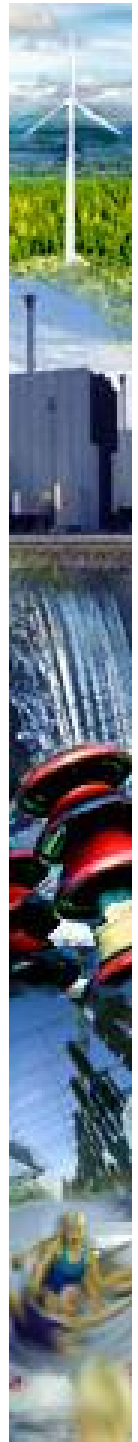


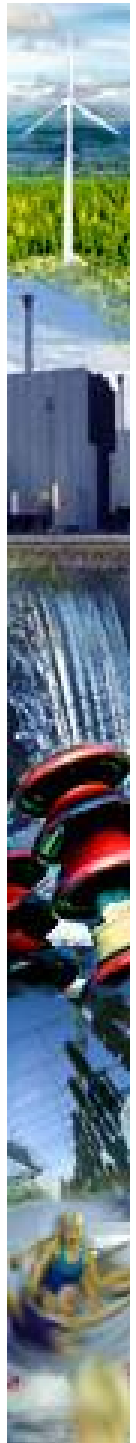
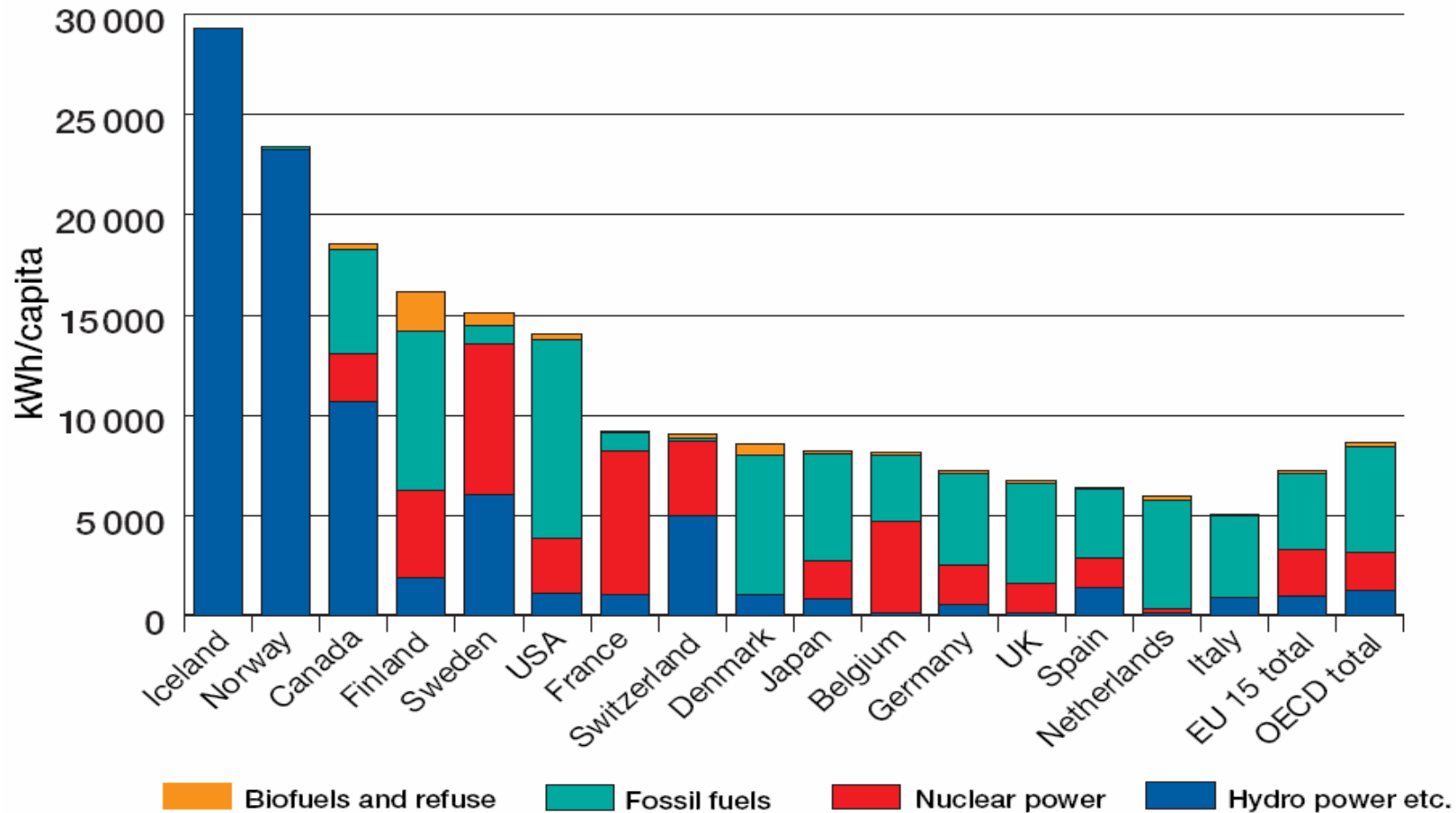
Future challenges in the Swedish electricity production

Presentation at
The Finnish Nuclear Society's 40th Anniversary

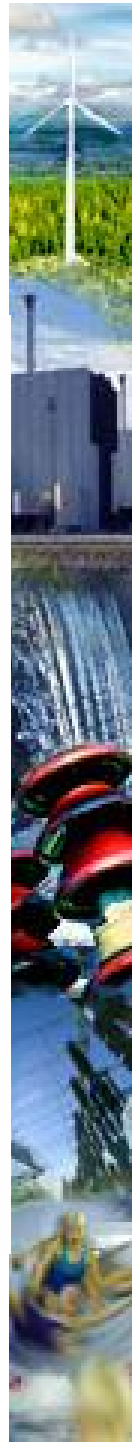
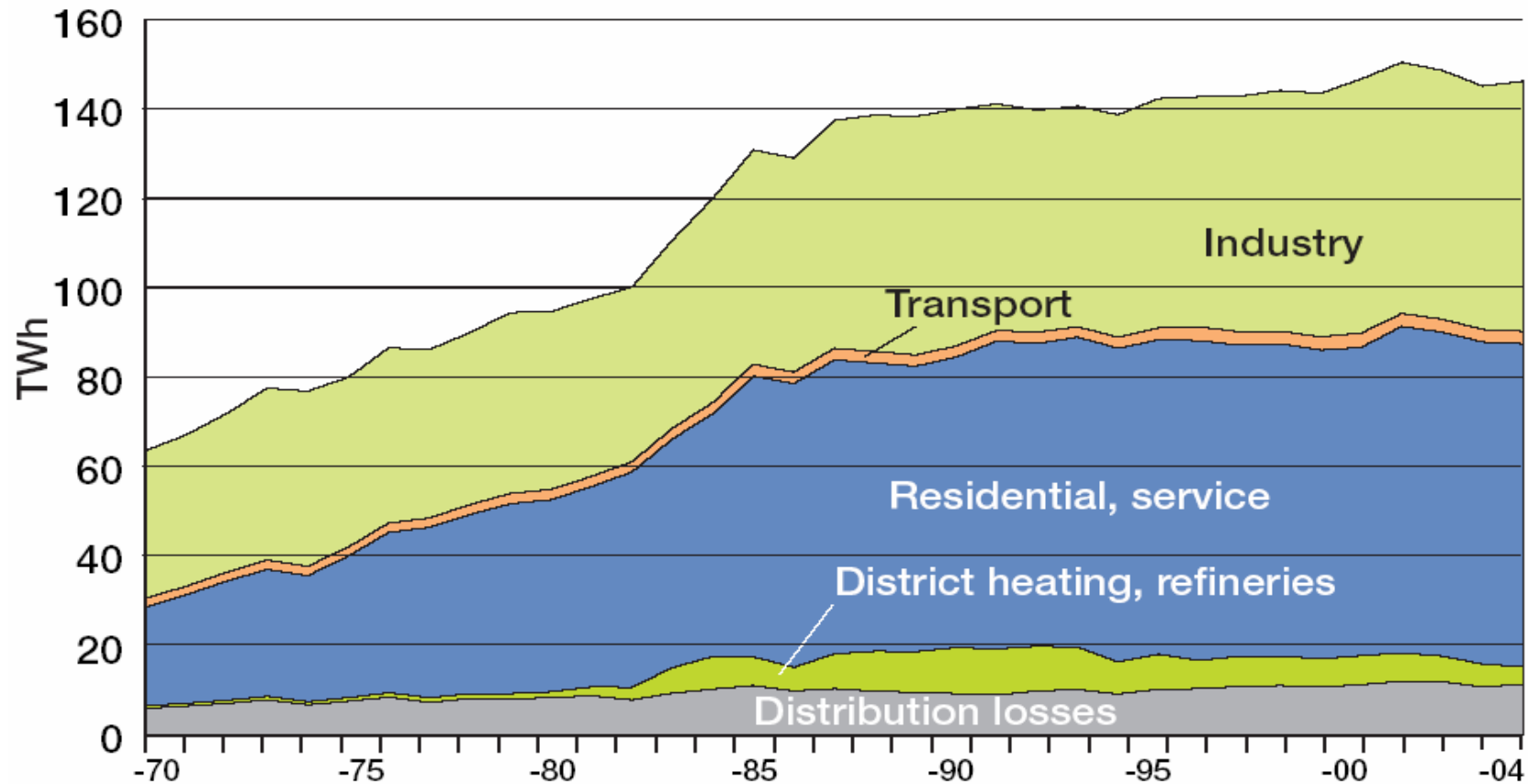
Helsinki, October 13, 2006
Bo Källstrand, Managing Director
Svensk Energi



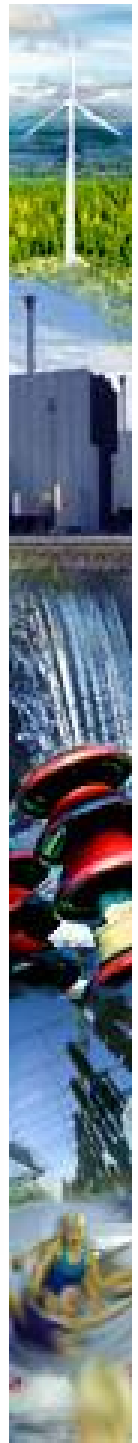
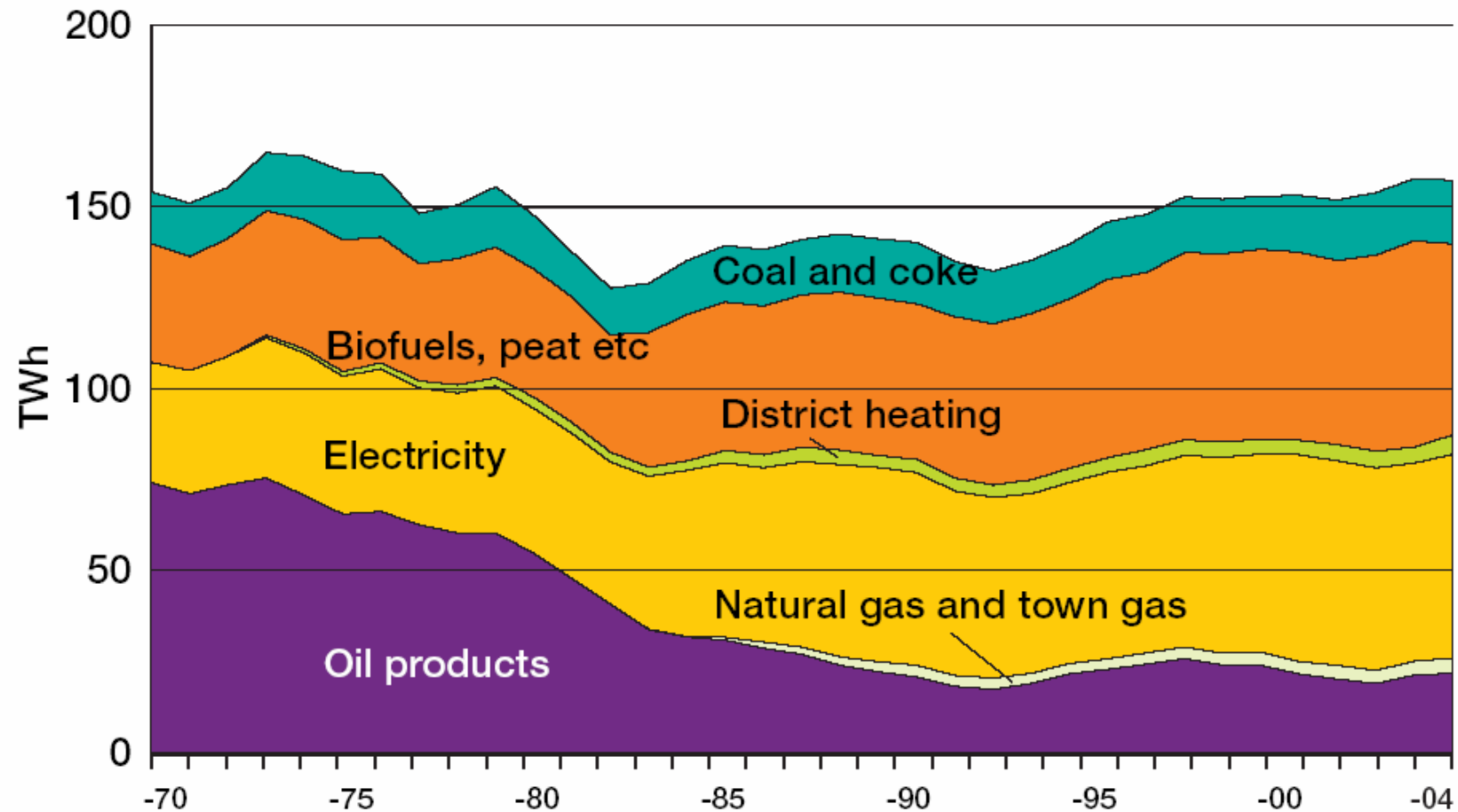
Sweden, as Finland, has one of the world's highest per capita use of power..



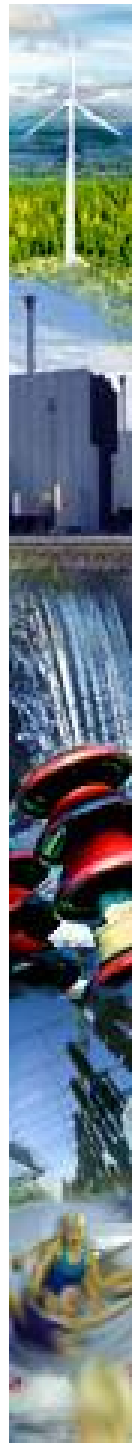
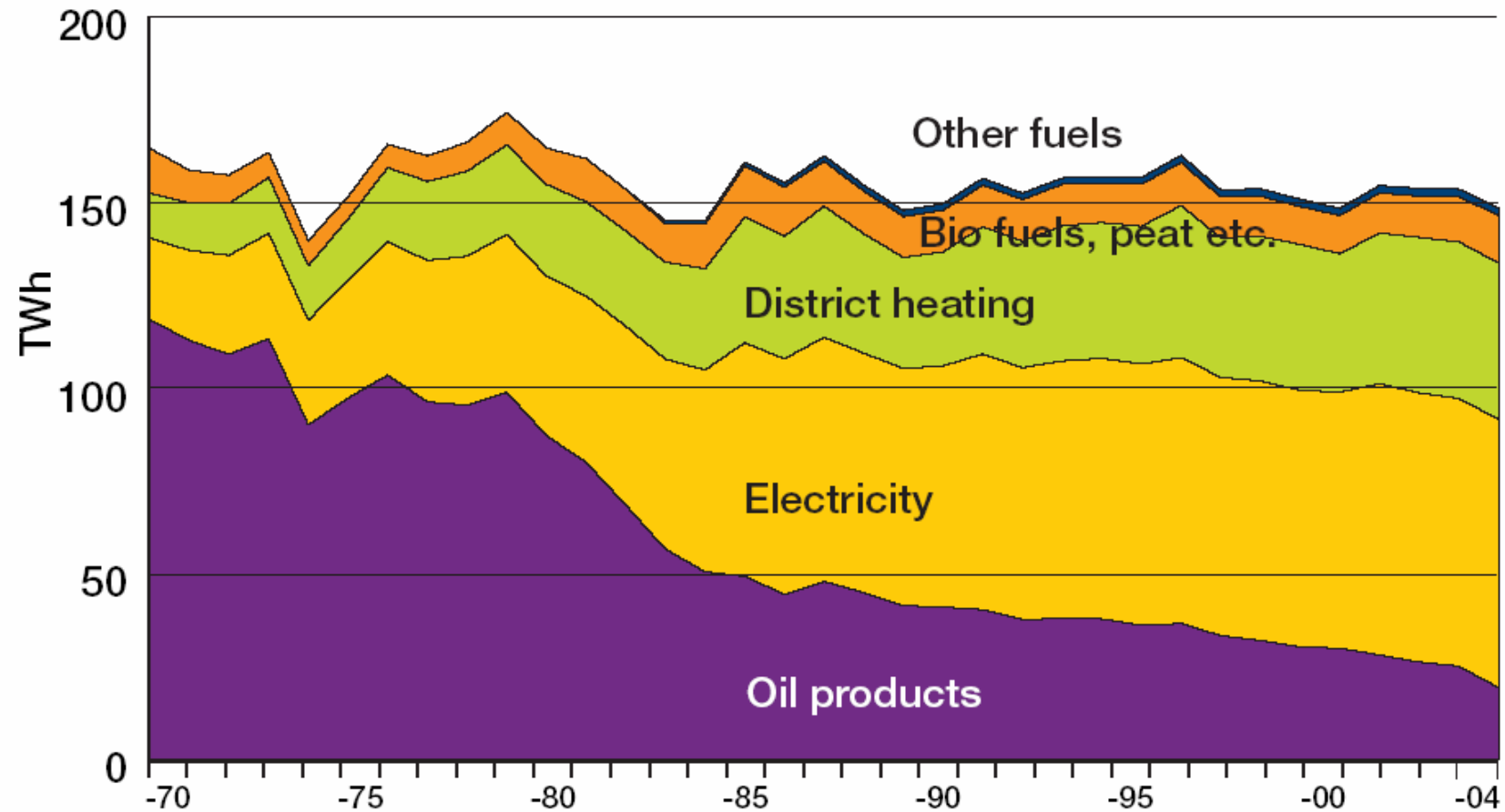
Power consumption increased rapidly until 1985..



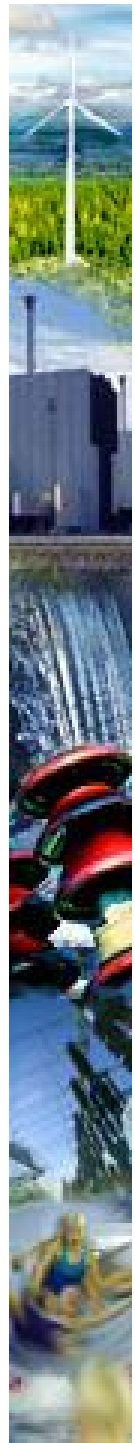
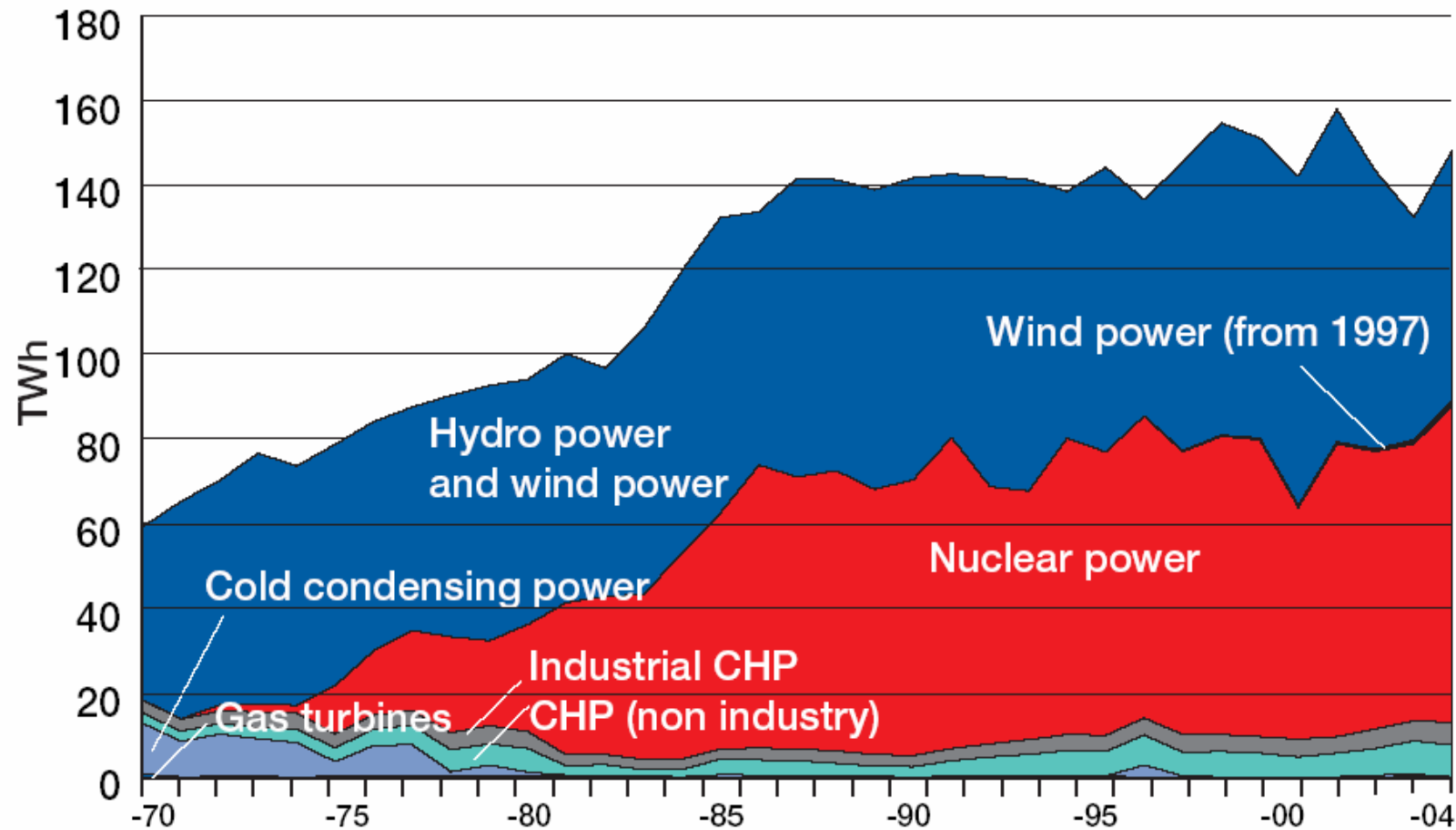
..largely due to a substitution of oil in industry..



..as well as in the residential and services sector.

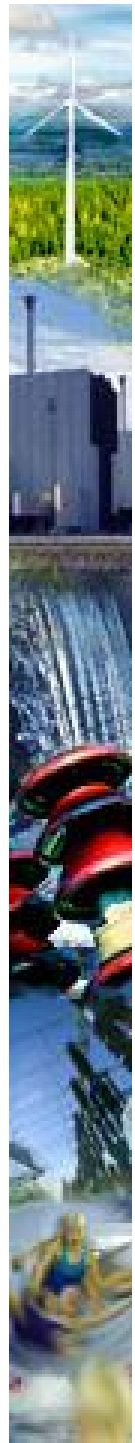
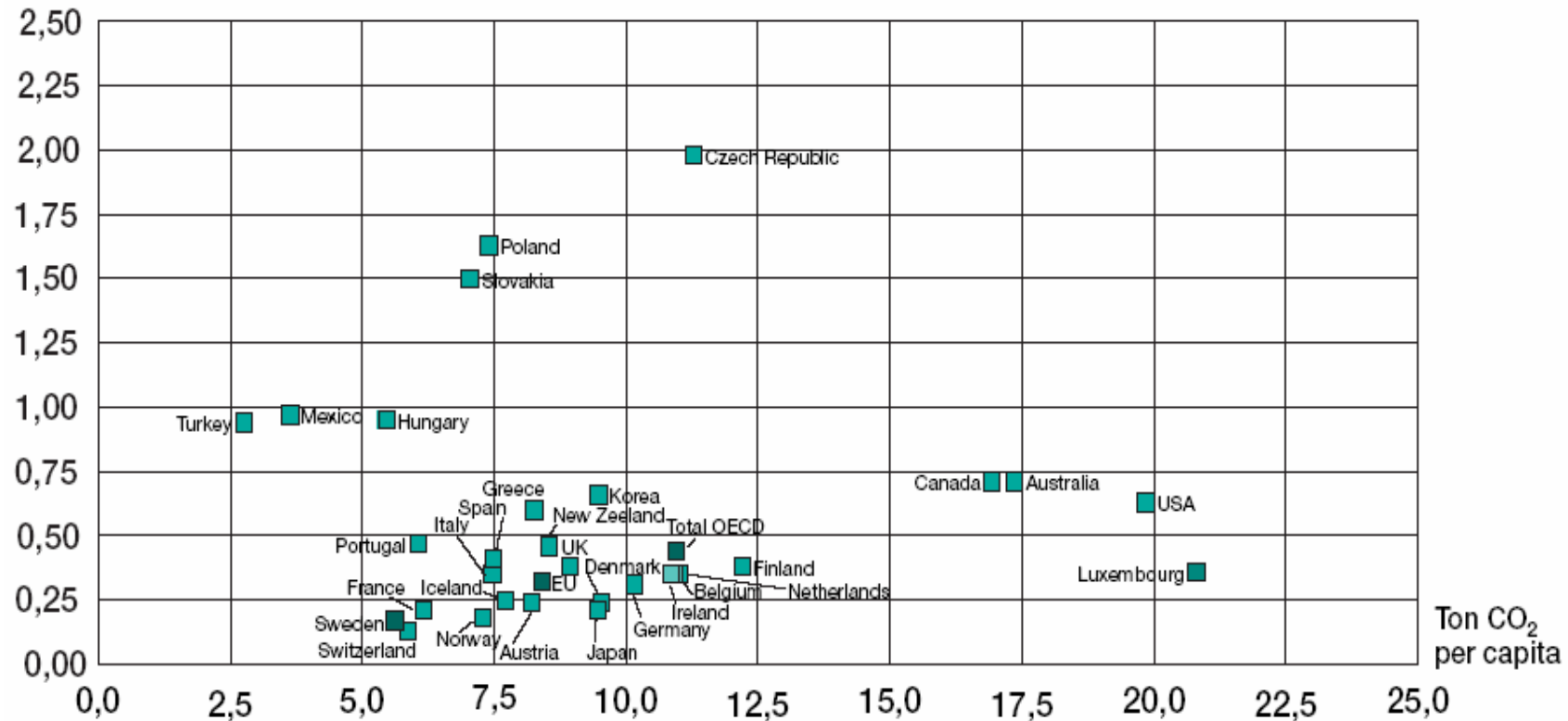


Thanks to the favourable production structure for power...

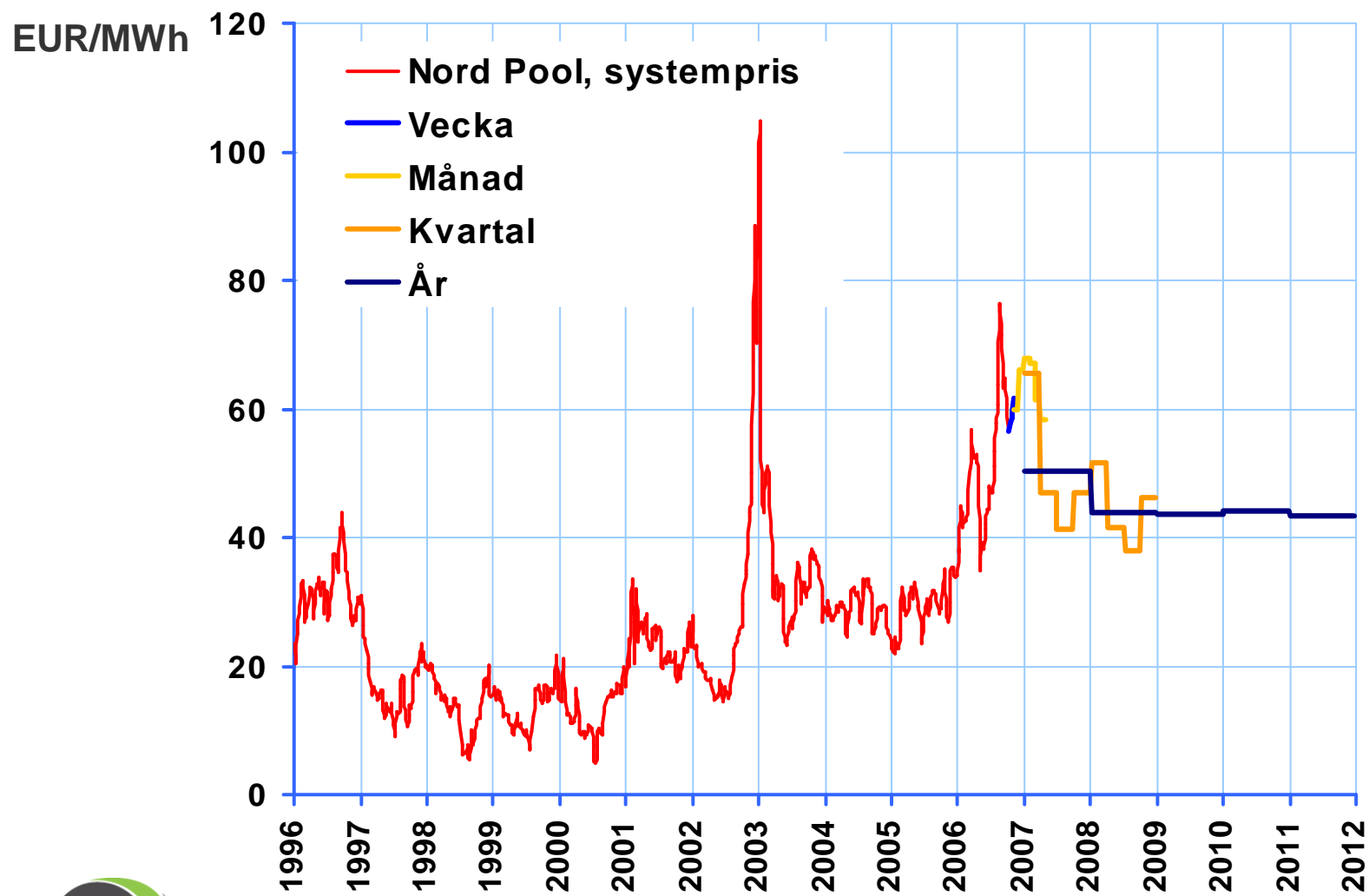


..Sweden has a very favourable position regarding CO₂-emissions.

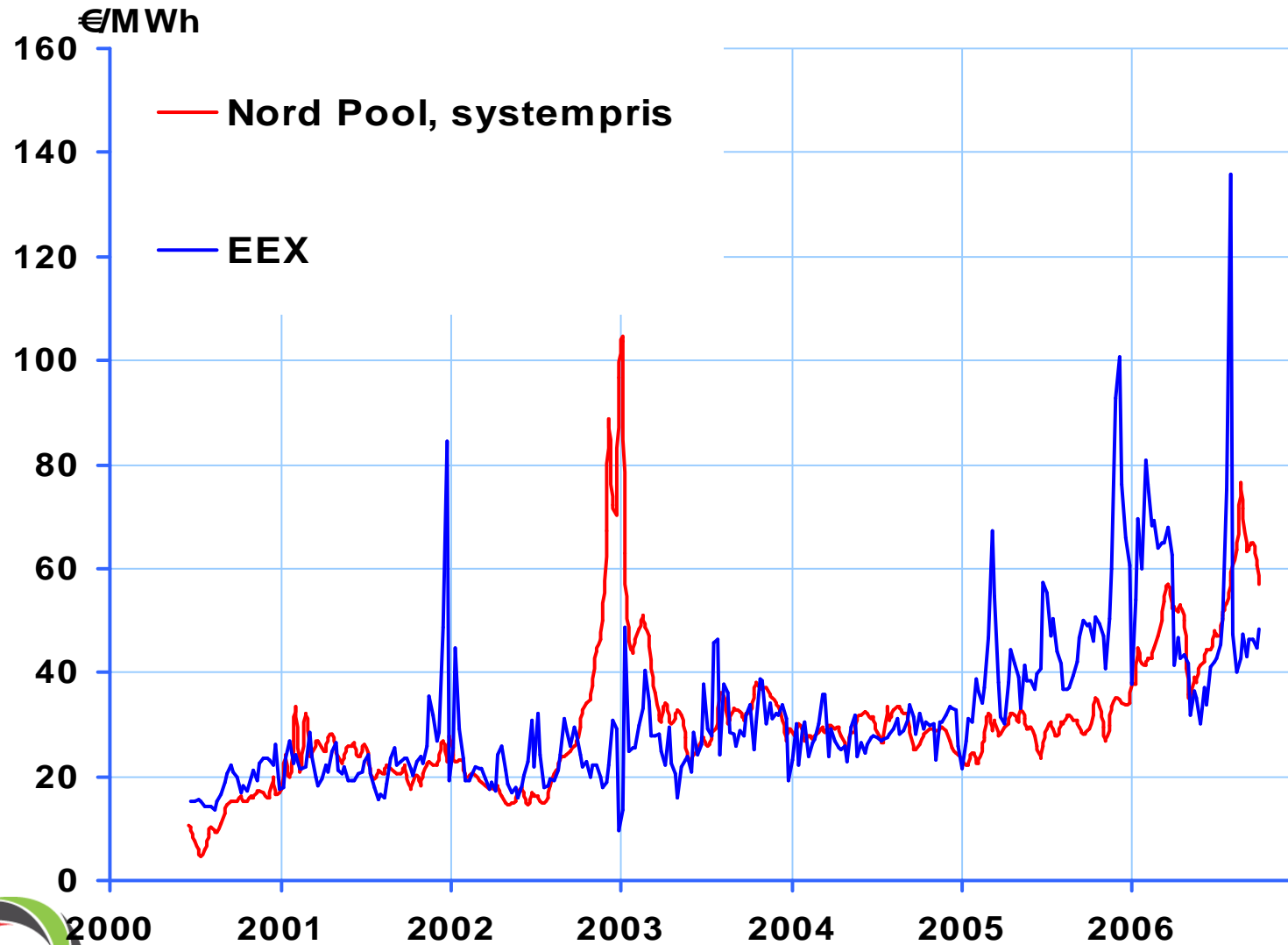
Kg CO₂ per GDP
(1995 US dollar)



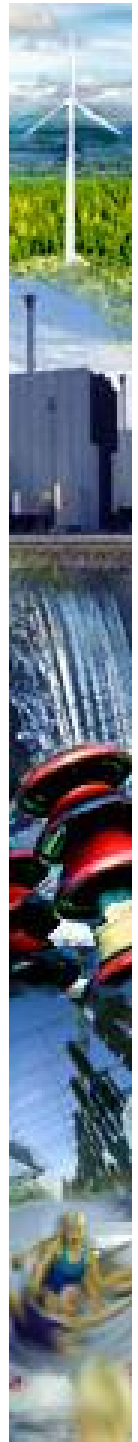
The competitiveness of Swedish industry is threatened by the increasing power prices



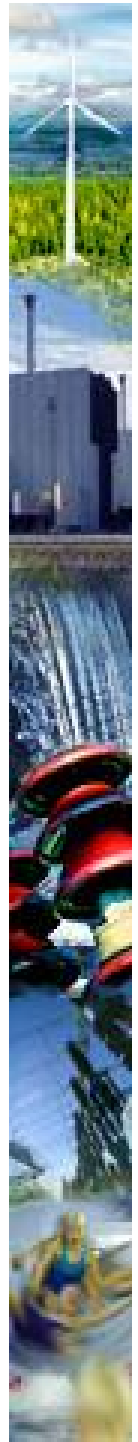
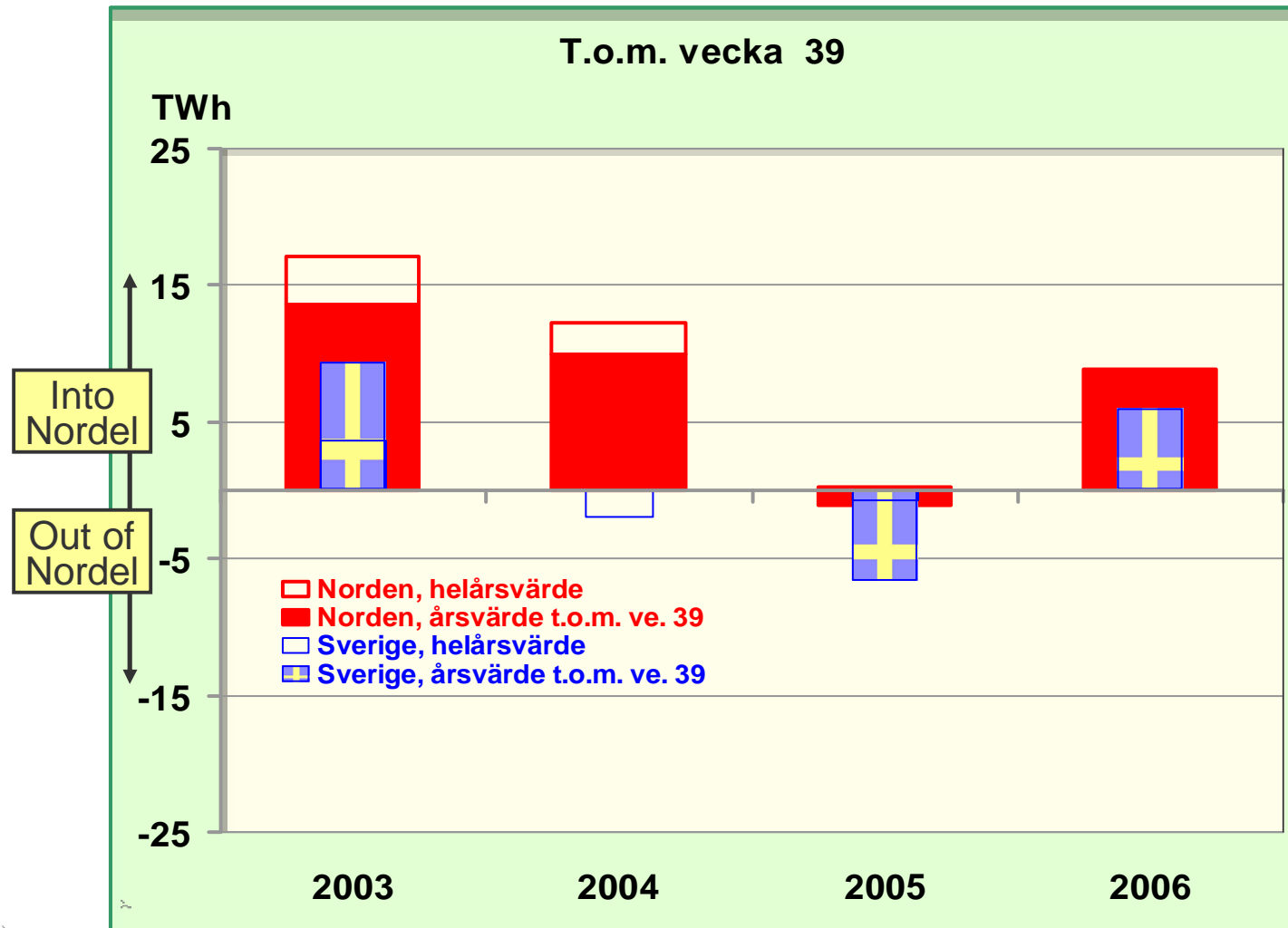
..especially when prices are not competitive
in Europe



EEX, Nord Pool, Svensk Energi



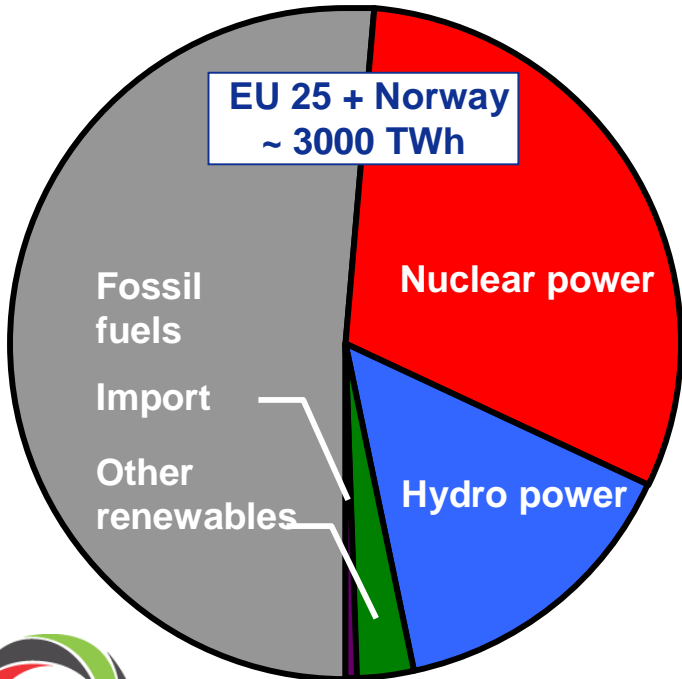
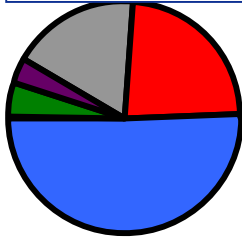
The Nordic area – as well as Sweden – has become dependant on power import



New Swedish power would have great potential in Europe.

Nordic region
~ 380 TWh

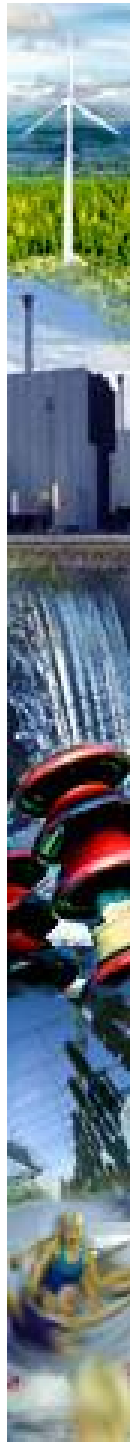
Sweden
~ 150 TWh



High prices, increasing imports – should induce new investment.

A country rich in potentials compared to most other EU-countries...

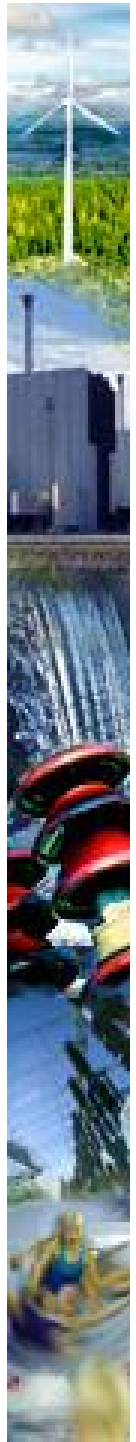
- Biomass CHP
- Hydro power
- Gas CHP
- Nuclear
- Wind power



But:

Are they competitive?

- Biomass CHP
- Hydro power
- Gas CHP
- Nuclear
- Wind power

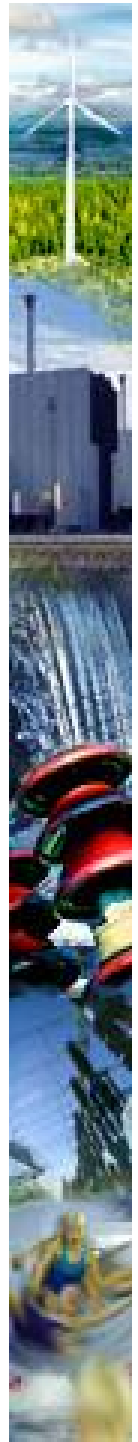


And:

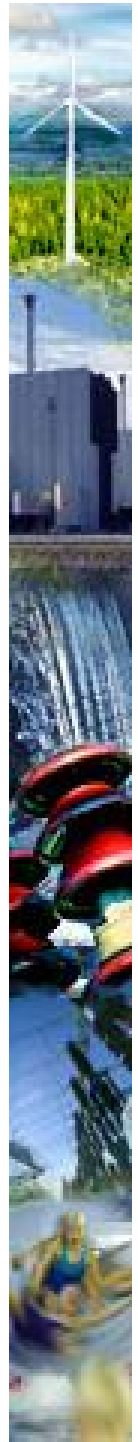
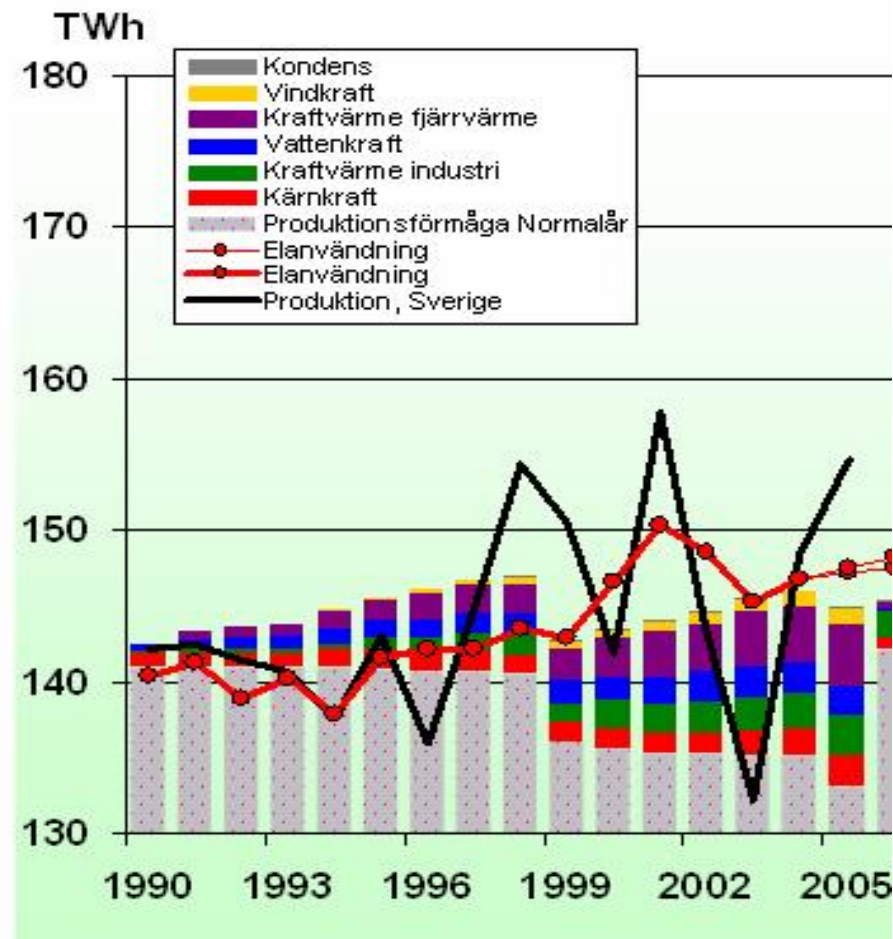
Are they permitted?

- Biomass CHP
- Hydro power
- Gas CHP
- Nuclear
- Wind power

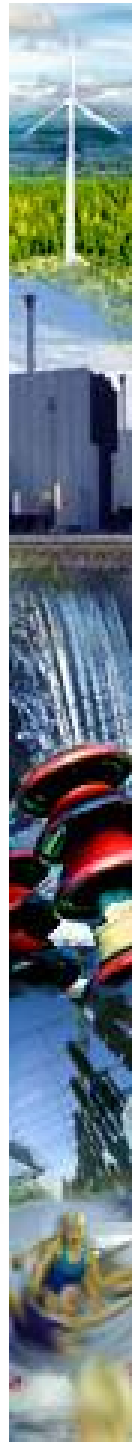
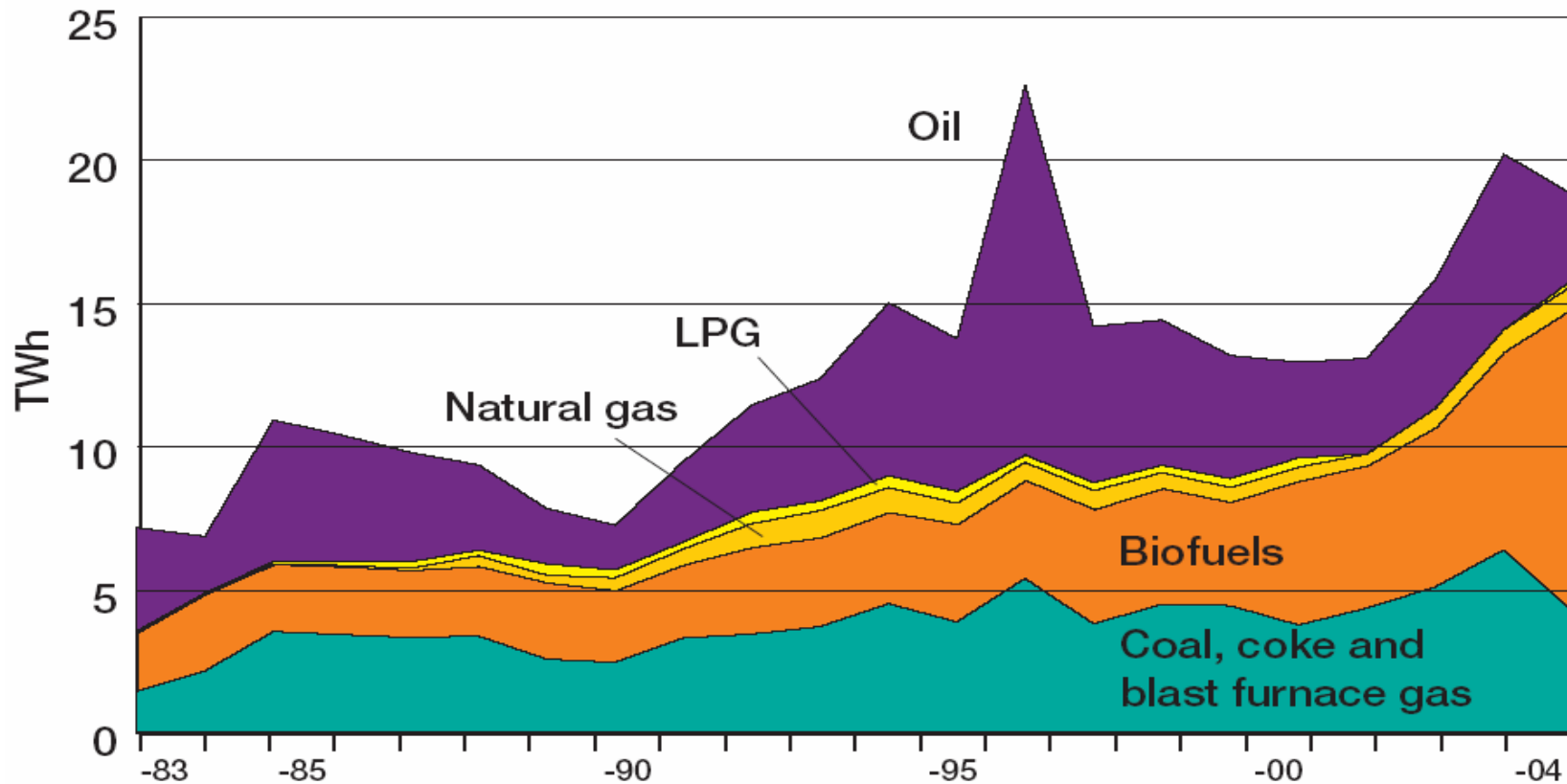
*There is a need for more production in Sweden.
Fortunately, there are also some encouraging signs..*



New capacity in recent years has not been sufficient to compensate closures..

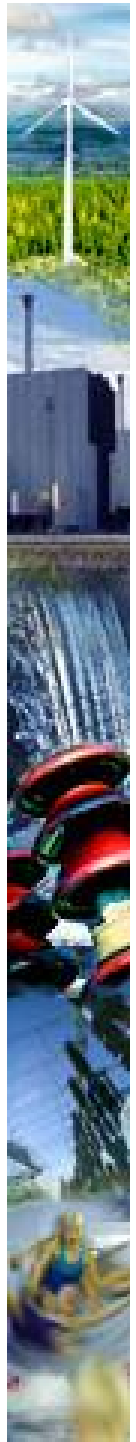


Only generation of biofueled power has shown any significant increase in recent years.



However, since a couple of years the political awareness of the need for more production has increased

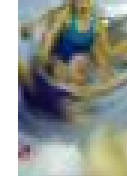
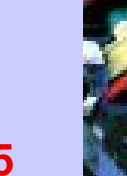
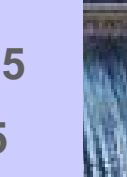
- Removal of the end-date for nuclear power and acceptance for increased output
- Permissions to build gas-fired CHP in Gothenburg and Malmö
- Adequate, long-term (2030) certificate program to stimulate renewables
- (The prohibition to plan new nuclear power has been abolished)



Massive investment plans for the next five years (BSEK)

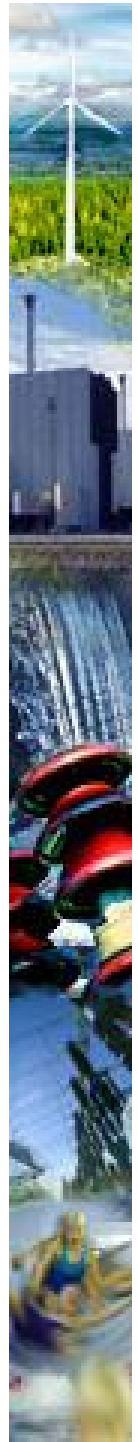


	E-on	Vattenfall	Fortum	Göteborg Energi	Öther	Total
Networks	9	10	4,5	1	28	52,5
Meters	2	2	2	0,5	8,5	15
Nuclear	9,6	15,7	6,3	0	0,4	32
Hydro	1	7	2,5	0	0	10,5
Wind	1	1,8	0	0,2	5	8
Gas	5	0	0	2	0	7
Bio-mass	0	1	2	0,5	0	3,5
Total	28	38	17	4	42	129

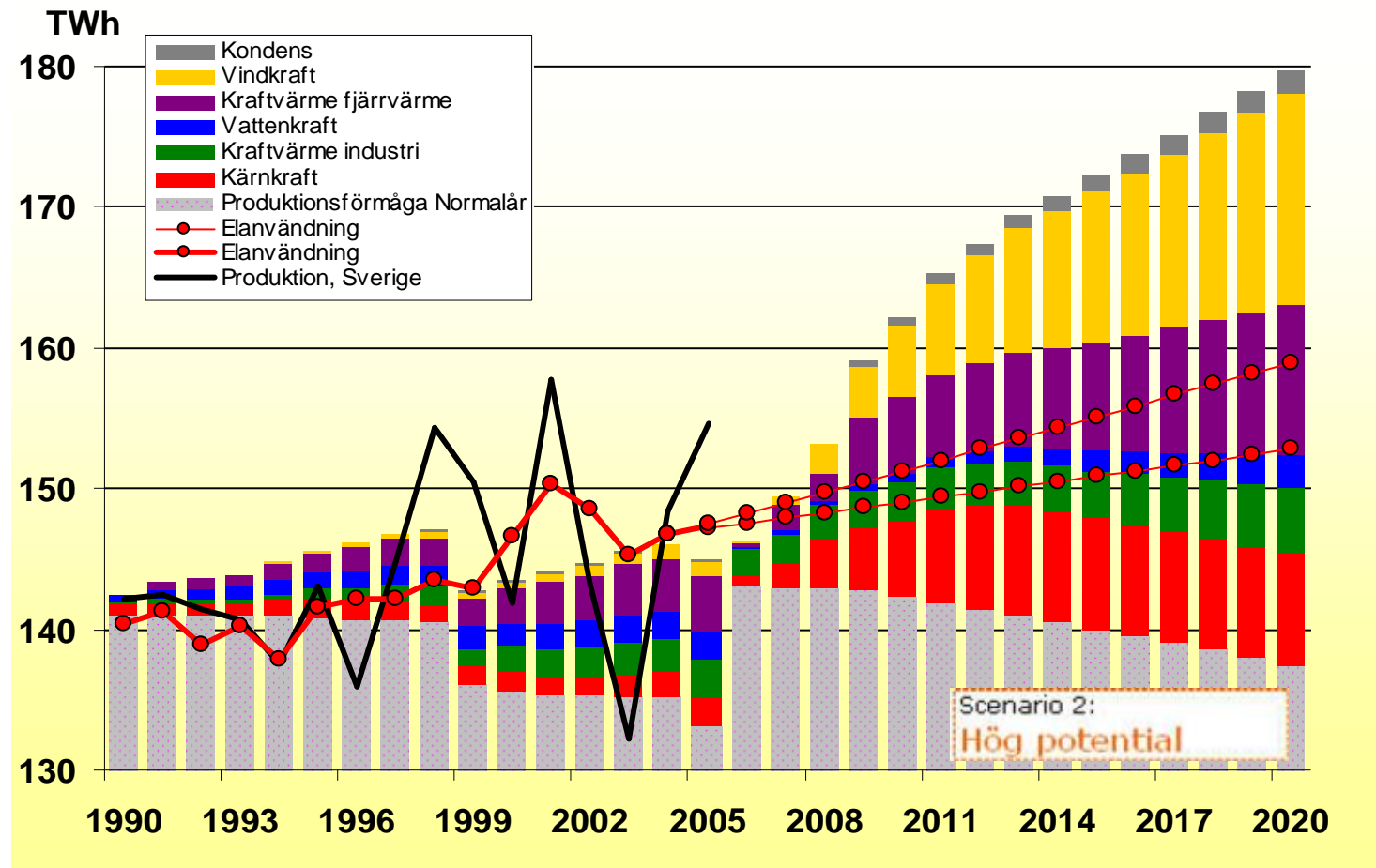


Planned increases in nuclear capacity until 2012

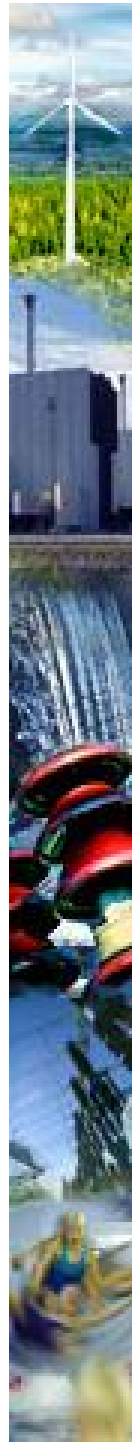
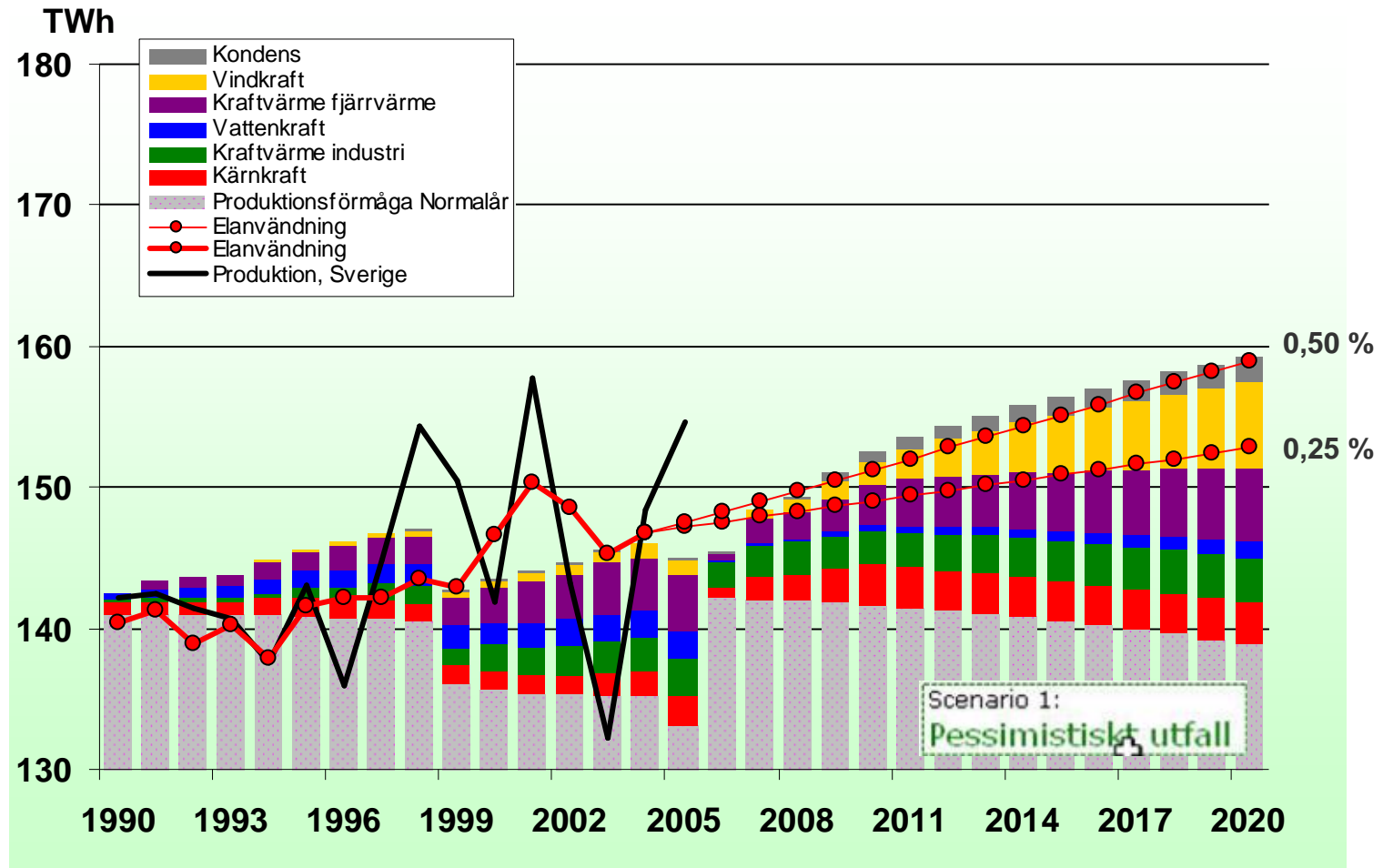
- Ringhals 1, 846 MW + 12 MW
- Ringhals 3, 917 MW + 208 MW
- Ringhals 4, 908 MW + 270 MW
- Forsmark 1, 1018 MW, + 119 MW
- Forsmark 2, 951 MW, + 169 MW
- Forsmark 3, 1190 MW, + 171 MW
- Oskarshamn 3, 1198 MW, + 252 MW
- Oskarshamn 2, 602 MW, under investigation
- TOTAL: > + 1 200 MW



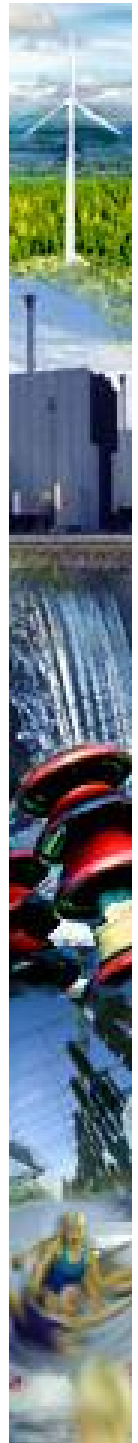
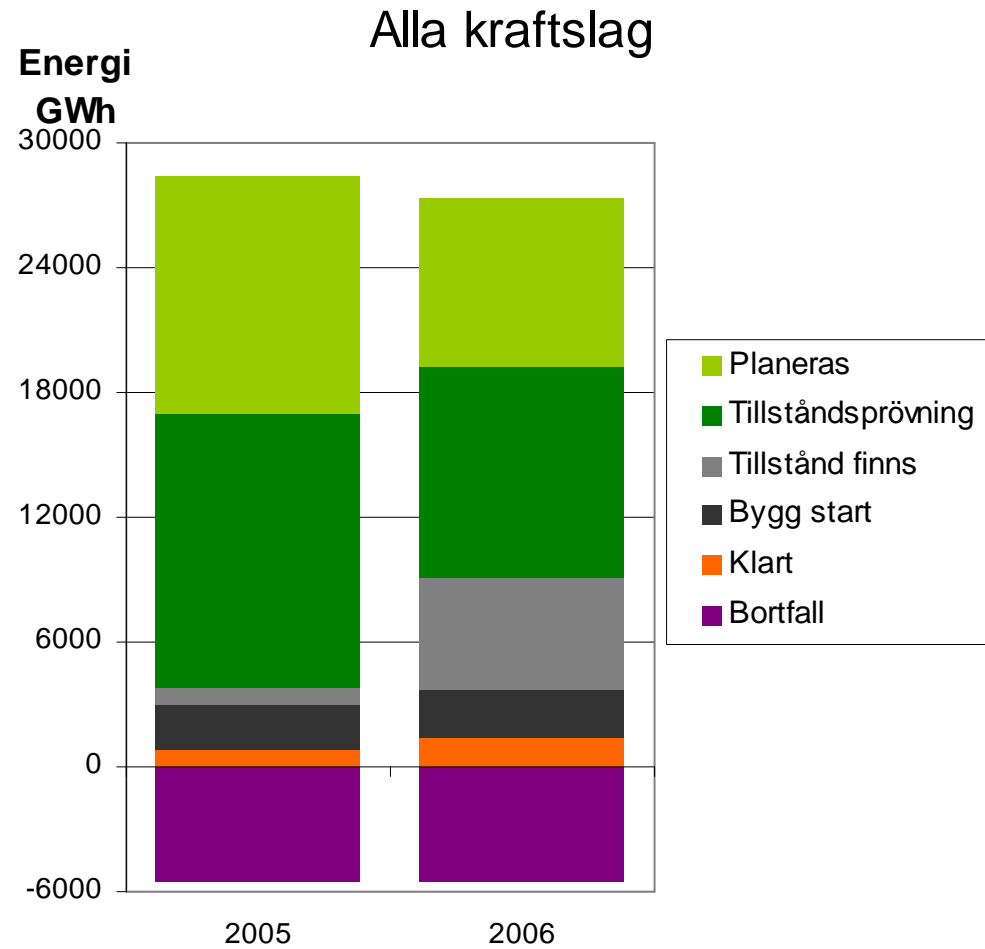
If all the existing plans are realised, Sweden will become a net exporter in 3-4 years



Also with more moderate success rate, the balance looks better than today

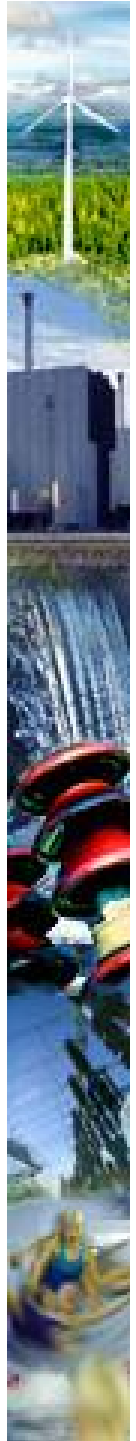


The project portfolio contains app. 25 TWh of new power



Competitive power requires competitive power plants..

So, what are the outlooks for nuclear power in Sweden?



Public opinion in June 2006

(Synovate Temo)

- 85 % want to continue using the nuclear power.
- 32% want to use nuclear until present reactors are closed for safety or cost reasons
- 31% want to continue with the present level of nuclear power and accept to renew today's reactors
- 22% want to develop nuclear power and build more reactors
- 13% want to close nuclear power through political decision
- A clear majority for continued operation of nuclear power among voters of all parties except (mp) and (v). A clear shift of opinion in the center party



Public opinion in June 2006, cont'd

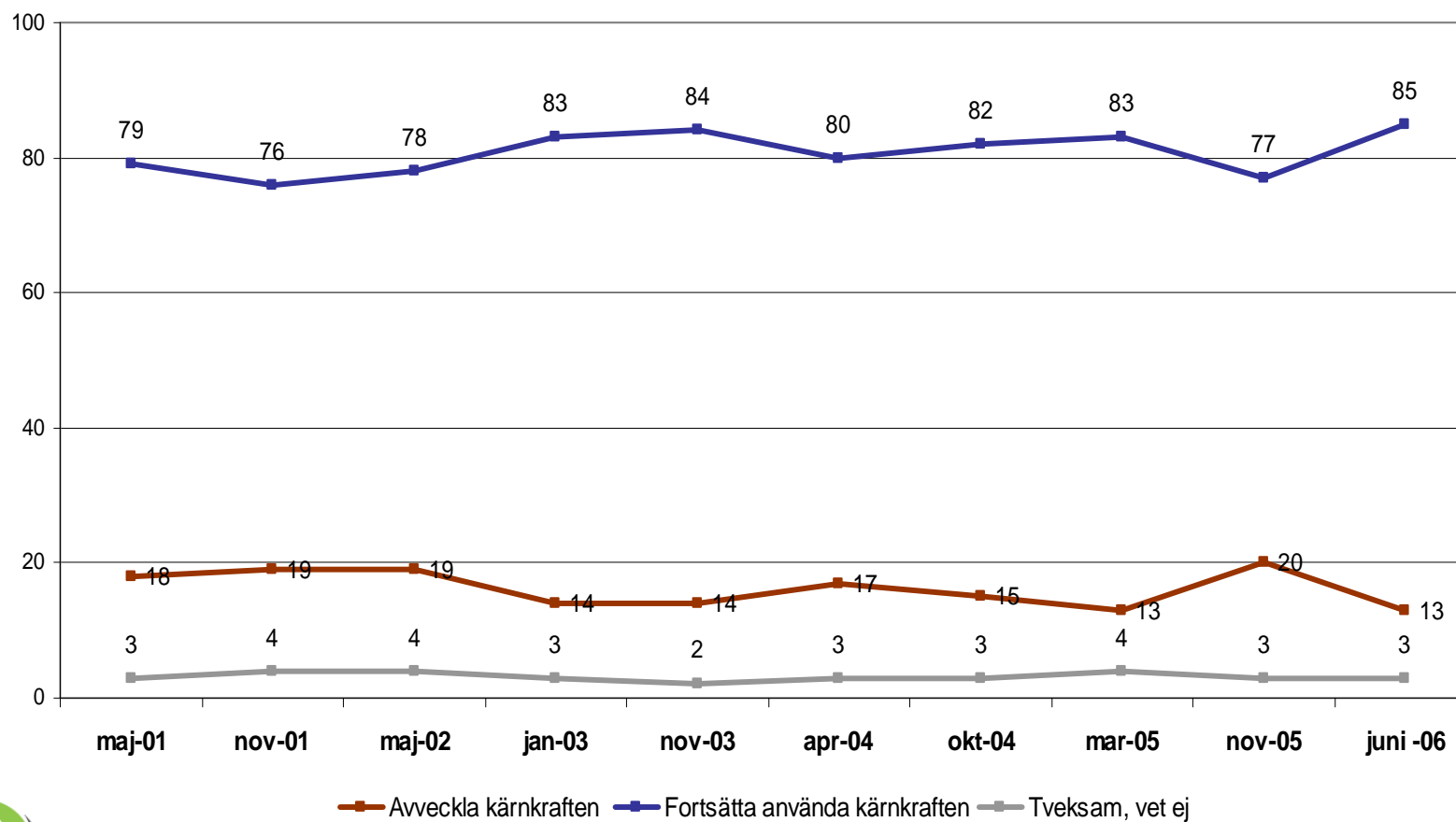
(Synovate Temo)

- 73% of all Swedes thinks it was a good decision to build nuclear power
- Only 18% think it was a bad decision. After Chernobyl, this figure was 43%
- 7 out of 10 Swedes declare themselves not worried about nuclear power



Development 2001 – 2006 (Synovate Temo)

Vilket av följande stämmer bäst med din personliga uppfattning om kärnkraftens användning i Sverige? Ska vi...?



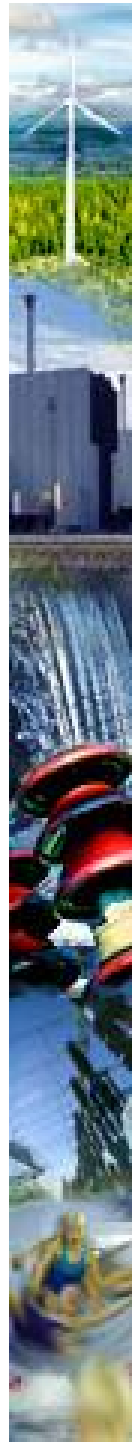
October 2006 – a center-liberal majority government

- (c) in charge of industrial, energy, infrastructure and agricultural issues
- "Sweden needs more energy and more peak capacity"
- Interest of more CHP is particularly underlined
- No closure of nuclear power under the 4 year term
- No decisions on new plants during the term
- Capacity increases OK if approved by competent authorities



In synthesis...

- Price development in recent years has increased the interest to invest in new power and brought political acceptance of the need for new power
- A continued negative public attitude against large-scale hydro and new nuclear excludes these alternatives for the time being
- Current plans indicate a substantial increase in production capacity over the coming years. The individual permissions may still be a problem



Thank you!

bo.kallstrand@svenskenergi.se

