Växjö kommun
*The Greenest City in Europe*

# Växjö – The Greenest City in Europe


Julia Ahlrot, Project manager

# Emissions of fossil $CO_2$ (kg/inhabitant)

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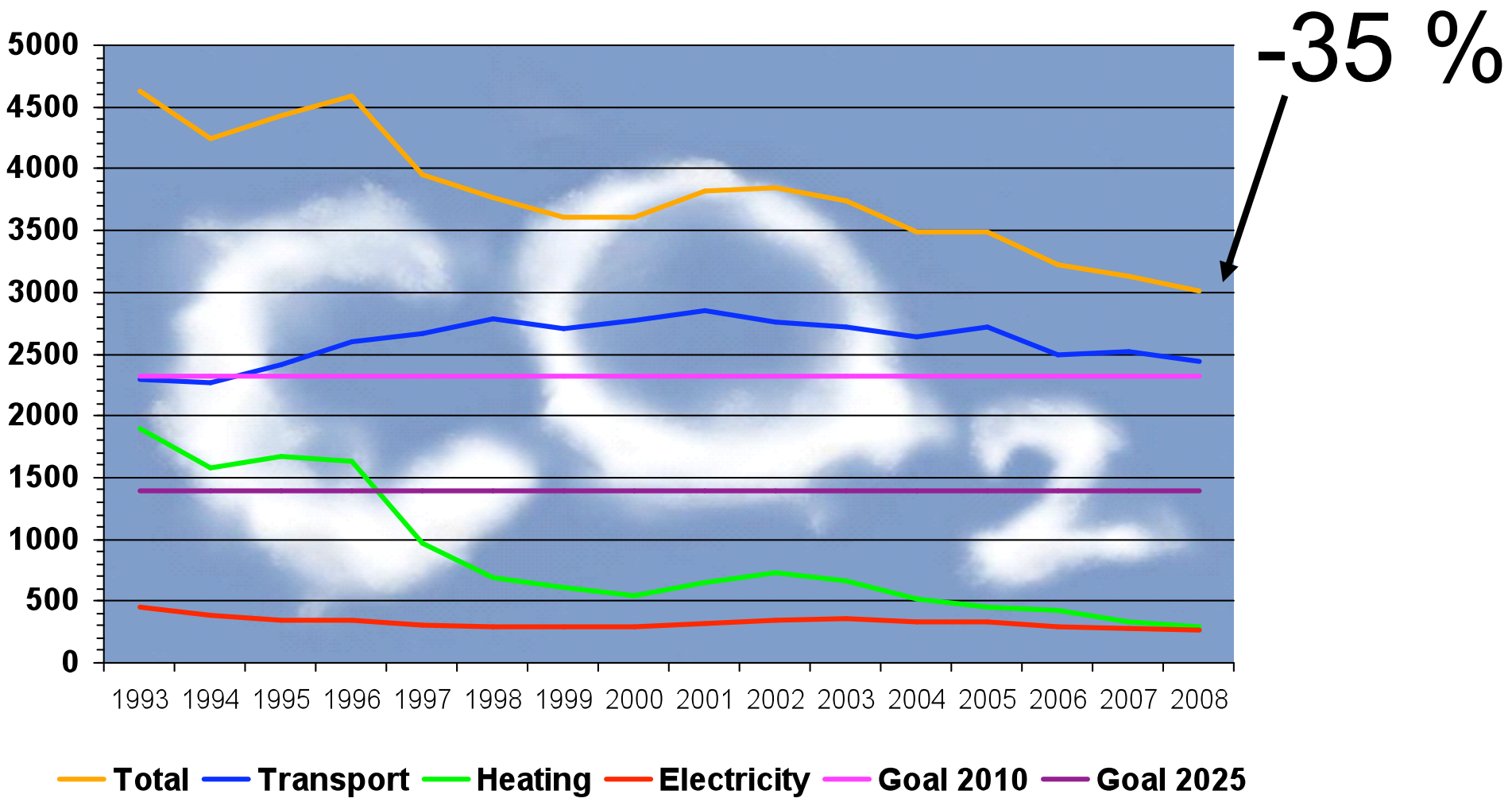

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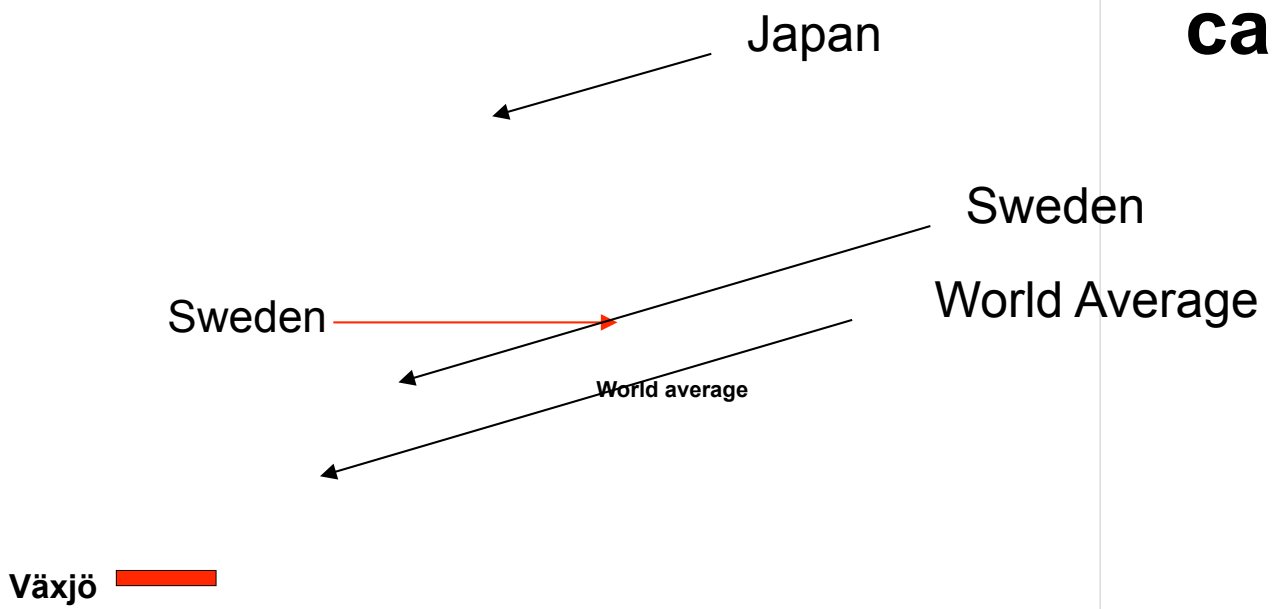
# Fossil carbon dioxide emissions in the world, per capita




CO2
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# Publicity in Europe's greenest city

BBC
UD
BusinessWeek
The Sydney Morning Herald
THE INDEPENDENT
THE AGE
SVT
arte.tv
BBC TURKISH.com
AFP.com
NBC NEWS
The Washington Post
Guardian Unlimited
WIRED
The Asahi Shimbun
Japan's Leading National Newspaper | English Edition |
france 5.fr
Taiwan News
VOICE OF THE PEOPLE, BRIDGE TO THE WORLD
Frankfurter Allgemeine
ZEITUNG FÜR DEUTSCHLAND
MONOCLE
Seoul's School of Modern Media

npr
CHINAdaily
KBS
la Repubblica.it
4
CNN INTERNATIONAL .com

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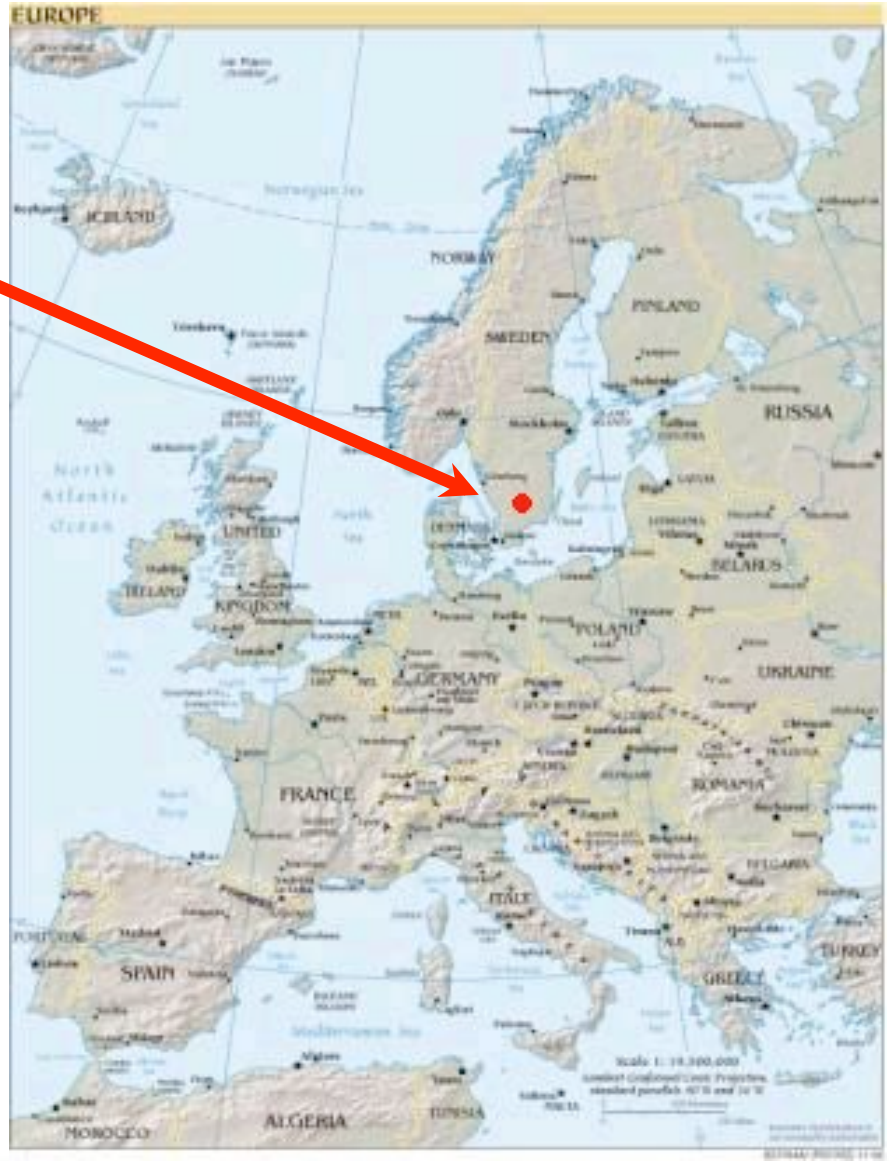
# This is Växjö, Sweden

## Municipal profile

- Population 81 000
- Forests and 200 lakes
- Centre of glass, furniture, SMEs, bio energy and education



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# 5 questions

1. Why success?
2. What has Växjö done?
3. Legislation and policies to support leadership
4. What are the challenges now?
5. The lessons that other can gain?

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1. **Why success?**
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# Why success

- **Political consensus – decisions**
- **Broad collaboration and networks**
- **Resources - financial support**

Municipal commissioners in
the City of Växjö from different parties

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1. Why success?
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# Local Alarm bell

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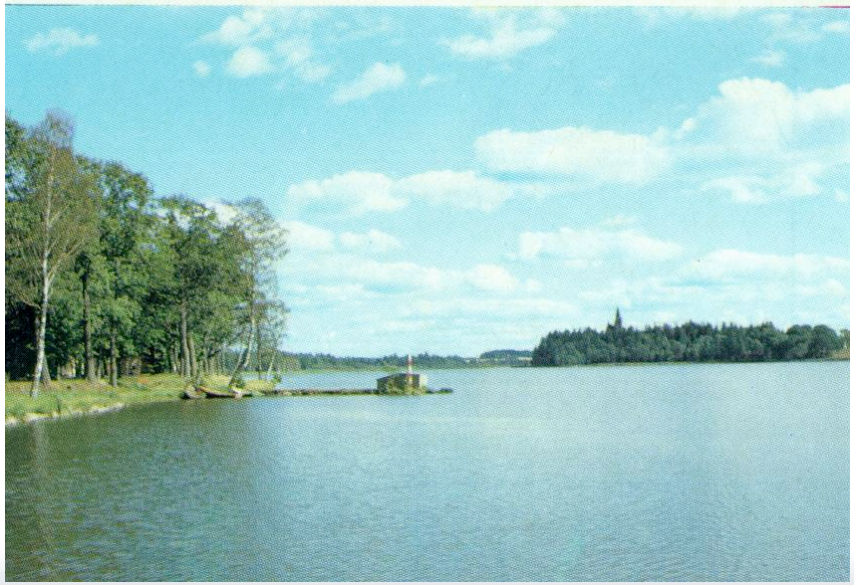

## Lake Trummen
## (restoration 1970-1971)

**Before restoration**

**After restoration**

# More history

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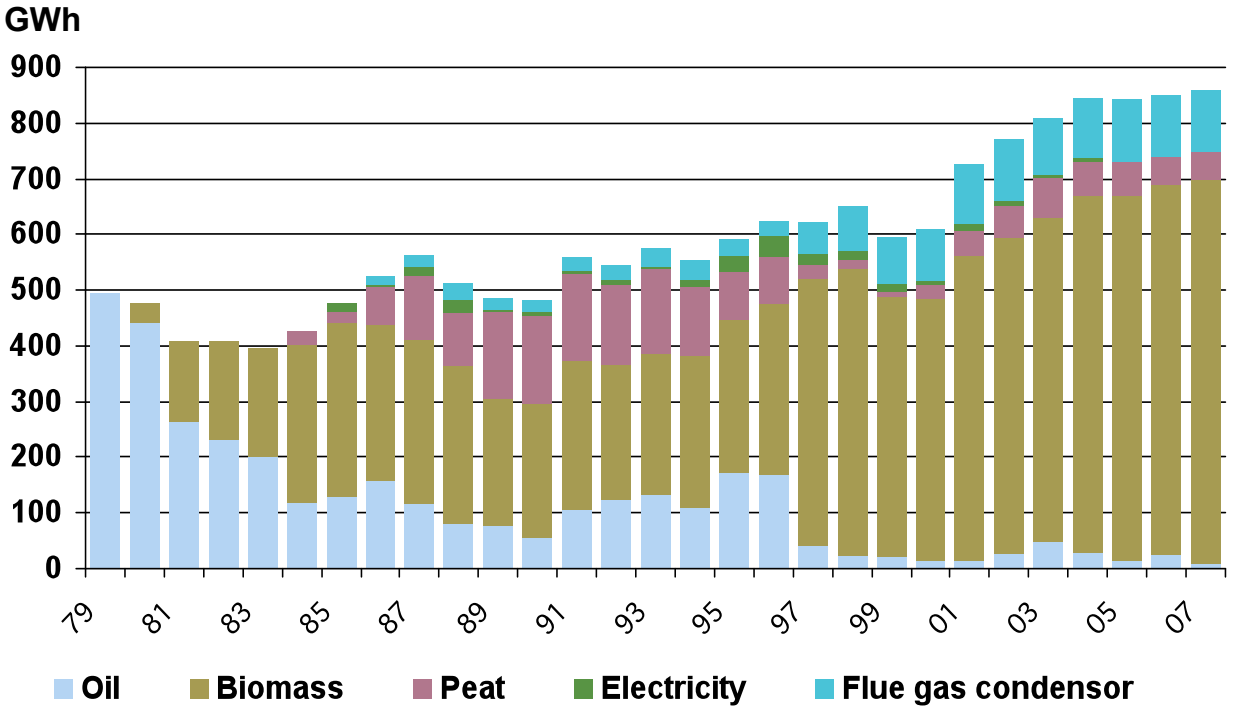
*1980* district heating from bio energy, 20 years later more than 90 % of the energy is renewable.




**Växjö Energy Ltd**

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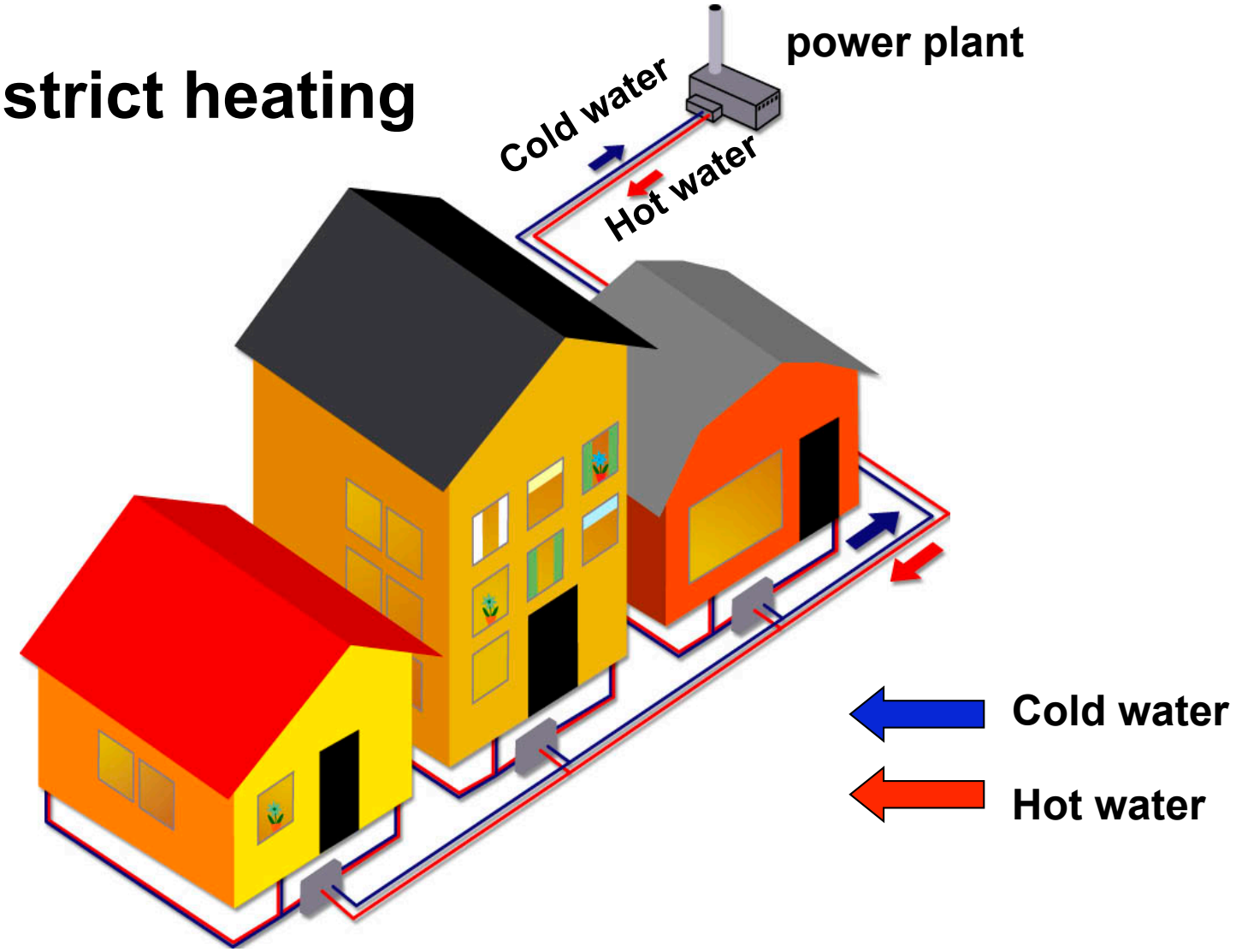
# This is district heating

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# Emissions of fossil $CO_2$ (kg/inhabitant)

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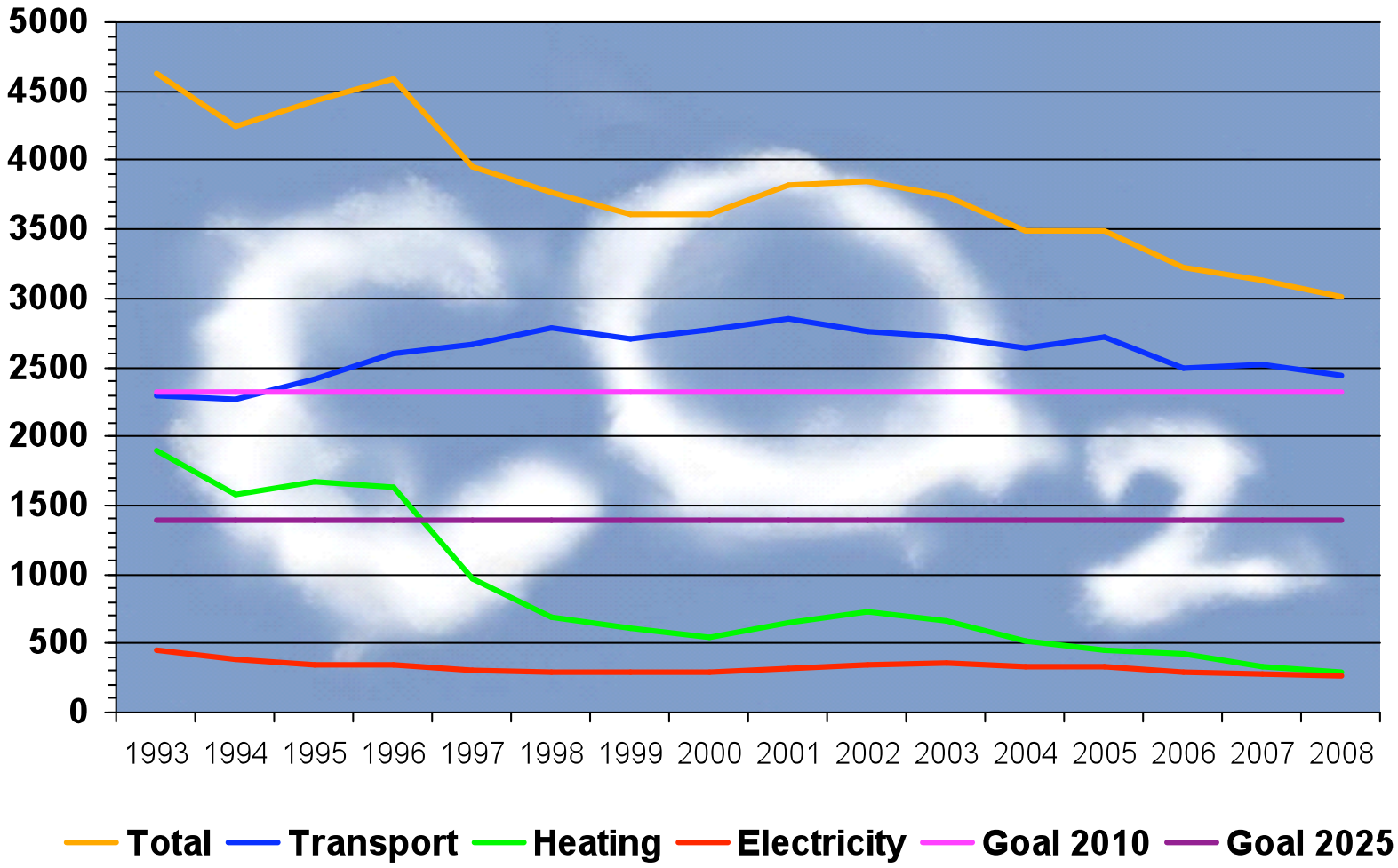

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# **Electricity and energy efficiency** – actions

- Free energy advice to the citizens.
- Biogas used for electricity production at the sewage treatment plant.
- Municipal demands on low energy use in a new housing area.
- Installation of more efficient light bulbs in the street lightning.
- Construction of energy efficient houses.
- Individual metering of energy in apartments.

$CO_2$
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# Photo voltaic plants on the roof of schools



**Displays for education and publicity**

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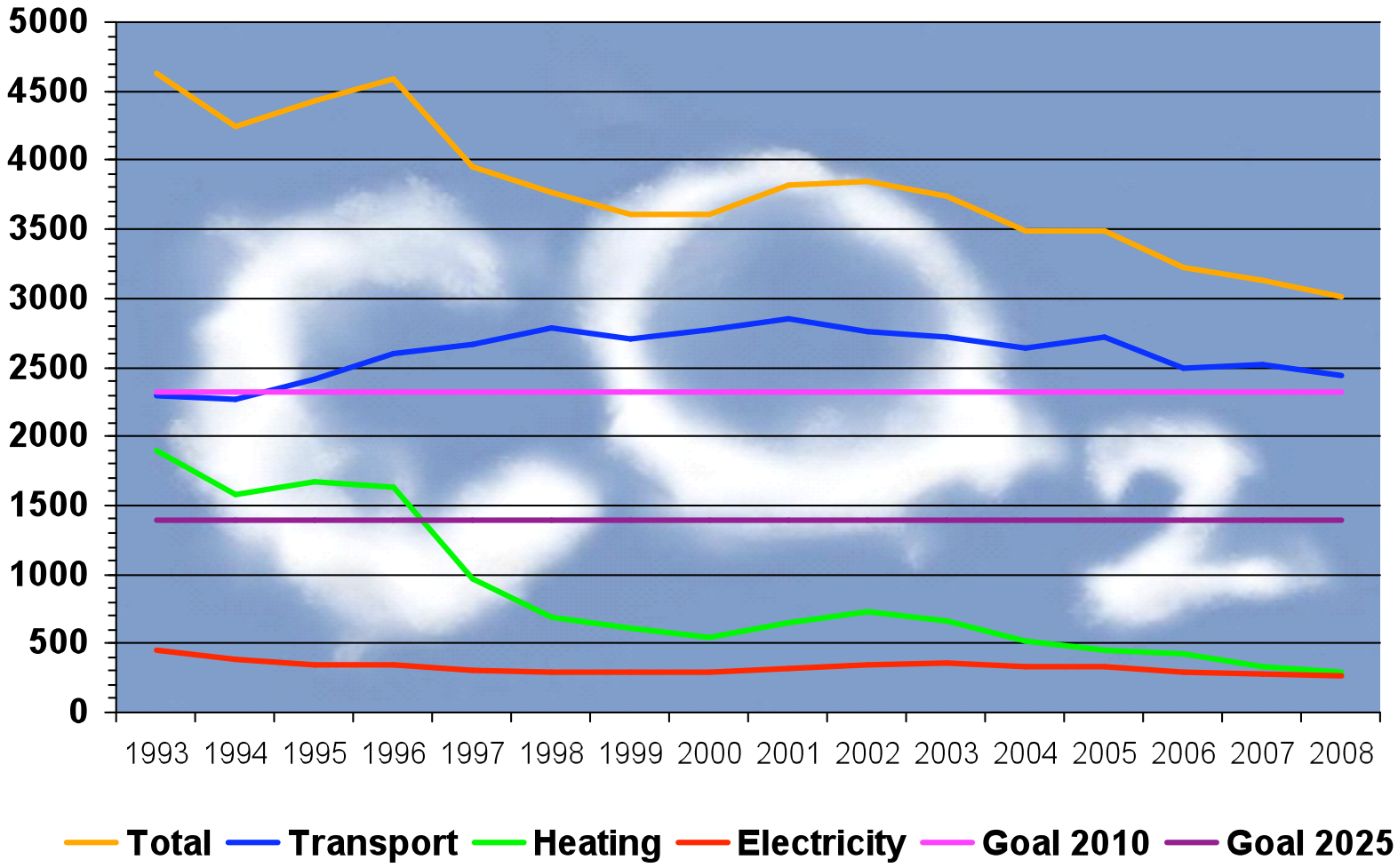

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# **Transport** – actions

- Municipal car-sharing with environmentally adapted cars.
- Good network of cycle paths. Sign posts for easier navigation on the cycle paths.
- Education in eco-driving.
- Free parking for environmentally adapted cars.
- Development of a transport strategy
- Increased biogas production, to be used for vehicles.

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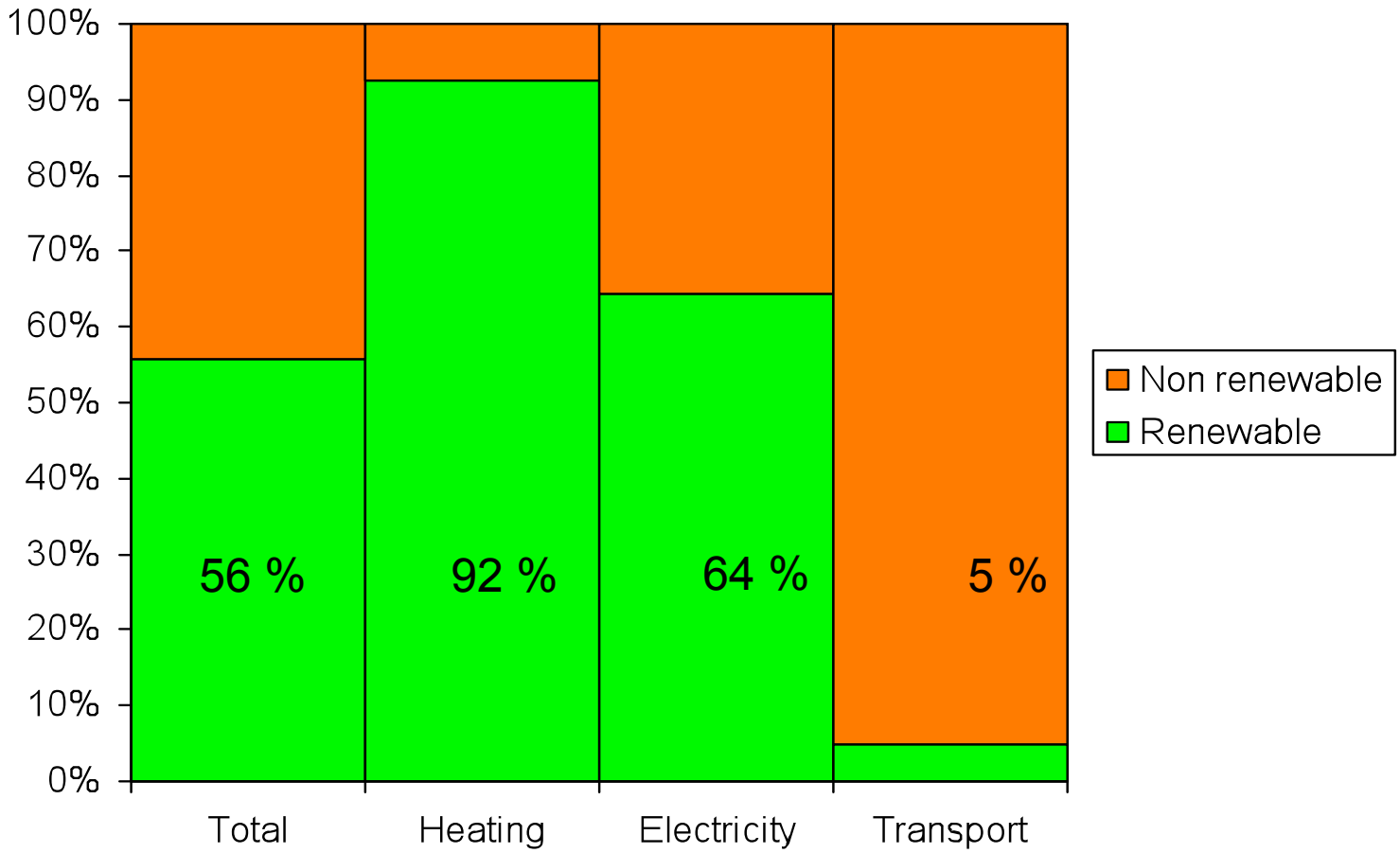
# Share of renewable energy supply 2008



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## **Rio de Janeiro** 1992 ➔

- **Environmental policy** 1993
- Yearly **Environmental report** since 1994
- **Decision** to be Fossil Fuel Free Växjö, 1996
- **Environmental programme** local goals adopted by unanimous City Council in 2006

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# Environmental programme

- An environmental policy and three profile areas

Living LIFE
Part of Environmental Programme for the City of Växjö

OUR NATURE
Part of Environmental Programme for the City of Växjö

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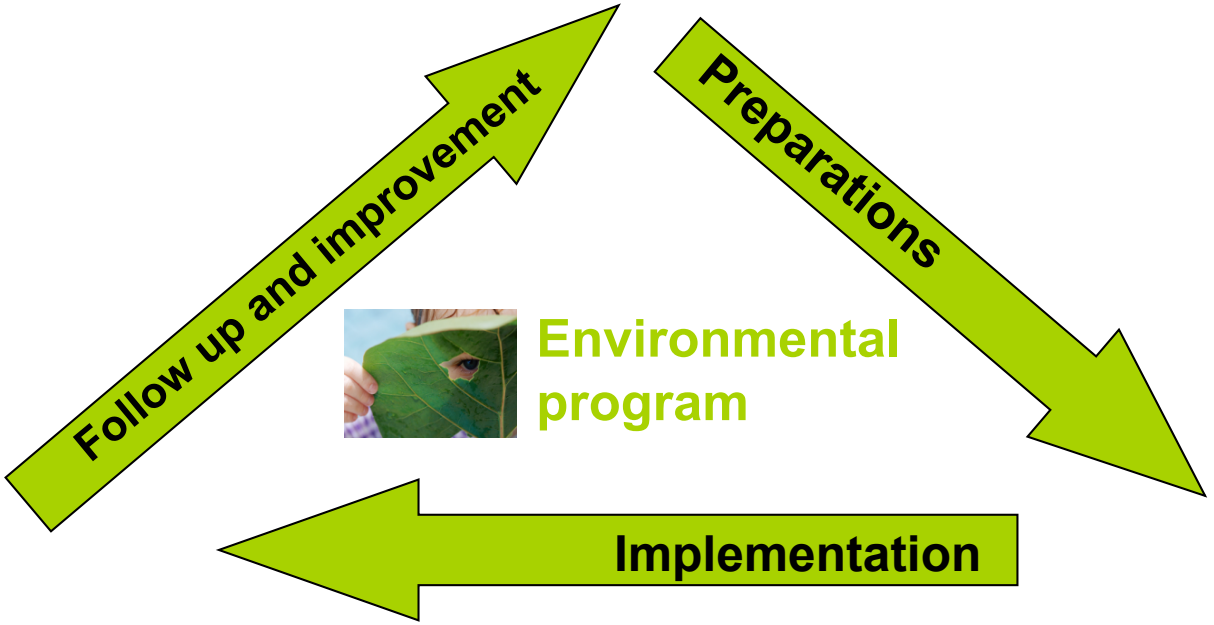
- Vision, long term goals and measurable goals

# ecoBUDGET

- ICLEI – Local Governments for Sustainability
- Approved by UN in Johannesburg 2002
- Växjö a pilot municipality/city



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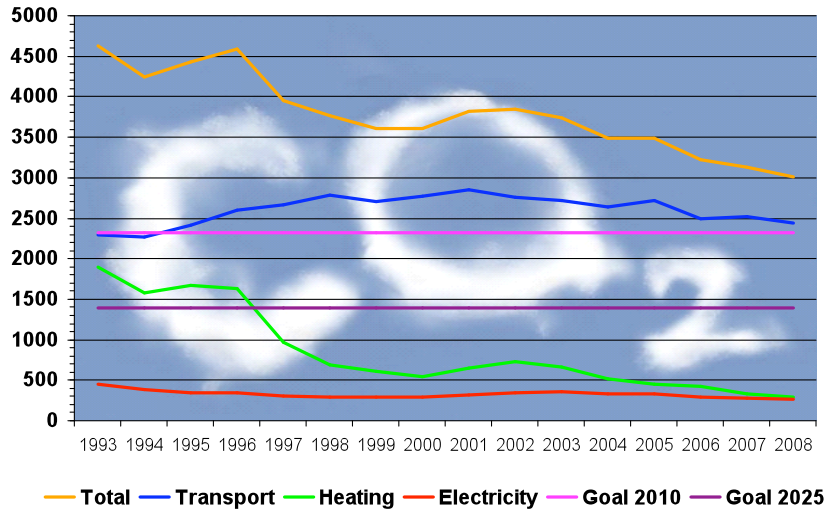
# Fossil Fuel Free Växjö

## Energy and transport issues

The most important goal to achieve?!

Växjö shall reduce the fossil $CO_2$ emissions by 50% per capita until 2010 and 70% per capita until 2025 compared to 1993.

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## Future projects

- Parking fee in relation to $CO_2$ emission
- Major improvement of public transport
- Major improvement of bicycle lanes (cycle highways)
- Biogas from biological household waste and sludge in city buses 2011
- 2nd generation biofuels from gasification of biomass waste, DME, FT-diesel etc.
- Competition in schools to reduce the climate impact by taking bicycle and walk and use school transport instead of get lift with private cars

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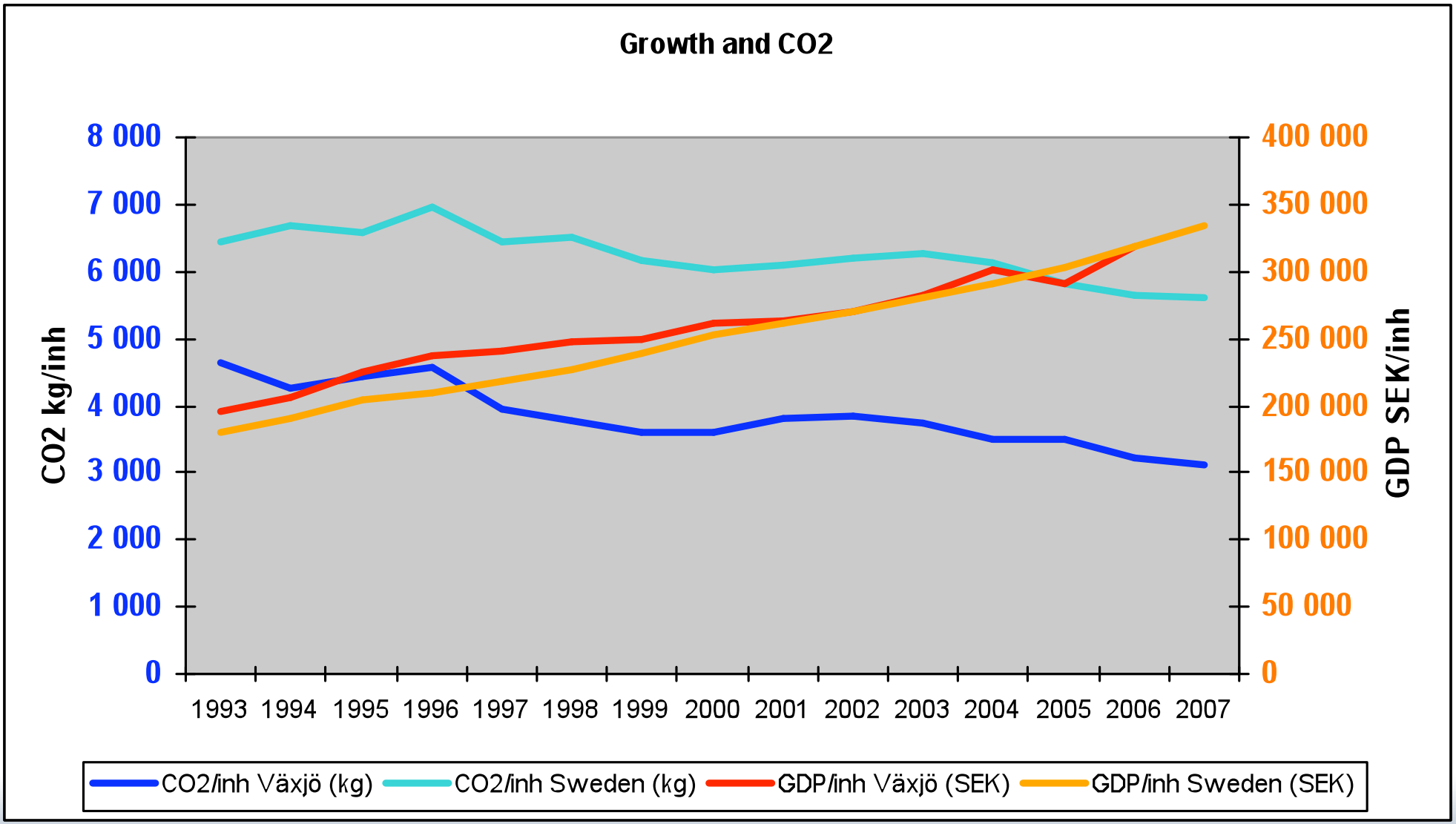
# Growth and $CO_2$ – Växjö and Sweden




www.vaxjo.se
www.vaxjo.se/english
Thank you for listening!

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# Other benefits than environmental

- New jobs in the whole bio-energy chain
- Domestic fuel makes us less vulnerable
- People get comfortable heat and fuel for low price
- Companies develop on a fast growing market
- The university's has developed a bio-energy centre
- Publicity - environmental tourism and technical visits

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# Passive wood houses

- 96 apartments in 2 buildings
- Eight storeyed house, wooden shell
- No heating system
- Energy use 50% below national regulation
- District heating from biomass for warm water
- Air tightness, energy efficient windows, much insulation, heat recovery from waste water, individual metering
- Low $CO_2$ in production, carbon sink

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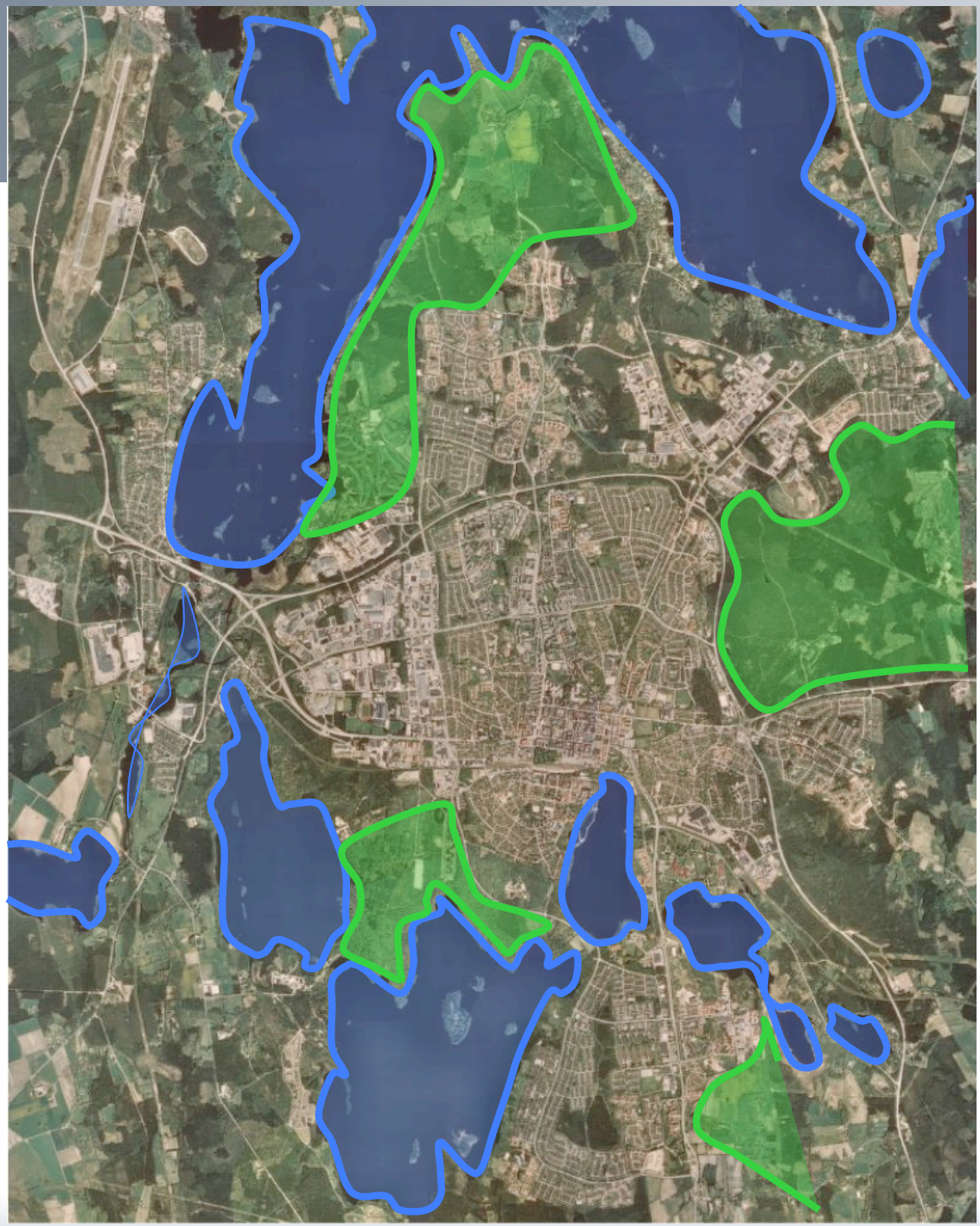

- **City parks and nature reservs**
- **Recovered central lakes to enjoy**

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# Fossil Fuel Free Växjö

## Energy and transport issues

$CO_2$
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**Vision**

We have the vision of a fossil fuel free Växjö, where our energy consumption does not lead to any climate change.

**The City of Växjö strives:**

- to use renewable energy .
- to use energy efficiently.
- to go over to a fossil fuel free transport system.

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# Main reasons for introducing bioenergy in the 80´s

- oil crisis – very expensive energy for inhabitants
- renewable fuel
- local and reliable supply
- local jobs
- income to local forest owners, saw mills and contractors
- tax income to the municipality
- transparency and democratic control of the energy system

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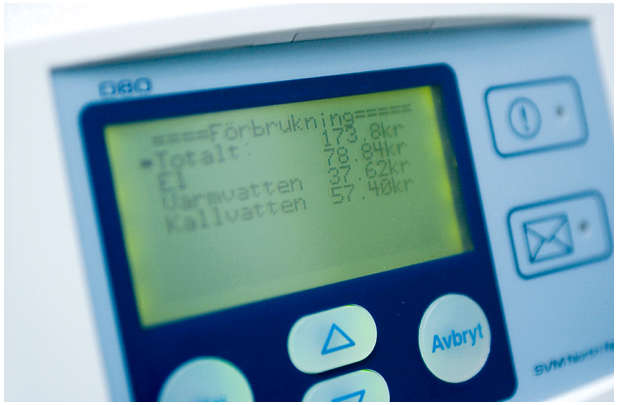
# SAMS


- Goal to make energy issues more interesting, 5 % electricity in households
- December 2007 – May 2010
- Good examples Portvakten and Young Energy 2
- Energikollen, a webtool
- A project within the EU-project Sesac
- www.sams.se




VEAB VÄXJÖ ENERGI AB

Växjöhem

HYRESBOSTÄDER I VÄXJÖ AB

Växjö kommun
*Europas grönaste stad*

sesac

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# Why this vision?

- The global climate change – we take our responsibility
- To show that it is possible to achieve results on local level
- To show that you don't have to wait for international agreements
- Sustainable growth and development of regional business
- Good experience of using bioenergy

# Environmental history

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