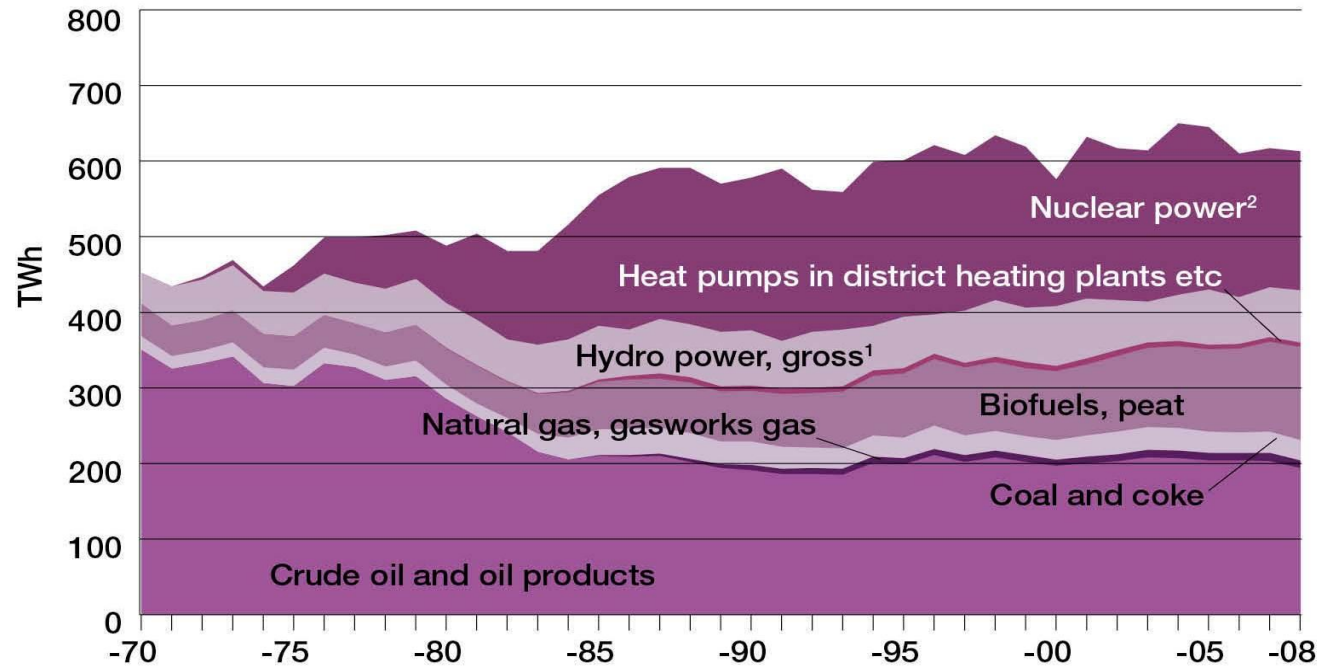


Renewable Sweden

Martina Högberg

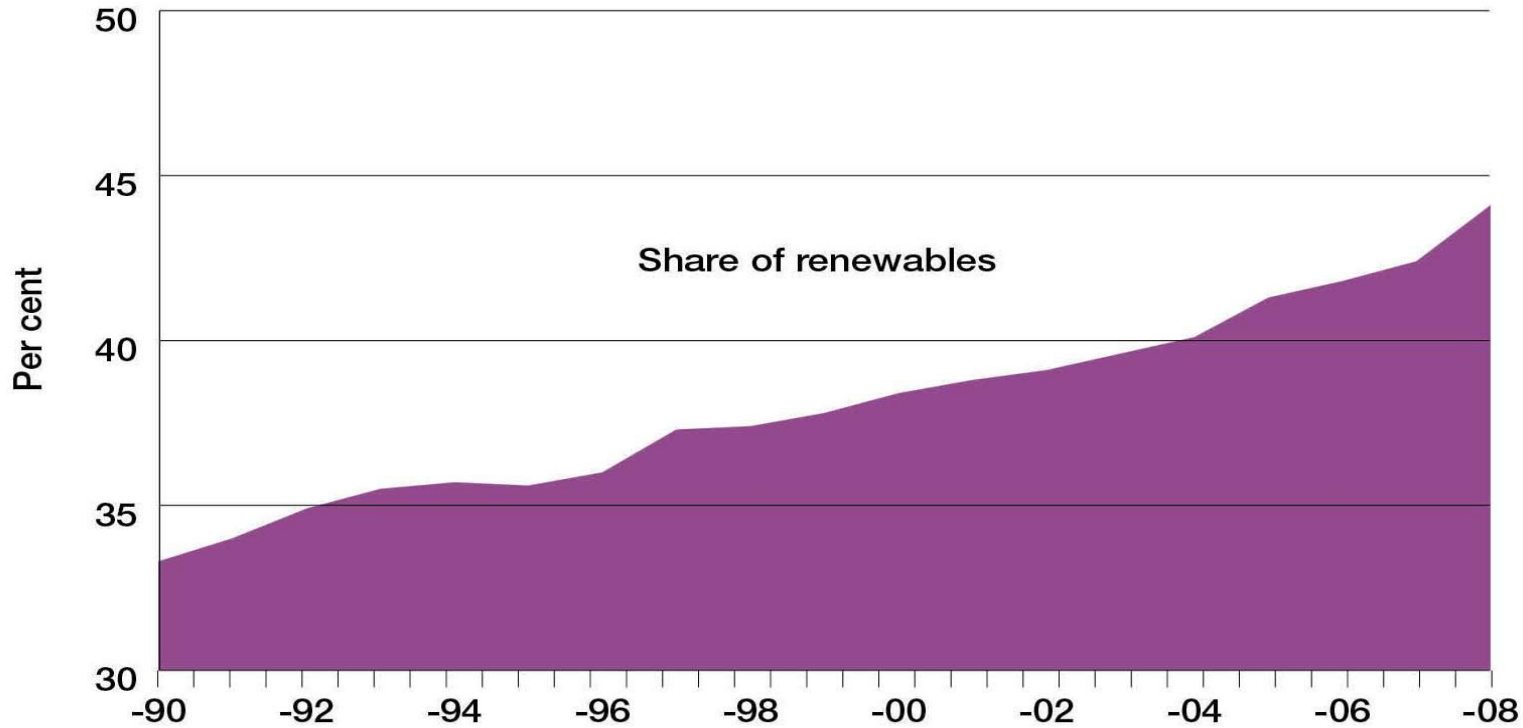
Energy counsellor, Swedish Permanent Representation

Total energy supply 1970-2008

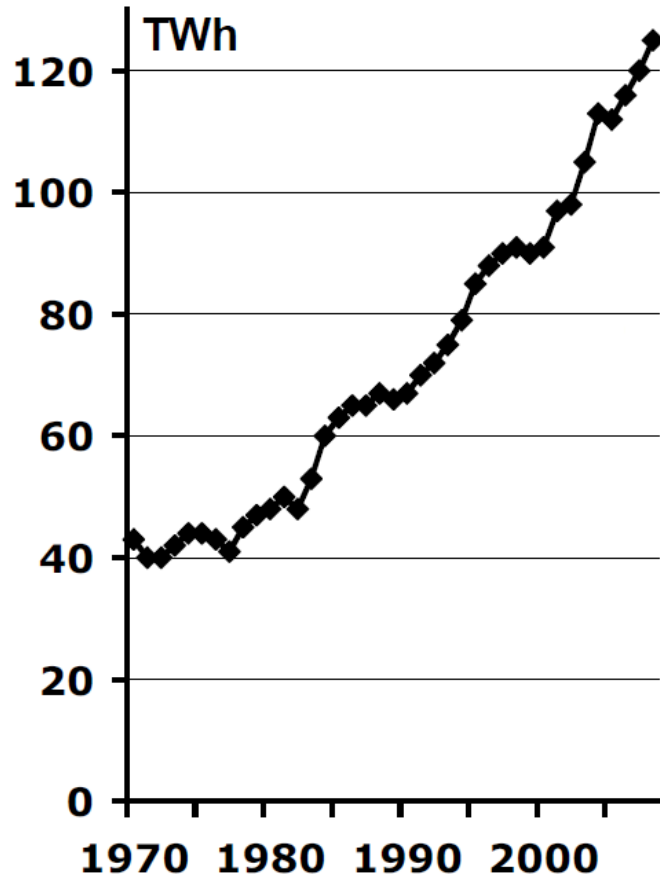


¹ Including wind power until 1996. ² Calculated in accordance with the UN/ECE method for energy supply from nuclear power.

Renewable energy in Sweden



Use of bioenergy in Sweden 1970-2008

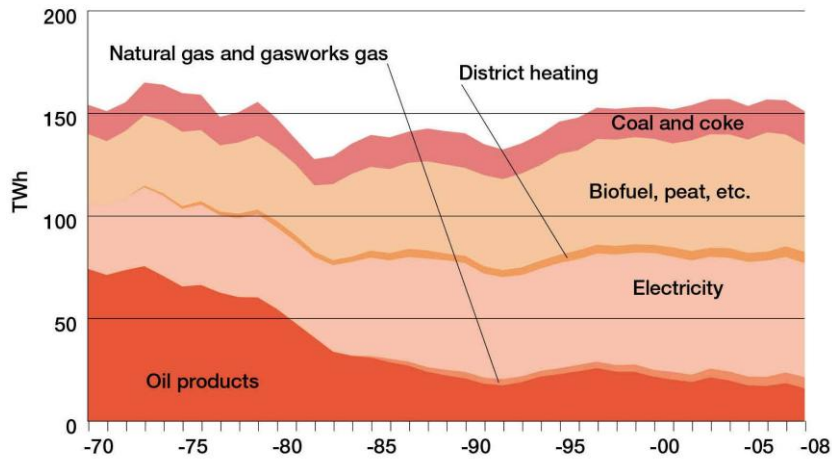


- 1/4 of total energy use
- 450 PJ
- 50 GJ/capita
- 1,6 kW/capita

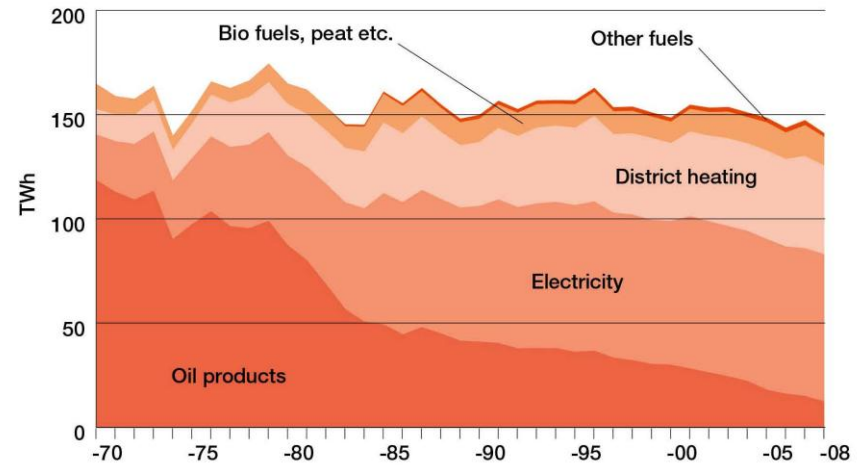
- Forestry related 90%
- Waste 8%
- Agriculture 2%

And forest related bioenergy has the biggest potential for further increases.

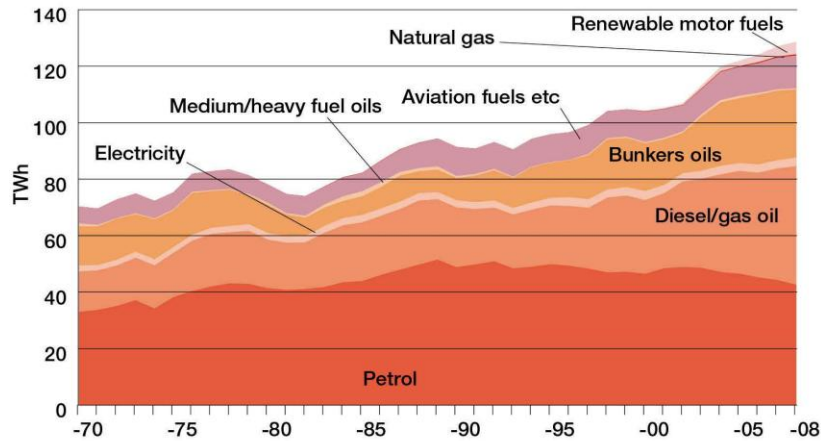
Industry



Residential and services



Transport



-The big challenge- efficient use of all biomass

- **Second generation biofuels can be made of residues that have limited alternative use.**
 - Bark
 - stumps
 - branches
 - waste
 - residues

- The technological challenge - Swedish RD&D Priorities

- Substantial reductions in GHG emissions in systems perspective
- High system efficiency and a potential for large scale introduction.
- Potential for achieving production costs equivalent to, or less than, the price of fossil fuels.
- Integration with the existing infrastructure?
- Can be integrated with existing motor fuels and replace diesel.
- Have synergy effects with other important export industries, e.g. pulp and paper.

Other challenges

- getting the incentives right
 - addressing sustainability concerns
-
- The RES creates incentives by preferential treatment in quotas (double counting)
 - but the sustainability criteria could create an unjustified administrative burden

Swedish forestry policy

- Swedish forestry policy has two objectives that are equally important- production and the environment. Forests and forestry land are national assets that should be used efficiently so that they produce high, *sustainable yields while preserving biological diversity.*

Some numbers

- Since 1920 standing timber has increased by 80 percent
- 4 million hectares set aside for protection purposes

To conclude

- We are positive towards the development in this area in Sweden
- It can make it possible to decrease dependence of fossil fuels in the transport sector at the same time as we increase efficiency in biomass use.
- Sustainability criteria is however a concern

Thank you!

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