

# The New Structure for PSO Activities in Denmark

- Goals and Overall set-up

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# Agenda

## ➤ Introduction

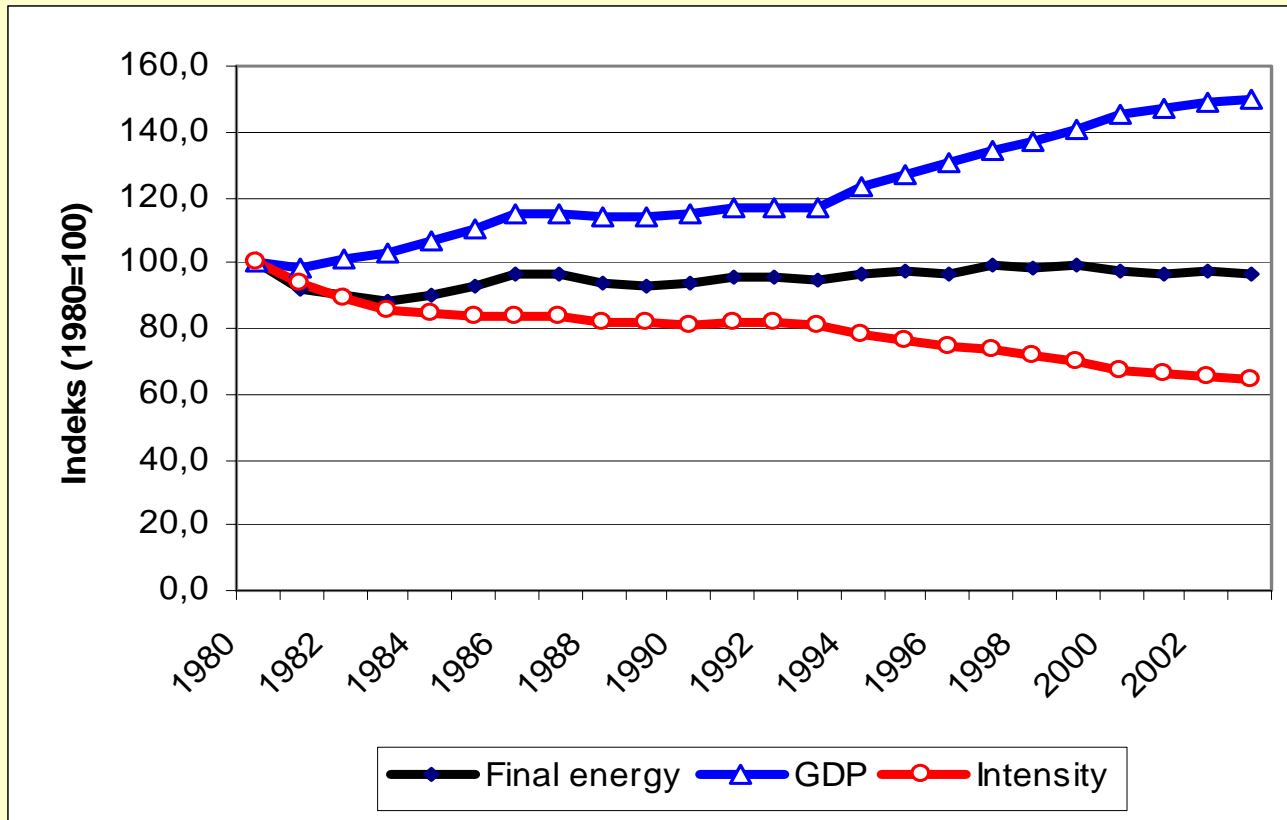
- The importance of end-use energy efficiency
- Historical and actual measures

## ➤ The new political framework

- Political agreement and action plan
- New measures

# Final Energy Consumption

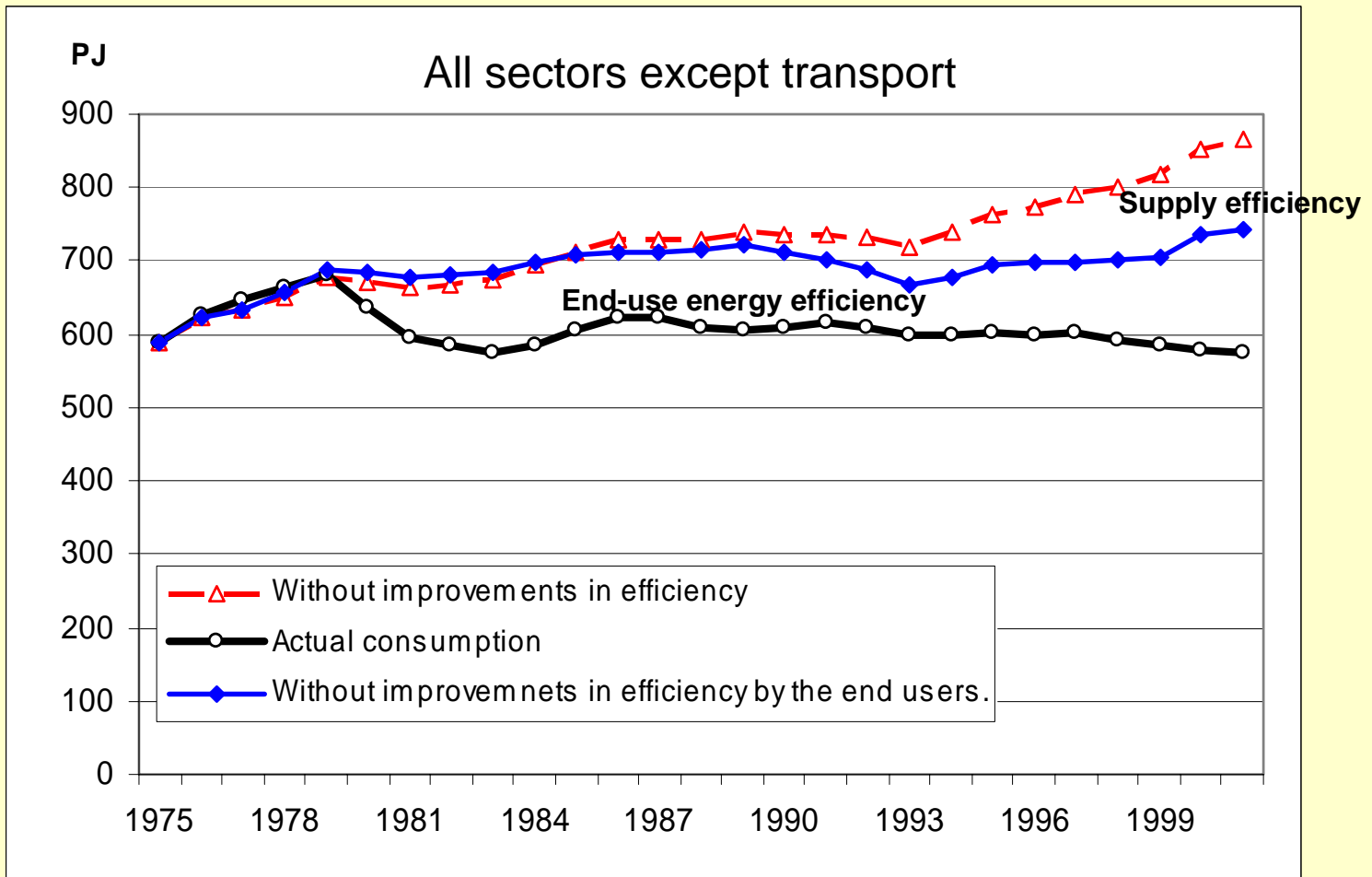
- all sectors except transport



Consumption 3 % lower in 2003 than in 1980

50 % growth in GDP

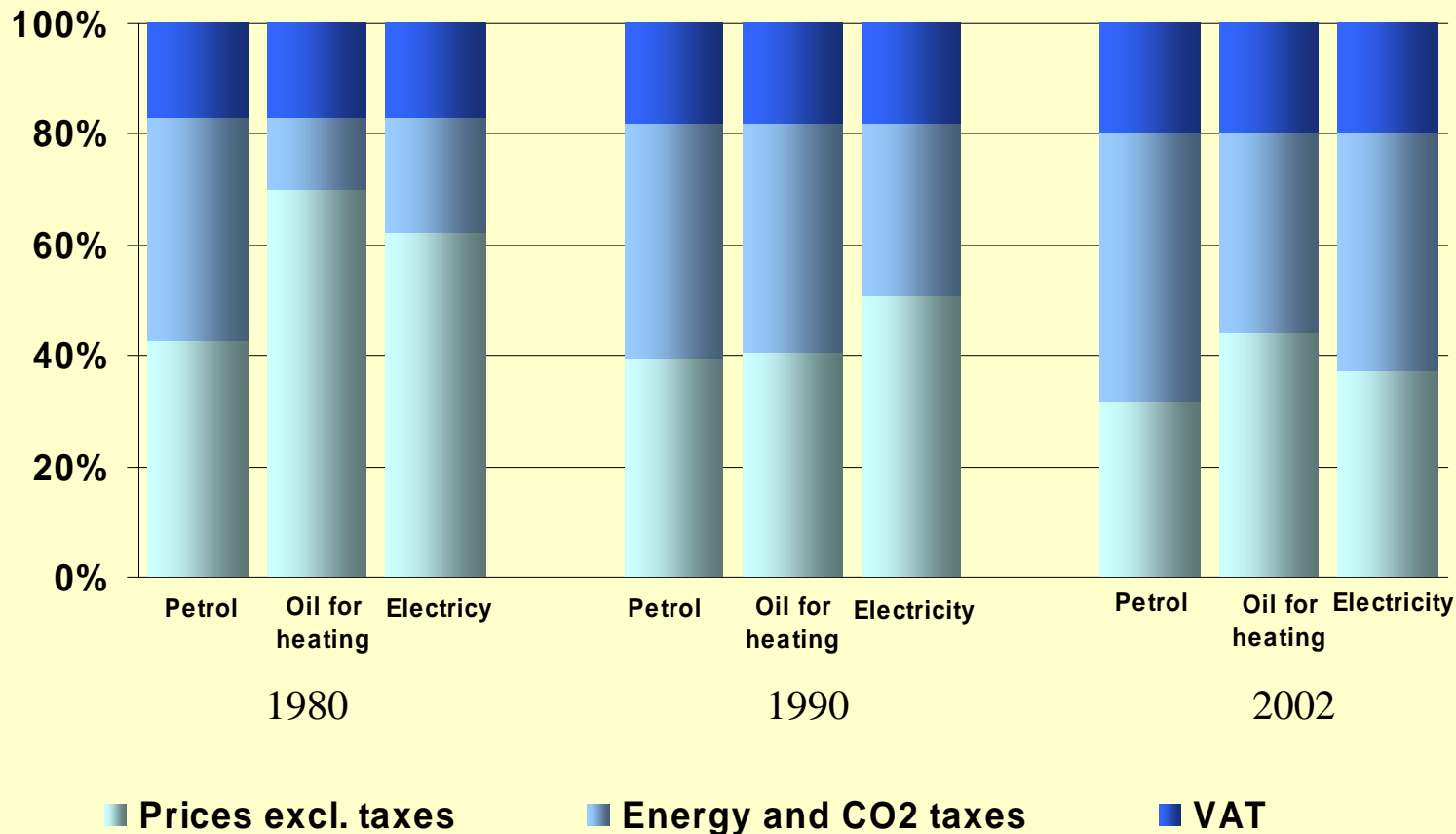
# Effect of End-use Energy Efficiency in Denmark



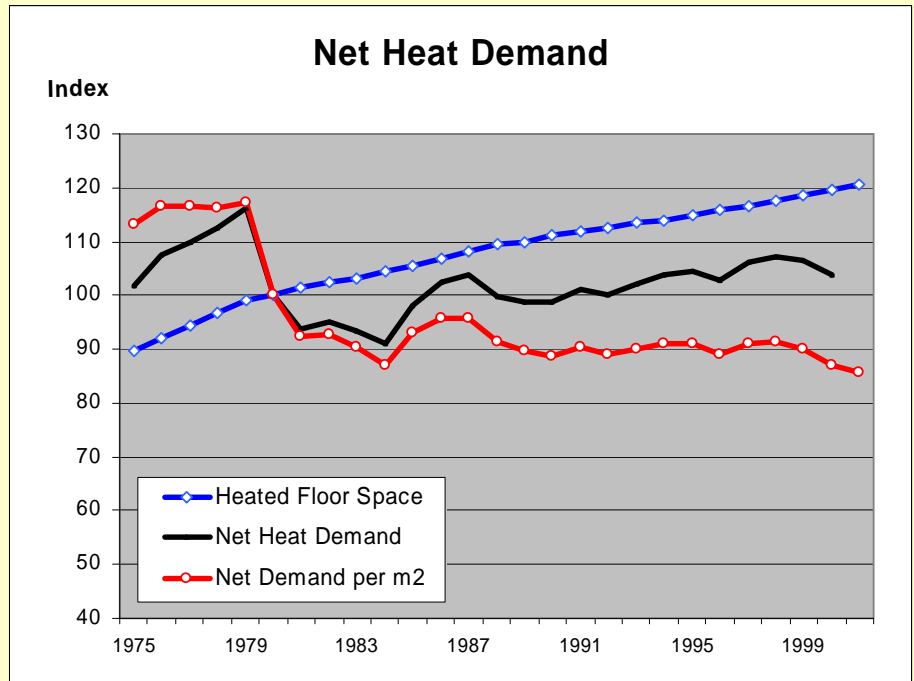
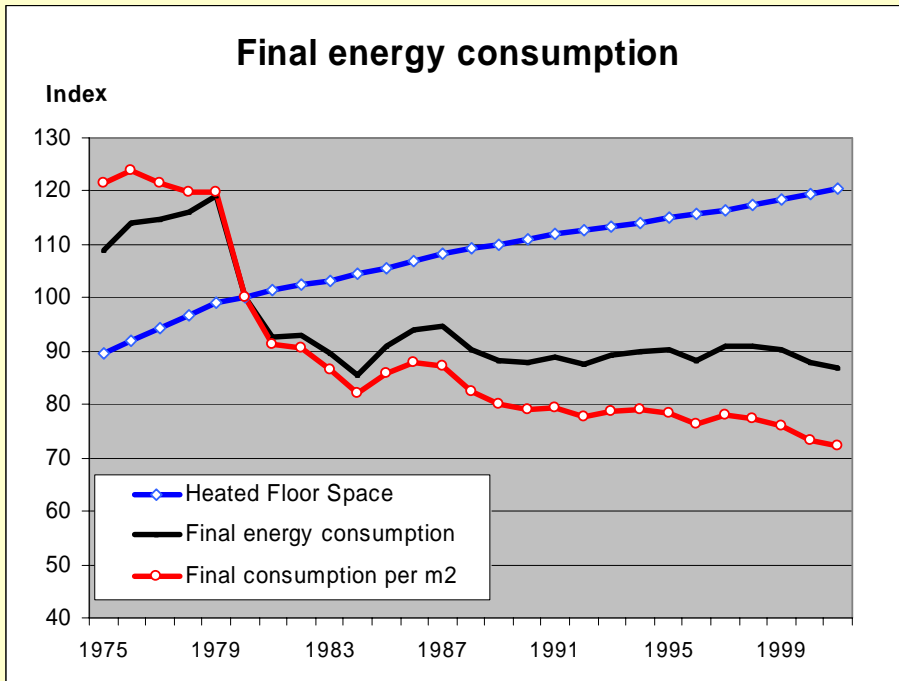
# Energy Efficiency Measures in Denmark

- Taxation:**
- Energy taxes in households and in the public sector
  - CO<sub>2</sub> taxes on energy used in all sectors
- Buildings:**
- Building codes
  - Energy labelling of buildings.
- Appliances:**
- Energy labelling of appliances (EU and GEEA).
  - Minimum efficiency standards.
- Industry:**
- Agreements on energy efficiency in industries (CO<sub>2</sub> package)
- General:**
- The Electricity Saving Trust.
  - The energy-saving activities carried out by the grid companies (electricity, natural gas, district heating)
  - Energy Saving Act
  - There have been different subsidies schemes

## Energy prices in household - composition

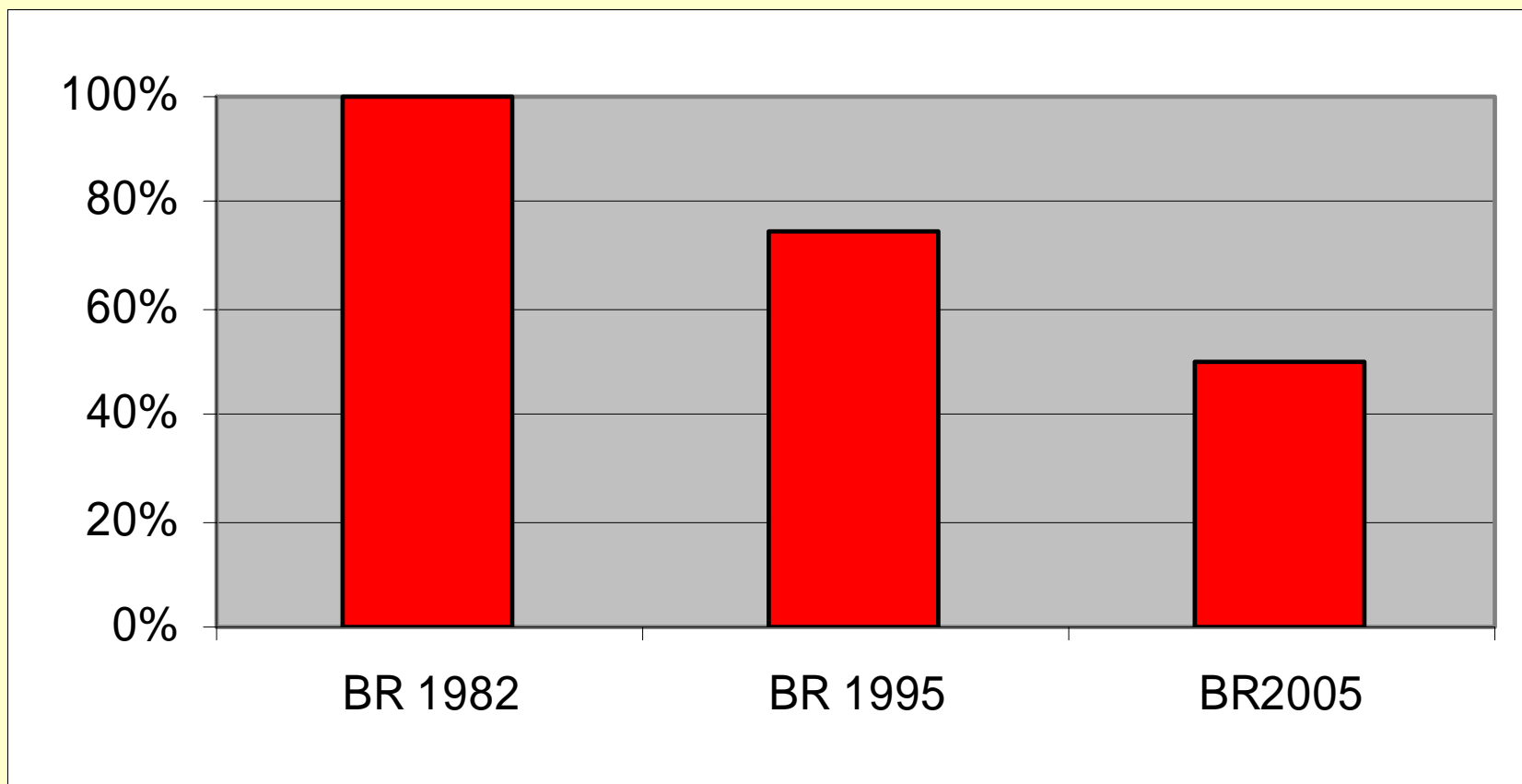


# Energy for heating of Danish households



- Efficiency has increased dramatically since 1975
- Final energy per m2 is still declining – shift in heating systems
- Net heat demand per m2 has been almost stable the last 20 years

# Building Codes







# Energy Intensity in Manufacturing

How can the change in 2003 be explained:

➤ Change in economic activities

- Low growth from 1983-93
- High growth since

➤ New policy measures

- CO2 tax package
  - CO2 tax on energy
  - Voluntary agreement scheme
  - Subsidy scheme
- DSM activities by electricity utilities

## DSM by Grid Companies

- Electricity grid/distribution companies has worked with energy efficiency for more than 10 years
- The activities are based on a running process of annual planning and reporting
- The costs are included in the tariffs
- Energy consulting/audits, campaigns, information, etc.

# The new political framework for energy efficiency

## The Process

- Development of a new plan was decided in a political agreement in March 2004
- A draft Action Plan was published in December 2004
- 10 June 2005 a broad political agreement on future energy conservation efforts
- The final action plan was published in September 2005

## Political Framework

Increasing energy efficiency is supporting:

- Economic growth and competitiveness
- Security of supply
- Environmental protection and CO<sub>2</sub> reduction

Basic principles:

- Decentralised implementation
- PSO-financing
- Cost-efficiency
- Market-based approach
- Focus on realisation of profitable savings

# Energy Saving Potential

- The potential is large
  - 30 – 50 % in most sectors and end-uses
- A large part of the potential is economic attractive
  - For the consumers
  - Socio-economic
- It will not be realised by itself
  - Market failures and imperfections
  - Barriers
- There is a need for policies and measures
  - Focus on cost-effective measures with a big saving potential

## Economic Potential from the Action Plan

Potential	
Socio-economic up to 2015	24 %
Private-economic - currently	16 %
Private-economic – up to 2015	42 %

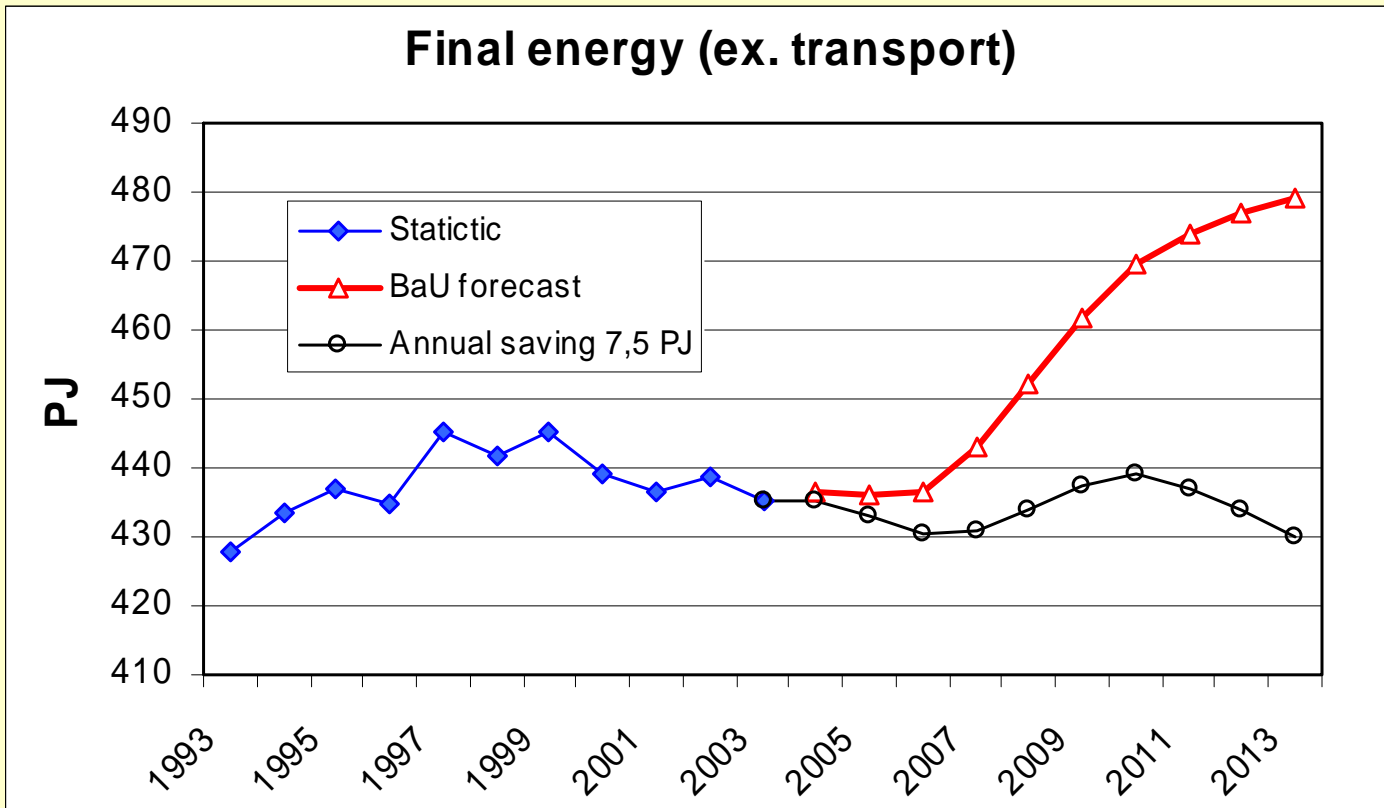
- Still potential in all sectors and end-uses
- Half of the cost-effective potential is in space-heating



## Objectives and Targets

- The overall goal is to reduce final energy consumption (excluding transport)
- Actual saving target at 1,7 % per year
  - Concrete energy savings, which can be documented, corresponding to an average of 7,5 PJ annually during the 2006-2013 period
  - Transport not included
- This target secure a small decrease in final energy consumption.

# Projected Development in Energy Consumption



## Network and Distribution Companies...

- Shall deliver a significant part of the increased savings
- Include electricity, natural gas, district heating and oil companies
- The companies will together get an annual saving target and a large degree of freedom to deliver in the cheapest way
- Focus on realisation of savings in the cheapest way

## Where will the savings come from?

<b>Savings excl. transport</b>	Actual	Draft	Agree-
Annual savings, PJ		Action plan	ment
Electricity Saving Trust	0,39	0,49	
Electricity grid companies	0,78	0,97	
Natural gas companies	0,08	0,10	
District heating	0,16	0,20	
Oil companies			
New buildings	0,00	0,70	
Existing buildings	0,60	1,82	
Public sector	0,00	0,25	
Appliances	0,30	0,30	
Industry	0,40	0,50	
<b>I alt</b>	<b>2,71</b>	<b>5,33</b>	<b>7,5</b>

Note: 1 % = 4,35 PJ

## Conclusion

- Strong political support on energy efficiency
- Focus on market based initiatives
- Main measures:
  - EU initiatives
  - Regulation
  - Obligation to grid and distribution companies
- Measurement of effect will be important