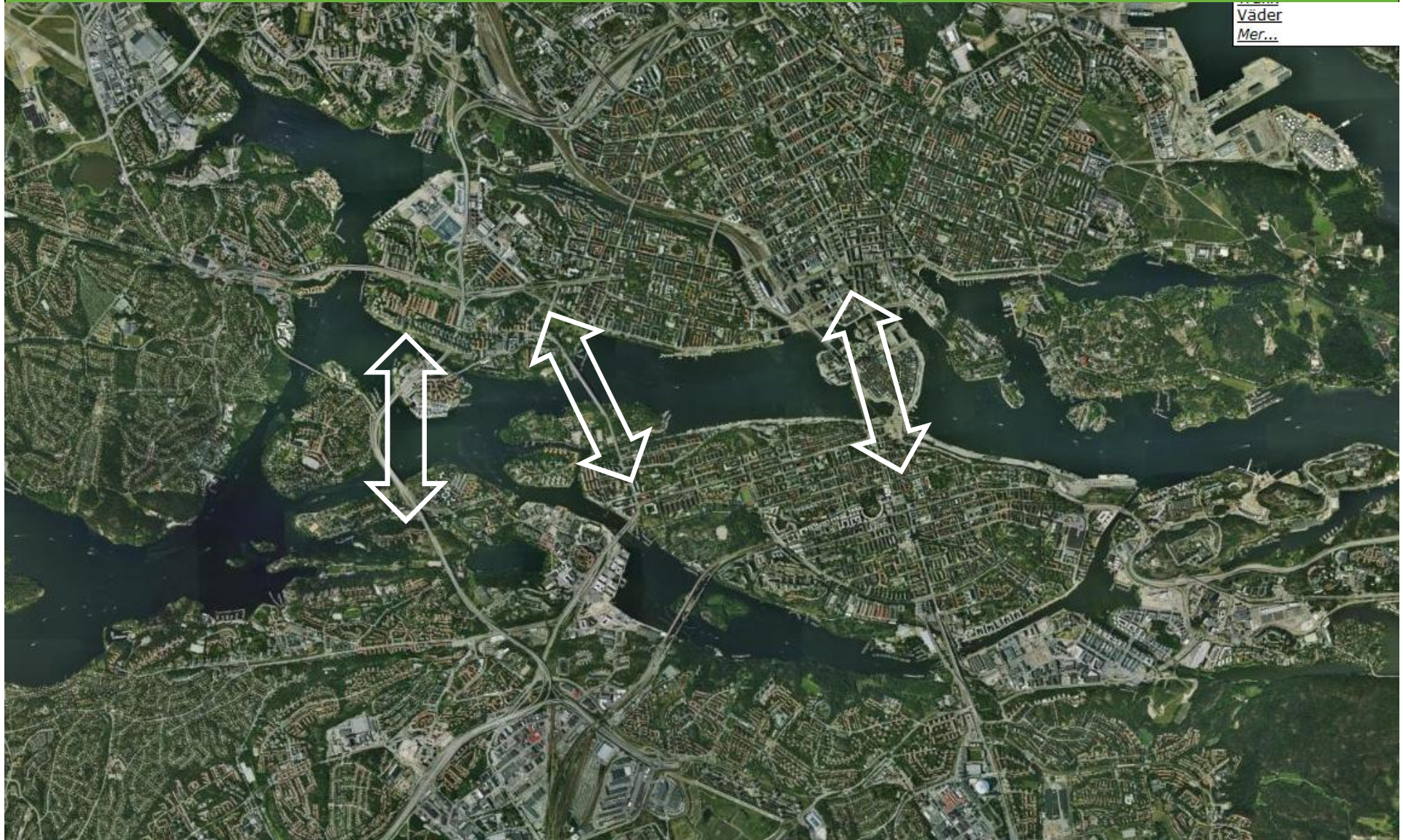


THE CITY OF





# Clean Vehicles in Stockholm



**CLEAN VEHICLES IN STOCKHOLM**  
ENVIRONMENT & HEALTH ADM  
[www.miljobilar.stockholm.se](http://www.miljobilar.stockholm.se)

Vehicles/day

160 000

35 000

135 000

$\Sigma$  330 000  
(26 %)

Public transport  
journeys/day

60 000

80 000

800 000

$\Sigma$  940 000  
(74 %)



# Clean Vehicles in Stockholm

**Stockholm is growing - 40,000/year**



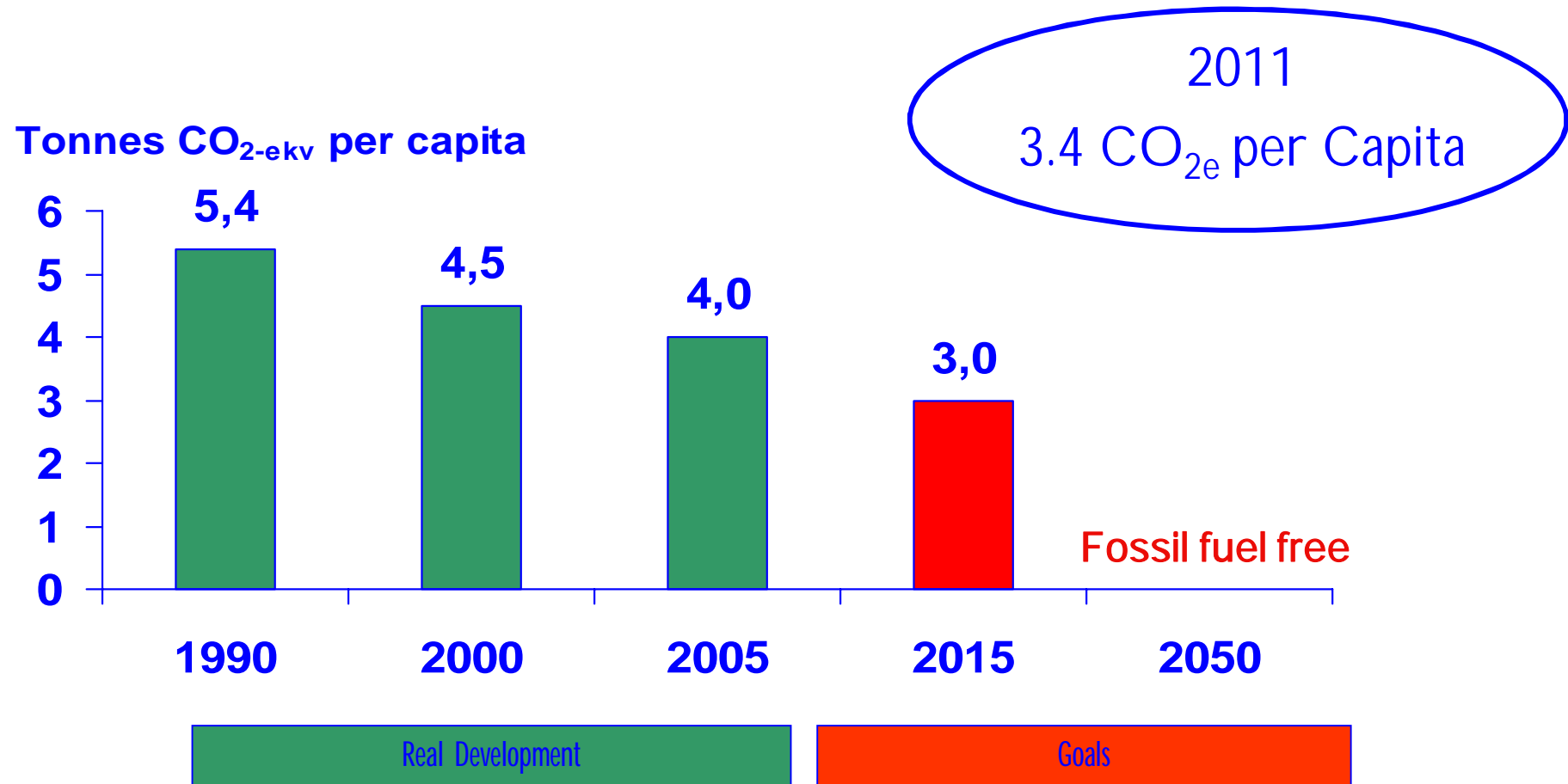
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2015-05-24

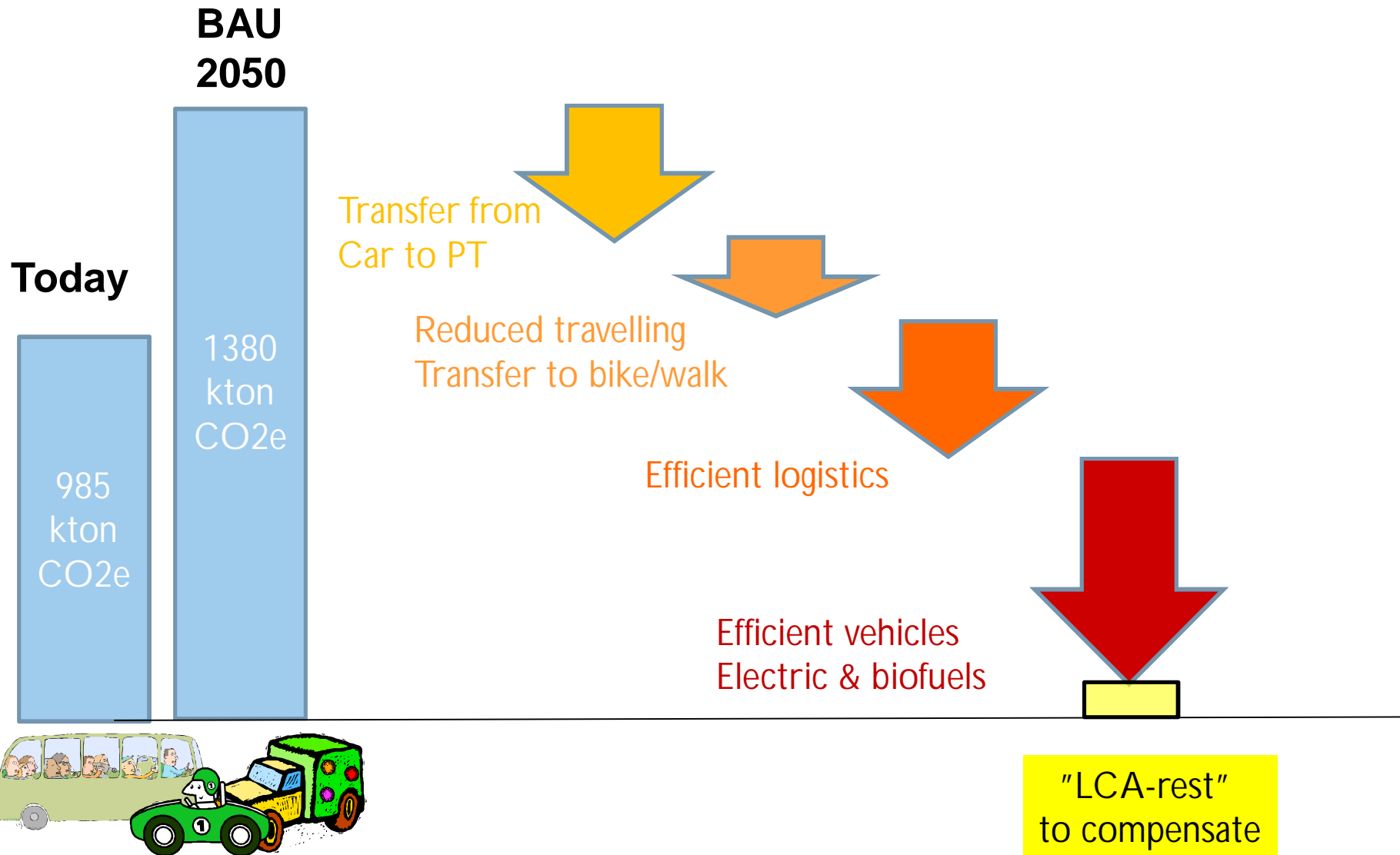


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# Goals and achievements







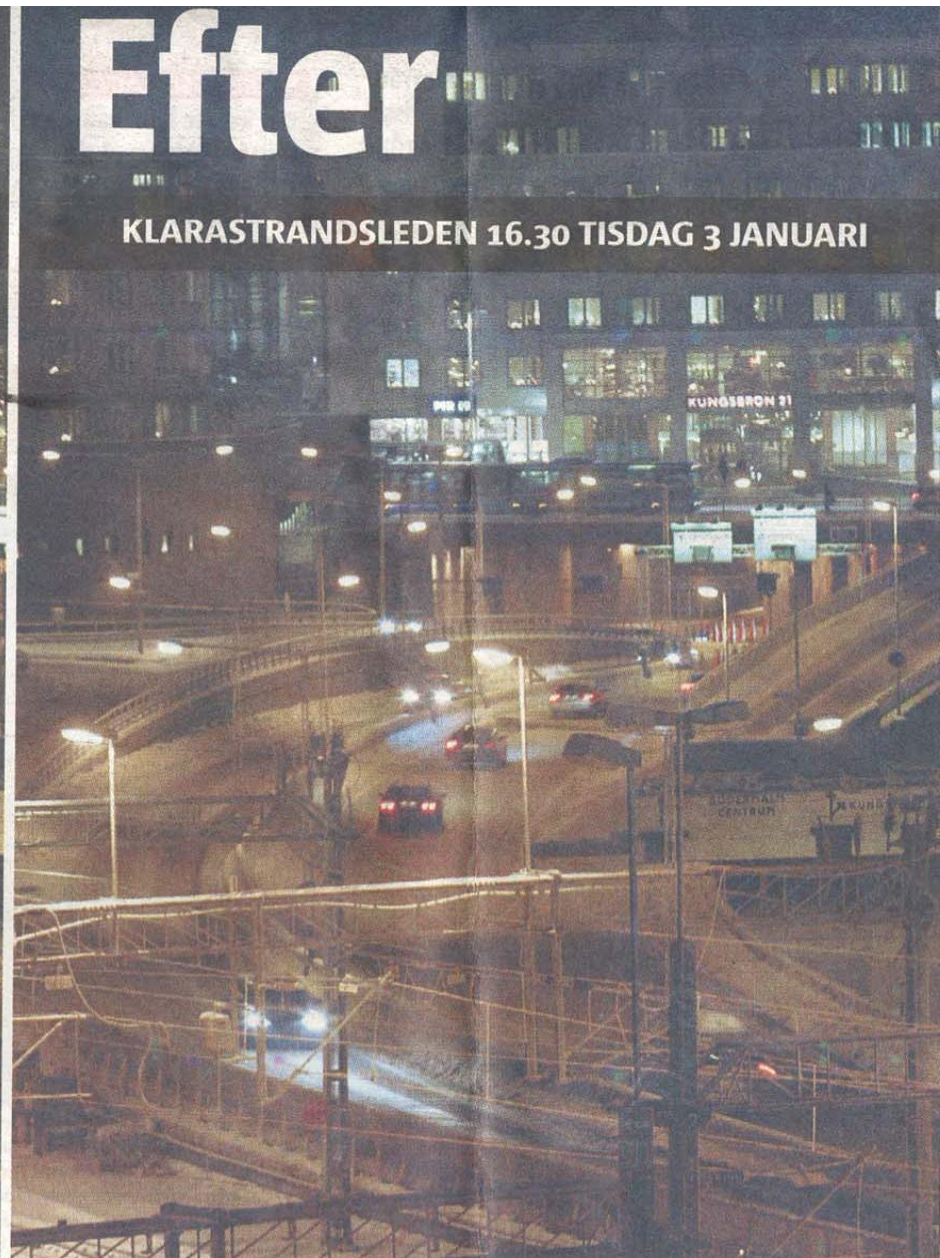
# Congestion Tax



**Vardagar**  
(ej dag före söndag och helgdag)

Kl	Kr
0630 - 0659	10:-
0700 - 0729	15:-
0730 - 0829	20:-
0830 - 0859	15:-
0900 - 1529	10:-
1530 - 1559	15:-
1600 - 1729	20:-
1730 - 1759	15:-
1800 - 1829	10:-

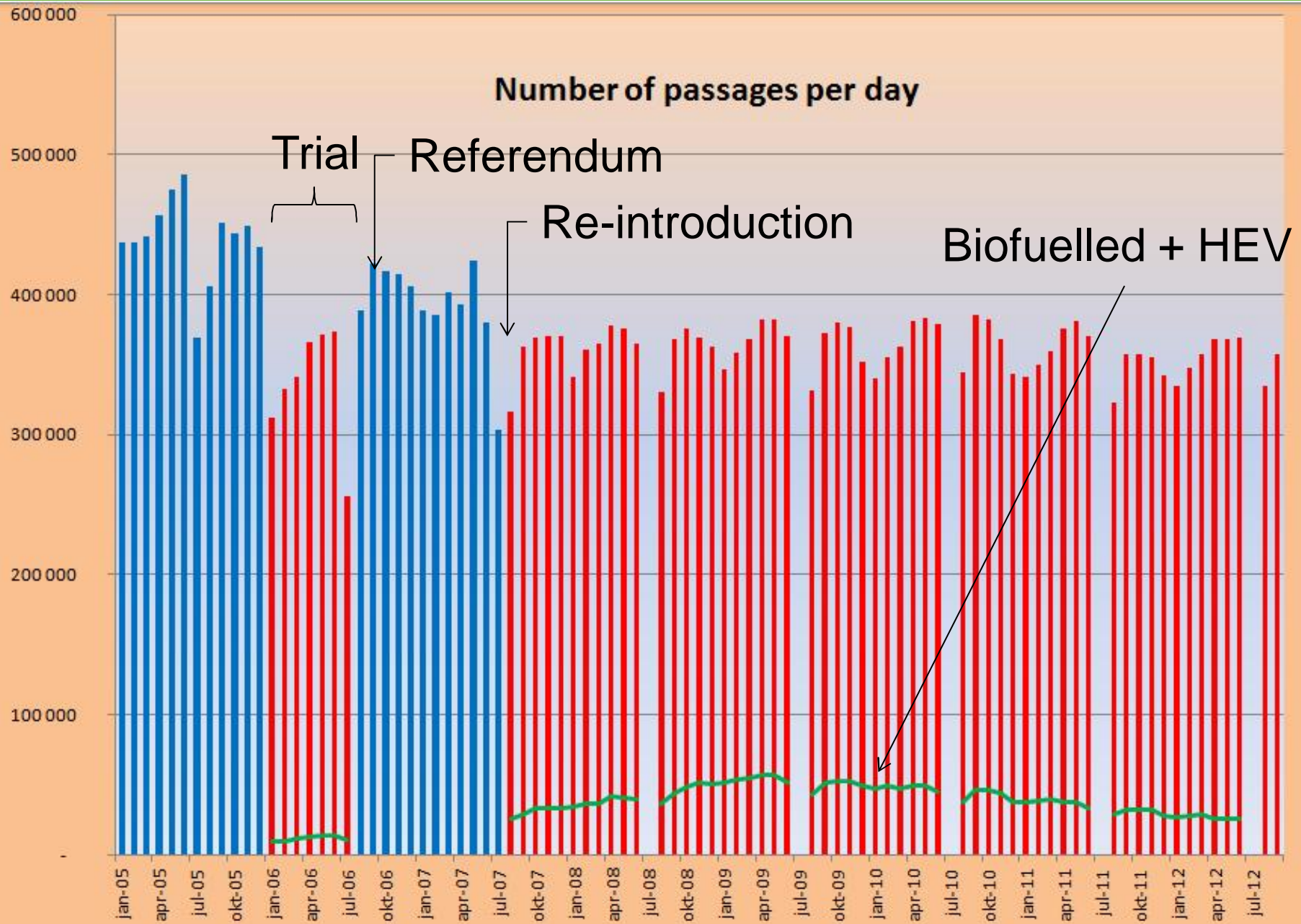




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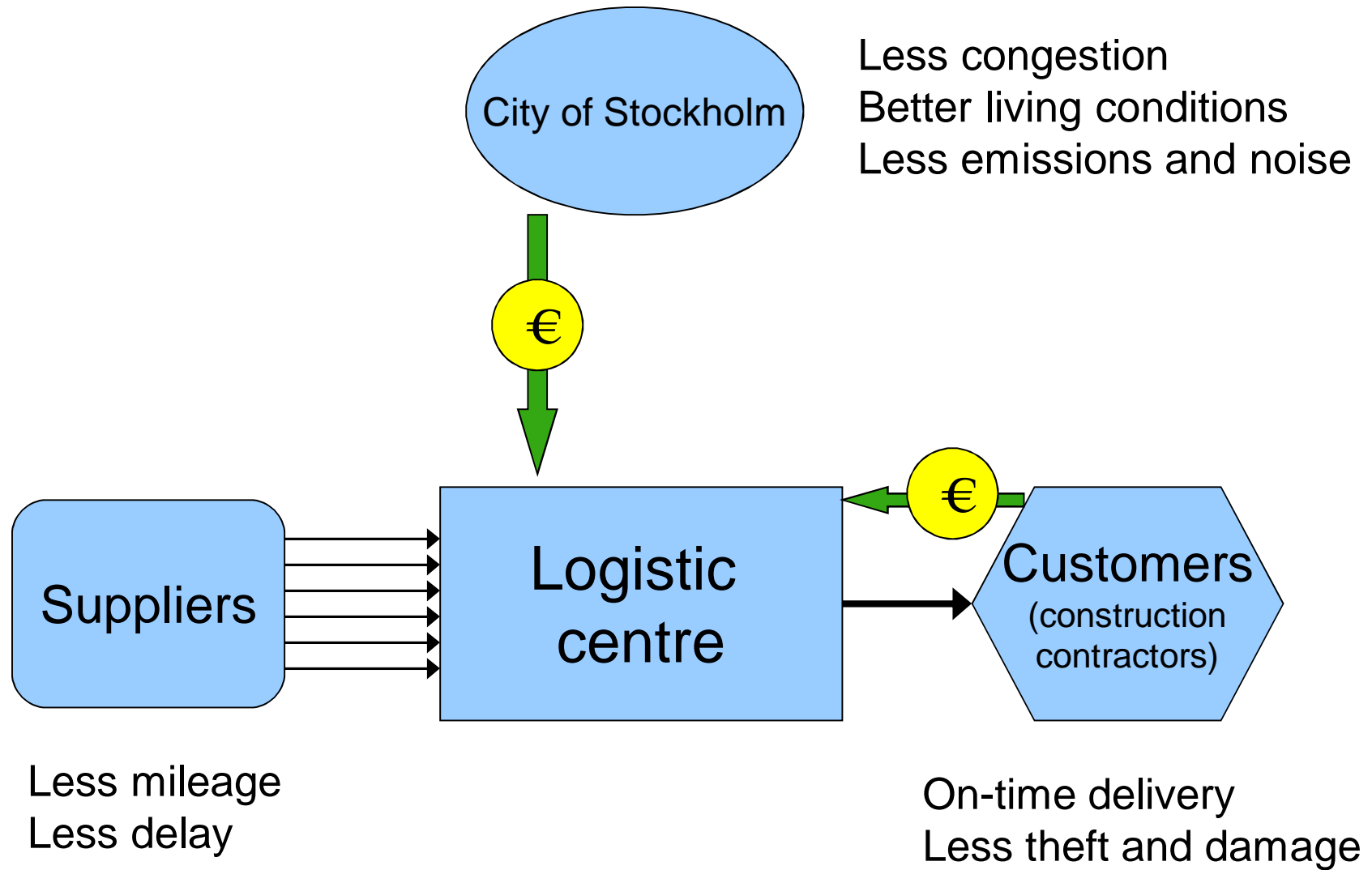
# Clean Vehicles in Stockholm



# Logistics

A photograph of a construction site. In the foreground, a Volvo truck with a red and green cab is parked. Behind it is a blue container. To the left, there are stacks of white and yellow materials. In the background, there are several multi-story buildings under construction, with scaffolding and cranes visible. The sky is overcast.

**1,5 ton per delivery**  
**700 ton material per day**  
**1 delivery every 30 second**





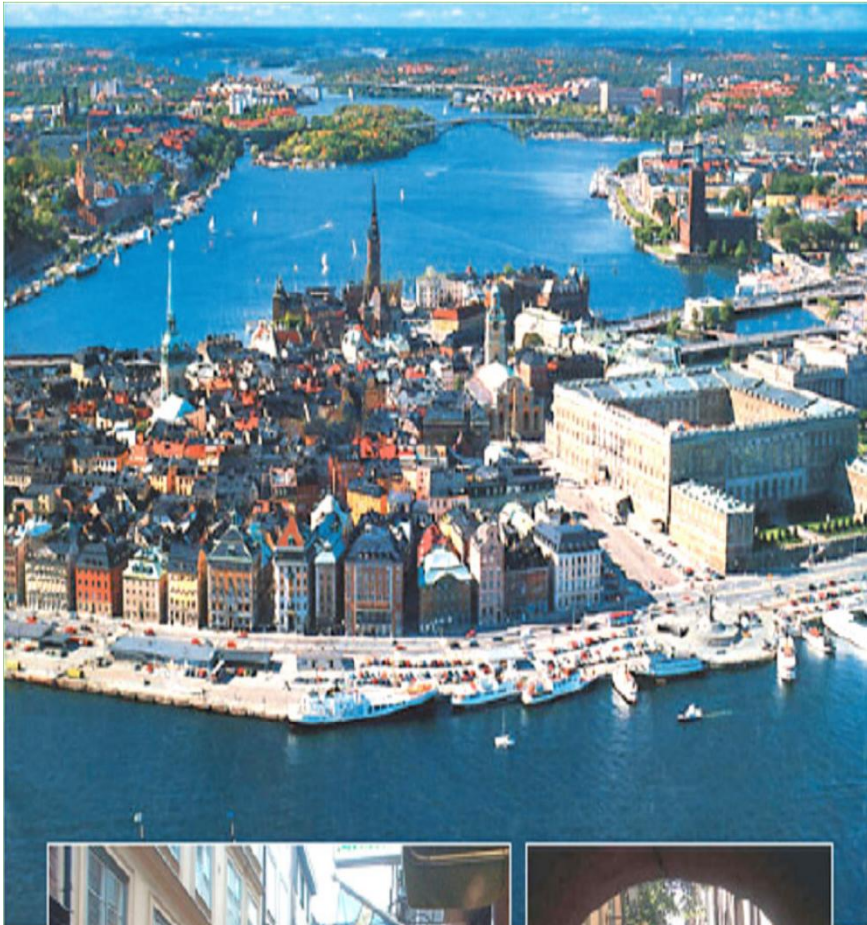


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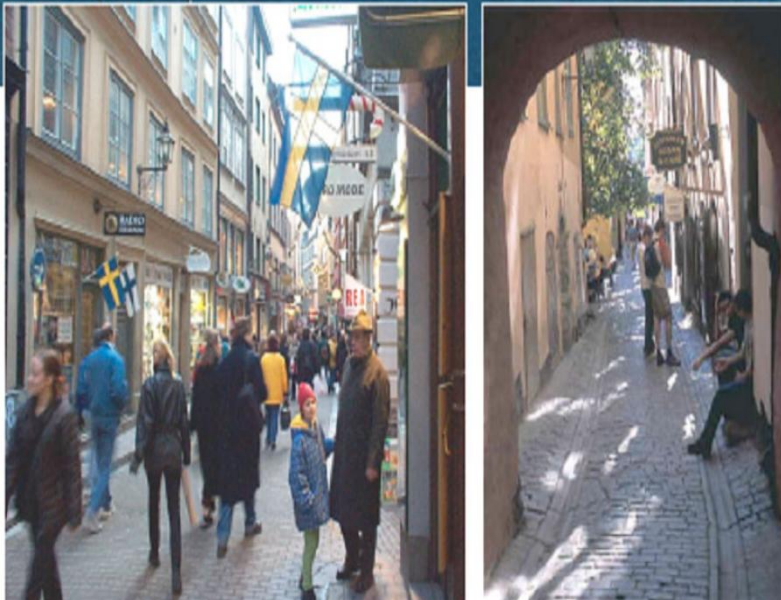


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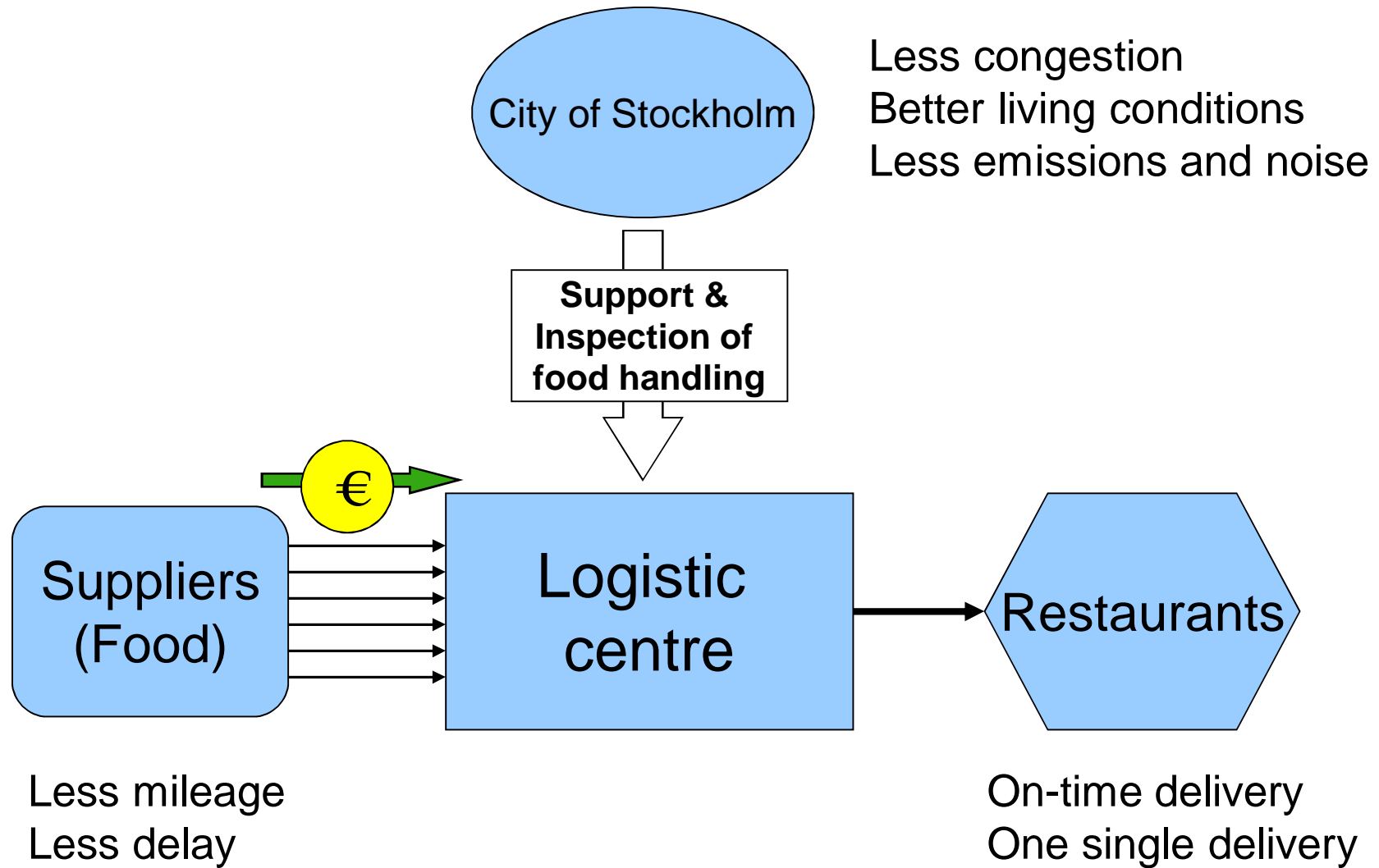


## Medieval Old Town of Stockholm

- **Restaurants = daily deliveries**
- **Very difficult traffic conditions**
- **Private company “Home2You” operates a logistic centre**
- **Successful implementation after a complicated start-up**









## Results

- 70 % of the restaurants connected
- Saves 20 000 trips/year

Clean vehicles



175.000 clean vehicles  
17 %!



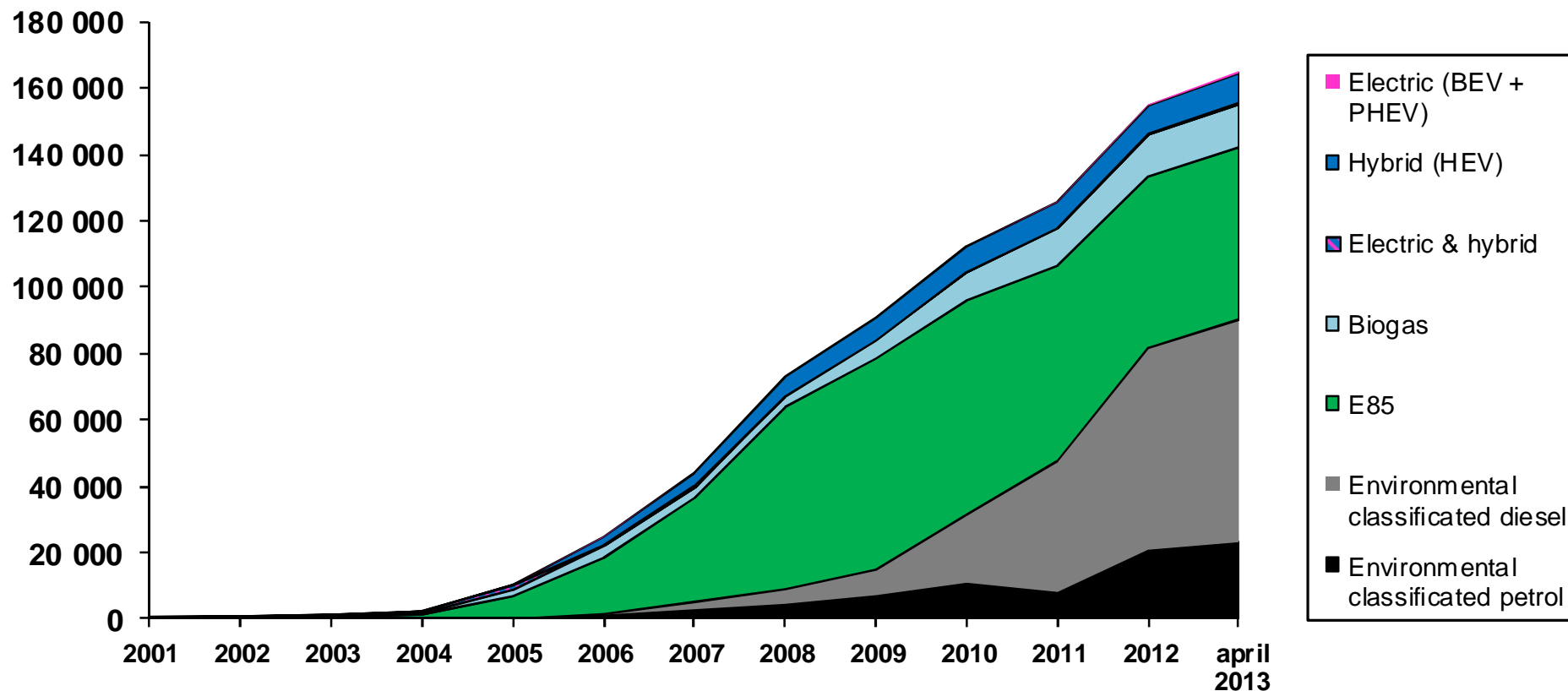


**90 % of the fuelling stations**



# Miljöbilar i Stockholm

## Number of Clean Cars, in Stockholm County



How?



## Start with Municipal fleet

heavy duty vehicles

- limited n° of fuelling stations
- large environmental impact





# Start with Municipal fleet

light duty vehicles

**Stockholm City Council decision 2010:**

By 2014:

- 100 % Clean Vehicles in municipal fleet
- 50 % of all new vehicles in Stockholm
- 16 % renewable fuel sold
- 10 % of all new trucks sold



# Make the cars Joint procurement! available!

- 1994-5 National Electric vehicle procurements (100 +200)
- 1996 International EV procurem. (500)
- 2000 Ford Focus Ethanol (3,000)
- 2002 Clean vehicles (5,000)
- 2008 Ethanol Van (3,000)
- 2011 Electric Vehicles (6,000)



- Introduction on market
- Develop new technology
- Introduce battery leasing
- 10-50 % Lower price
- Doubling fuel stations



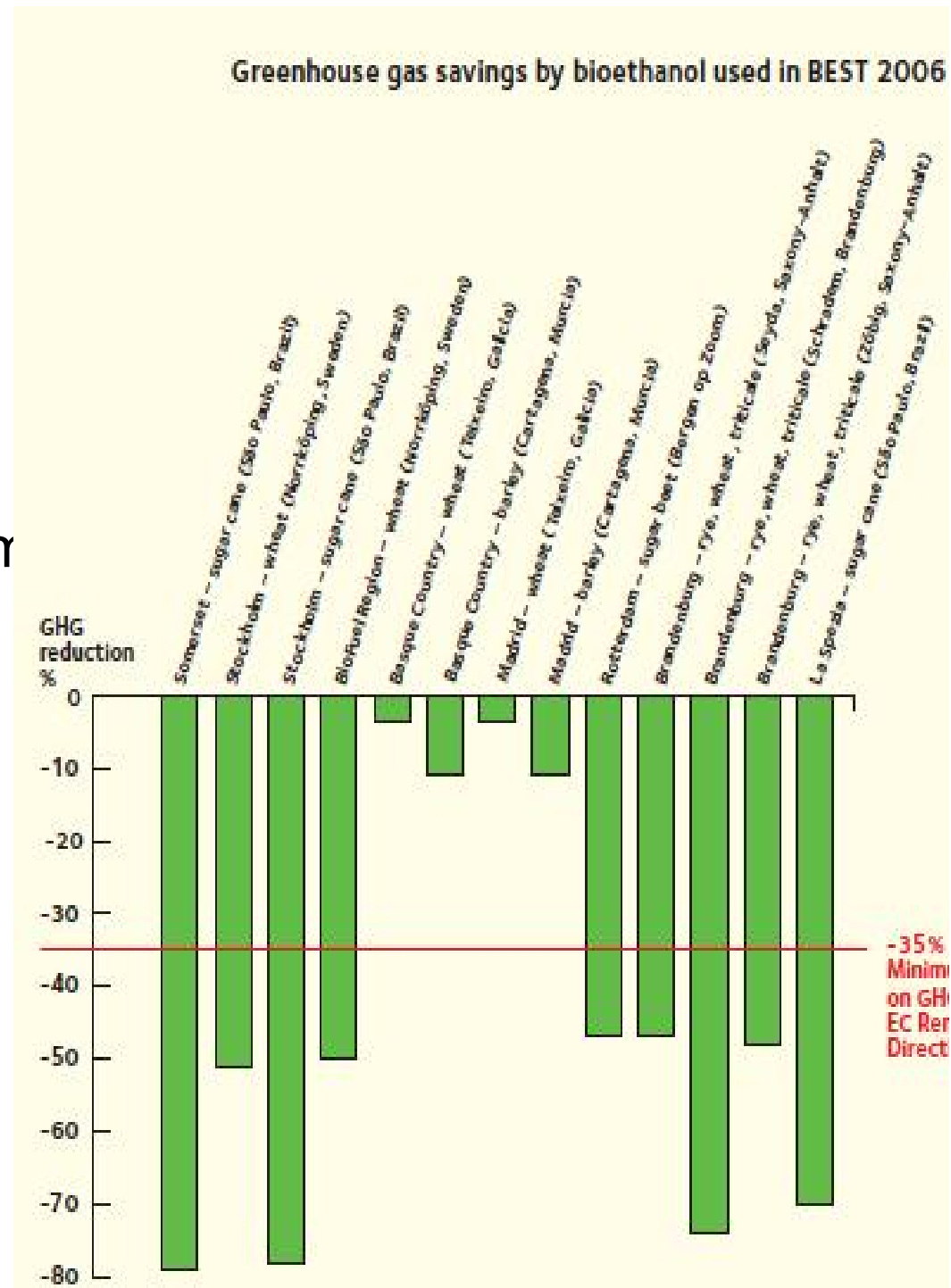
# Fuels

## Biomethane

- Produce biomethane
- Find a distribution system

## Ethanol

- Find good producer
- Promote fuelling stations





**Charging in public garage**

**Free of charge + free parking**

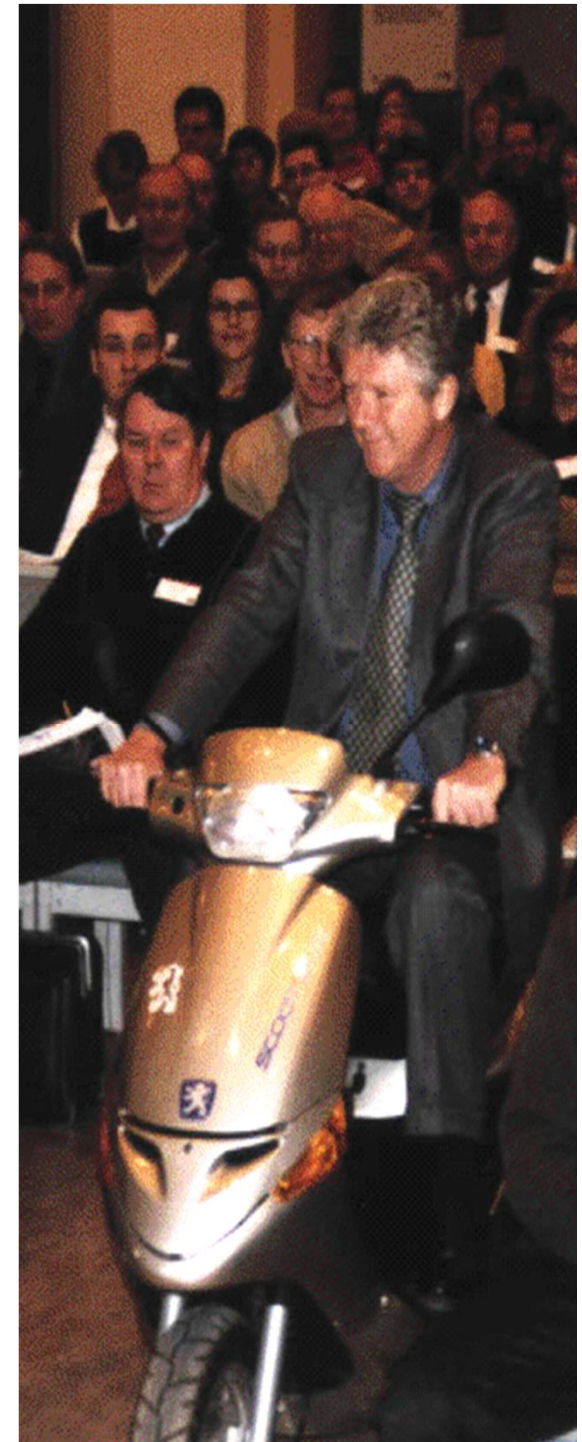


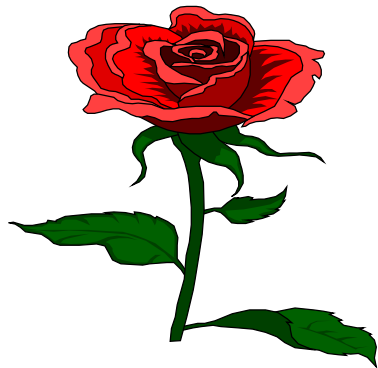
# National incentives

Mayors of Stockholm, Göteborg, Malmö met with ministers over and over again - for more than 10 years

## Result:

- Long term tax discount for biofuels/vehicles
- Special discount for Company cars
- Mandatory clean fuels at fuel stations
- Government procure clean vehicles
- Definition of clean vehicles
  - Free parking and other local incentives
  - Grants for Clean Vehicles





# Local incentives

- ✓ No congestion charges
  - ✓ No parking fees
  - ✓ Test fleet
  - ✓ Taxi priority
  - ✓ Subsidies for special vehicles
- 
- Permission to use bus lanes
  - Access to restricted areas
  - Designated parking spaces



# Greening transport through procurement

## Companies working for the city

- Public transport
- Waste collection
- Taxis
- Courier service
- Disabled transport
- School transports
- Sick transports
- Security guards
- Moving
- Internal mail service

The Coca-Cola logo, featuring the brand name in its signature red script font.The Scandic logo, consisting of the word "Scandic" in a red, sans-serif font, set against a light beige rectangular background.The DN.se logo, with "DN" in a large, bold, black sans-serif font and ".se" in a smaller, black sans-serif font.The SVT logo, featuring the letters "SVT" in a blue, outlined sans-serif font, followed by a blue stylized flower icon.The IKEA logo, with the word "IKEA" in a bold, yellow, sans-serif font, followed by a registered trademark symbol (®).The DHL logo, featuring the letters "DHL" in a bold, red, italicized sans-serif font, with horizontal lines on either side.

**Analyse the market –  
find potential adopters**

- Coca-Cola
- Scandic Hotels
- Dagens Nyheter
- Swedish television
- IKEA
- Danzas

”At least one clean vehicle”

# Information

- Campaigns
- Demonstration events
- Advertising
- Newspapers, TV
- Web
- Telephone advise





175.000 clean vehicles  
17 %!





# Thank you!

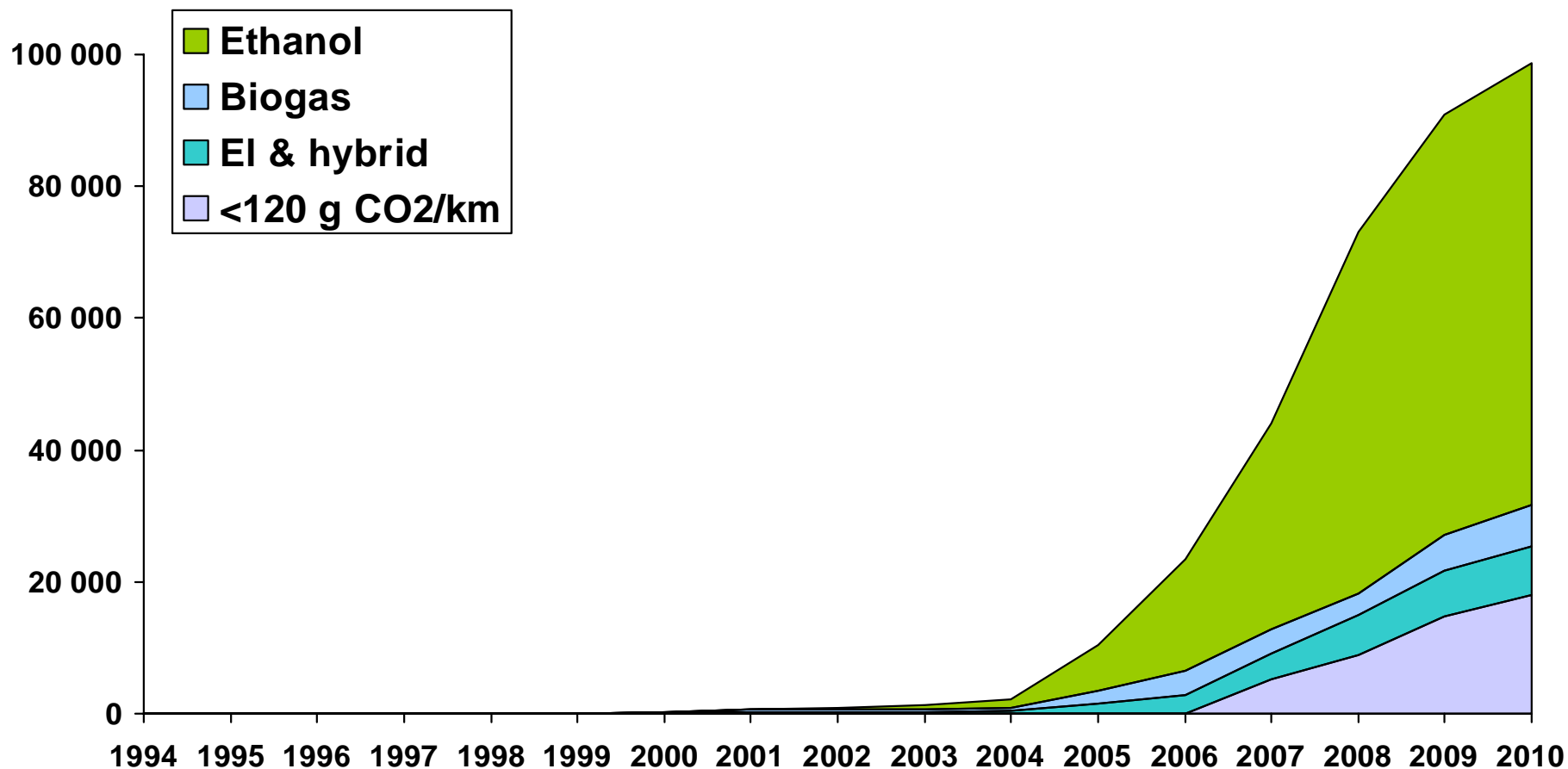
## Jonas Ericson

Jonas.Ericson@stockholm.se

Tel +46 850 828 946

# Clean Vehicles in Stockholm

## No of Clean Cars, in Stockholm





# Clean Vehicles in Stockholm

Result of 15 years work!



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# Clean Vehicles in Stockholm



**Methan-diesel**  
**Biogas + Fossil diesel**  
**335/450 hp**  
**Euro V**



**Hybrid-Electric**  
**Fossil Diesel**  
**340/370 hp**  
**Euro V/EEV**



**ED95**  
**Ethanol**  
**270 hp**  
**Euro V/EEV**



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# Clean Vehicles in Stockholm



**Hybrid-Electric  
Fossil Diesel  
340/370 hp  
Euro V/EEV**

**€85,000 extra**

**About 10 % CO<sub>2</sub>-reduction**



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# Clean Vehicles in Stockholm



**Methan-diesel**  
**Biogas + Fossil diesel**  
**335/450 hp**  
**Euro V**

**€30,000 extra**

<b>Long-haulage:</b>	<b>60 % CO<sub>2</sub>-reduction</b>
<b>City distribution:</b>	<b>30 % CO<sub>2</sub>-reduction</b>
<b>Waste management:</b>	<b>5 % CO<sub>2</sub>-reduction</b>



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# Clean Vehicles in Stockholm



**Ethanol ED95**  
**270 hp**

**€ 10,000 extra**

**70-80 % CO<sub>2</sub>-reduction**



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# Clean Vehicles in Stockholm

## Conclusions



**Long-haulage:**

**Methan-diesel / (coming Ethanol)**

**City distribution:**

**Ethanol**

**Waste management:**

**Ethanol / normal Biogas / (Hybrid)**



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# Cropland for biofuels in EU

Mha

