

Climate Strategy for the Municipality of Örebro

Outline

1. Introduction: The city and the transport system
2. Climate strategy - the process
3. Measures in the transport sector
4. Conclusions



Per Elvingson Climate Office, Municipality of Örebro, Sweden. Annual Polis Conference, Dresden 25 November 2010

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1. Introduction - Örebro

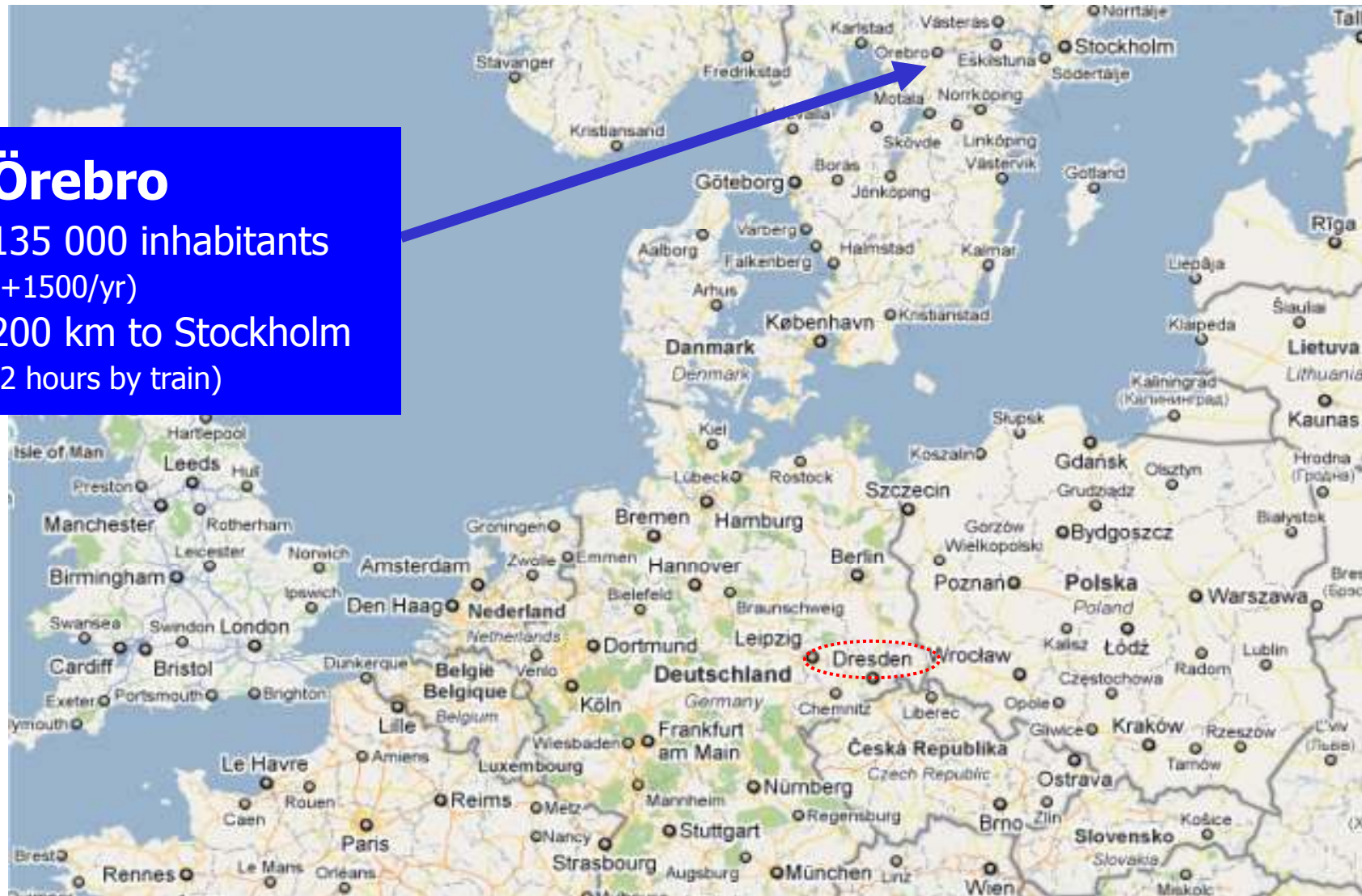
Örebro

135 000 inhabitants

(+1500/yr)

200 km to Stockholm

(2 hours by train)

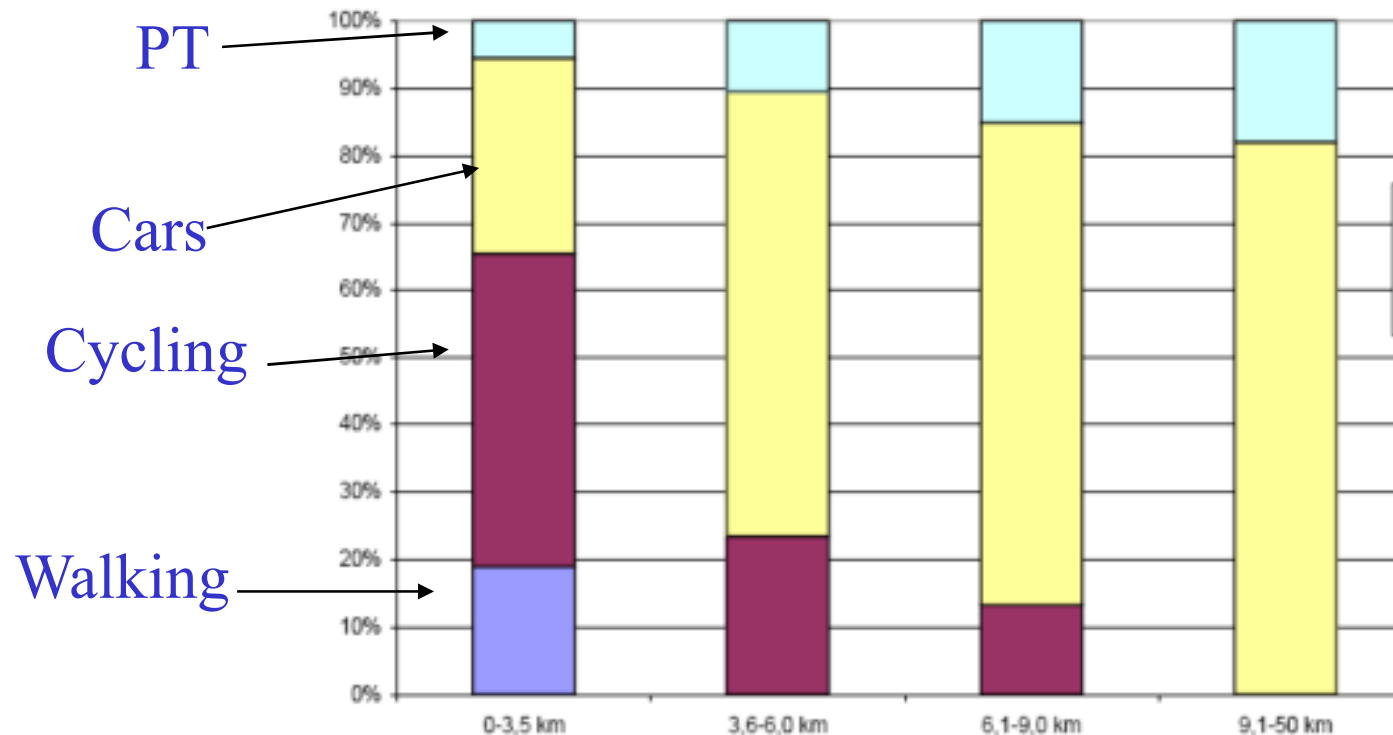


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ÖREBRO

Travel habits survey 2004



	Cars	Cycling	Walking	Bus
Number of trips	56%	24%	12%	5%
Distance travelled	82%	7%	2%	5%

414 cars per 1000 inhabitants. 92 percent of adult citizens own a bike.

Sustainable Transport Plan

Adopted in October 2008

Climate change on of seven aspects

Focus on short car trips in the city

Climate Strategy

Adopted in June 2010.

Transport an important part.

More focus on longer trips, regional perspective



2. Climate strategy - the process

Targets:

To reduce climate impact from **all activities within the border of the municipality by 40%** between 2000 and 2020. A **50% reduction target for the own organization.**

To be carbon neutral by 2050.

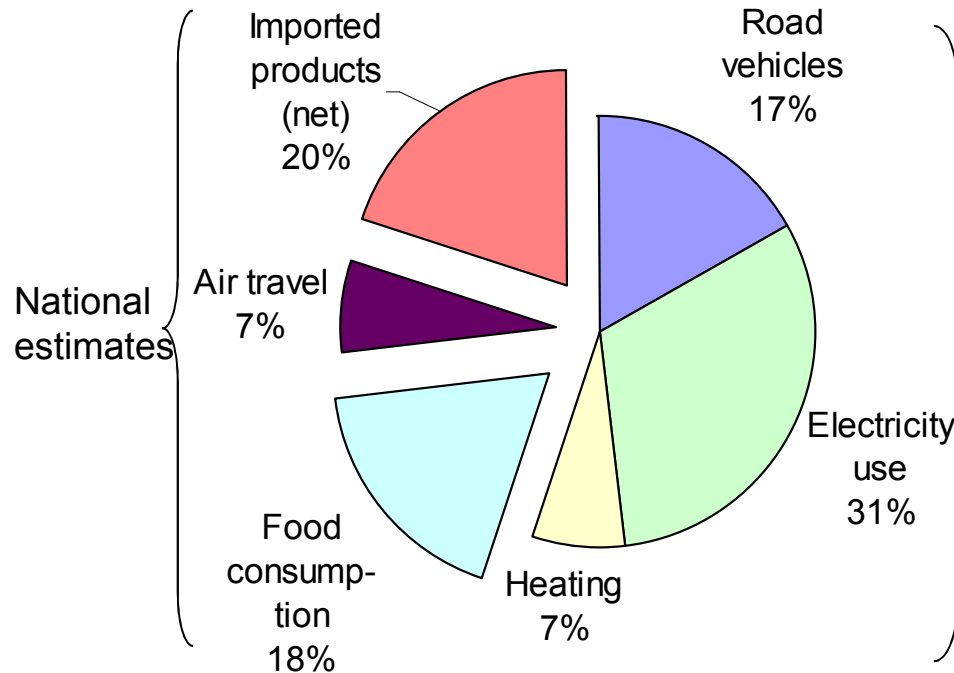
We use a per capita approach (+15 000 inhabitants by 2020).

We try to define how much can be done locally and what must be done at national (and EU) level.

We include not only direct emissions, but also indirect emissions caused by activities within the municipality's borders.

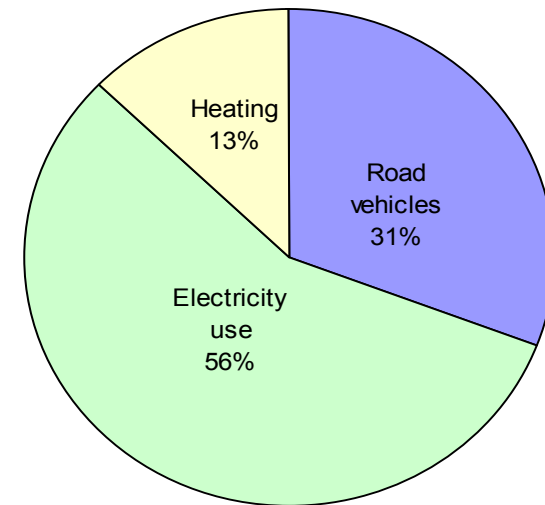
Emissions caused by activities within municipality borders 2008

All (?) emissions



Total: 1 500 000 tons CO₂
or 11.4 tons per inhabitant

Our mark off



Total: 841 000 tons CO₂
or 6.4 tons per inhabitant

Emissions from transport sector calculated by a consultant, using a simple Excel model:

1. Number of vehicles and distance travelled
2. Energy used per vehicle category
3. Emission factor per fuel

The screenshot shows an Excel spreadsheet with the following data sections:

Trafikflöden i Örebro

En grov uppskattning för gamla stiftor har gjorts efter uppgifter från Vägverket. Ökningen som har anlagts (angavs nedan) är något underskattade baserat på tillståndet underlag.

Enaste 10 åren, (ca 8 % de
ste 10 åren (ca 10 % de

Sammanställning av

Örebro	Summa
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Huvudvägar

Linje	Väg	År	Fordon	km	lit	kg	%
23	E20/E18	2006	4 210	27 200	1,0	3,20	14,2%
24	E20/E18	2006	4 980	28 760	1,3	3,80	14,0%
25	E20/E18	2006	4 490	33 140	1,1	3,31	11,9%
26	E20/E18	2006	4 740	27 740	1,0	3,13	14,0%
27	E20/E18	2006	4 900	27 700	1,0	3,47	11,6%
28	E18	2006	7 620	21 990	3,9	30,73	14,4%
29	E18	2006	1 970	12 270	6,0	60,31	13,2%
30	E18	2006	1 900	11 990	1,1	4,69	13,9%
31	SO/88	2006	1 010	5 860	4,0	8,56	14,7%
32	SO/88	2006	1 220	8 910	3,0	9,76	12,0%
33	SO/88	2006	1 320	9 480	2,2	7,60	12,2%
34	SO/88	2006	1 350	9 480	2,9	39,89	12,5%
35	SO/88	2006	1 320	10 040	1,5	5,50	11,7%
36	SO/88	2006	1 340	10 280	2,2	9,20	11,3%
37	SO/88	2006	1 470	13 560	0,7	3,49	9,0%
38	SO/88	2006	1 390	16 810	2,3	16,11	7,6%
39	SO/88	2006	1 610	17 890	1,0	6,53	9,3%
40	SO/88	2006	1 710	19 420	2,2	19,39	9,1%
41	SO/88	2006	840	3 960	7,3	10,20	14,2%
42	SO/88	2006	4 260	3 540,0	3,1	4,0	58,8%
43	SO/88	2006	900	3 500,0	13	18,8	262,5%
44	SO/88	2006	540	6 530	7,4	17,64	7,6%
45	Summa		430 870			87,0	14%
46	Medel		17 238			24,1	12%
47						52,7	

Medelstora och mindre vägar

Örebro kommun	Fordon	lit	kg	%					
836	Från väg SO/88 till stråk SO om Sjöbotavägen	30	1996	5	86	5,8	0,20	0,01	6,0%
838	Från SO om Sjöbotavägen till korsning väg 603	200	2003	10	270	5,8	0,22	0,02	3,7%

De flesta av kommunens mätningar av trafikflöden finns redovisade som årsvarogedygn (åvdi). Dessa har räknats om till årsmedelgdygn (ådm) med faktor 0,9 x åvdi. En del finns omräknade av kommunen till åd och på har dessa lagts in i cellerna utan omräkning.

Grönmarkerade längder betyder att längden har antagits då sträckan som avsett har varit svår att tolka.

Eftersom det inte konsekvent finns uppgifter om andelen tung trafik i kommunal trafikflödesmätningar har följande antagits: då den genomsnittliga lastbilens andelen (innan detta antagande applicerats) på de kommunala vägarna låg på 4,5 har genomgående antagits att andelen tung trafik på de kommunala vägarna är 4 % (om vägarna ligger på ett trafiknöd på mindre än 1000 fordon per dag har andelen satts till 2). Eftersom andelen tung trafik som anges i de kommunala mätningarna är angivna i vardagsgdygn är dessa med största sannolikhet överskattade om man ser till årsmedelgdygnstrafiken. Har dock ej justerat för detta, dels på grund av antagandet om 4 % (som kan ses som något underskattat för de stora vägarna). Slutligen får istället vara att det finns stora påverkningar i hur stor andelen den tunga trafiken utgör på de kommunala vägarna i Örebro kommun.

Enligt uppgift från Paul Högberg på Vägverket noterar ett vardagsgdygn ca 1,1 x årsmedelgdygn (strafik). För att räkna om VD till ÅD används därför faktor 0,9.

Carbon dioxide emissions from road vehicles within Örebro Municipality 2008

(thousand tons; contribution in percent within parenthesis).

	National roads	Secondary roads	City streets	Sum
Light duty vehicles	82 (35%)	22 (9%)	50 (21%)	154 (66%)
Heavy duty vehicles	60 (25%)	8 (3%)	14 (6%)	82 (34%)
Sum	142 (60%)	30 (13%)	64 (27%)	236 (100%)

For comparison:

All car trips shorter than 5 km: 15 000 tons CO₂

All cycle trips replaced by car: 15 000 tons CO₂

From diesel to biogas (metane) in city buses: 3 000 tons CO₂

Emissions from air travel by inhabitants in Örebro, approx. 100 000 tons!

Emissions from our own organization

Total transport sector emissions 236 000 tons/year,
our own contribution is approx 8 percent:

Travel by car at work	1 500
Own transport activities	2 000
Transport activities procured	2 000
Employees commuting	5 800
Public transport	6 700
<u>SUM</u>	<u>ca 18 000 tons/yr</u>



Air travel

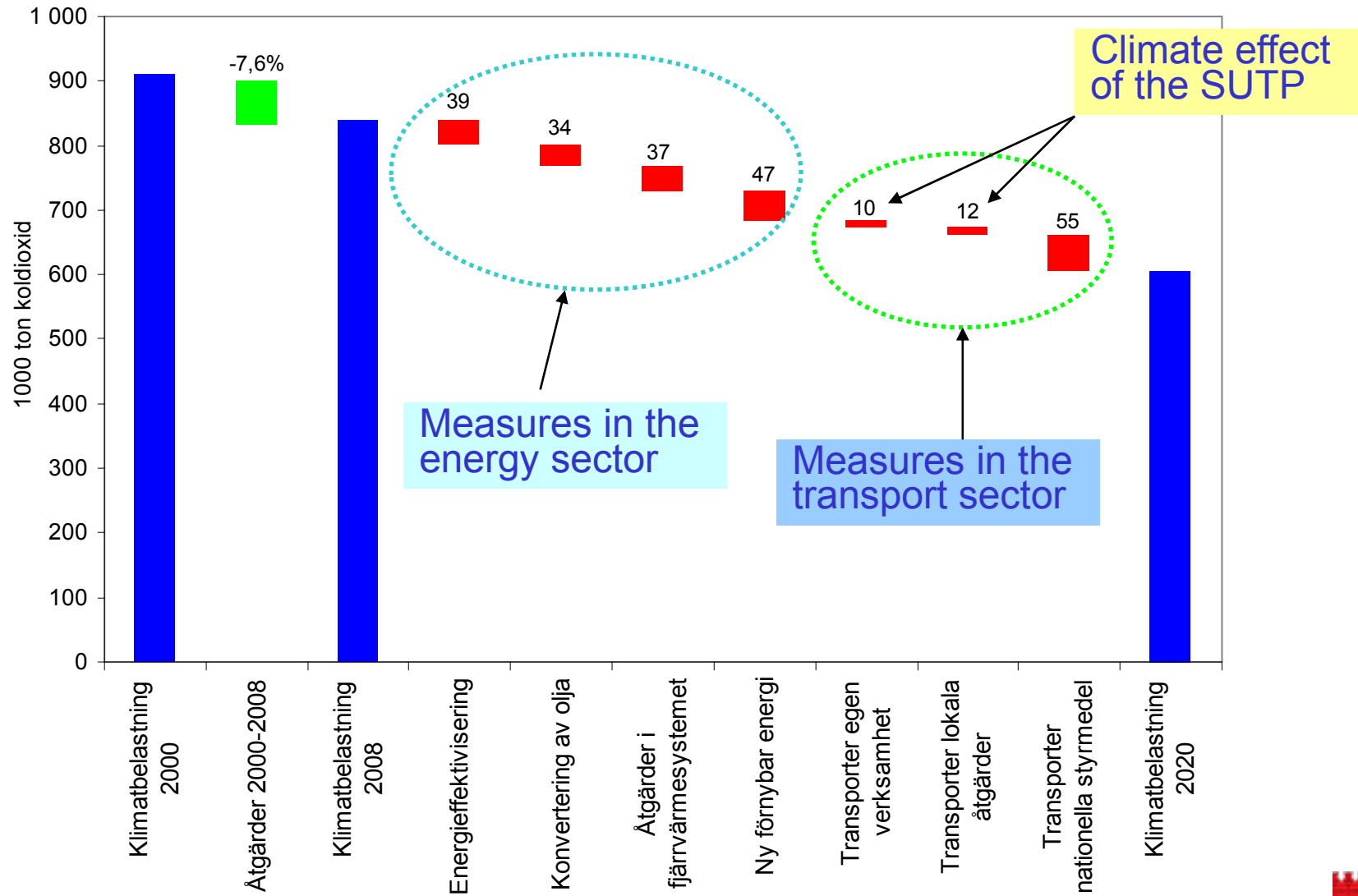
500-1 000 tons/yr

3. How to reach the targets?

- A reduction by 40 percent from 2000 to 2020 for the whole municipality
- A reduction by 50 percent from 2000 to 2020 for the own organization
- To be carbon neutral in the long run



Whole municipality: -40% per cap. 2000-2020



Three packages in the field of transport

Transport in own operations 10 000 tons/yr

Local transport measures 12 000 tons/yr

National means of controlling transport 55 000 tons/yr

European level also very important!
(vehicles, fuels, taxation etc.)

1948: 7.5 litres/100km

2008: 7.5 litres/100km

60 years of progress?

MEPs – It's time to shift fuel efficiency up a gear.

Vote for 120g CO₂/km by 2012 and 80g CO₂/km by 2020.

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4. Some conclusions

A successful climate strategy ..

- is based on a thorough inventory of emissions,
- have clear targets both for the own organisation and the municipality as a whole.
- have estimates of costs and effects of proposed measures,
- is accepted in both the own organization and the society as a whole,
- have a system for evaluation on a yearly basis.

Further conclusions

The transport sector must be addressed in a local climate strategy, but..

Even if we are extremely successful in changing travel habits locally, the effect on emissions will be limited.

To really get an effect we need more legislation and stronger incentives from national and European level, resulting in more efficient vehicles, lower speeds, better fuels, kilometre taxes, fewer air trips etc.

Local municipalities must therefore try to influence national and European policy.

Further information

- Climate strategy - only in Swedish!
(www.orebro.se)
- Factsheet available in English →
- send me an e-mail!

(also factsheets on SUTP and biogas)

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