



PRIME MINISTER'S OFFICE



# Energy, climate policy and the economy: A Finnish perspective

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# Two broad themes

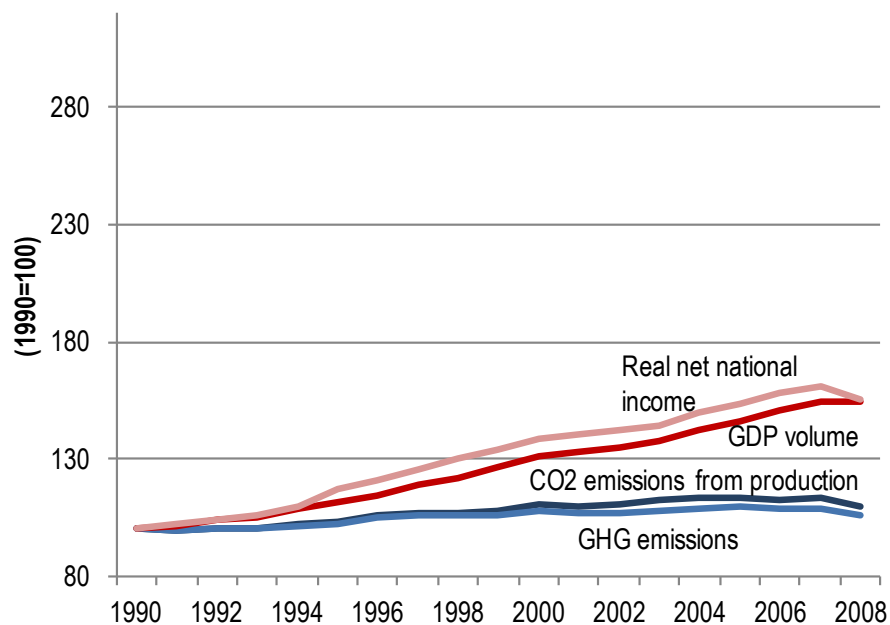
1. International negotiations on climate change
2. EU climate package: Finnish standpoint



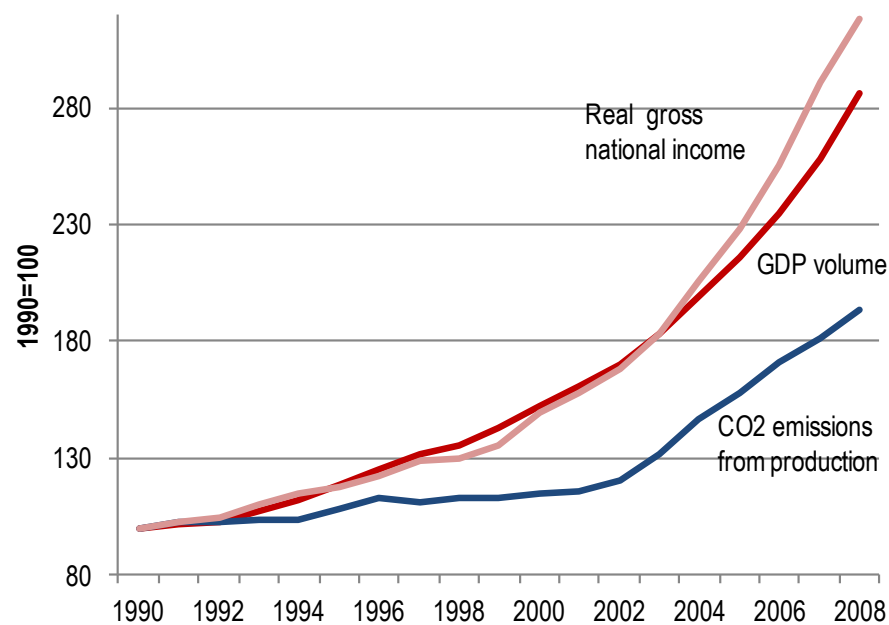
# CO2 emissions and climate change: global problem needs global solutions

Energy related CO2 and GHG emissions versus GDP & real income in the OECD and BRIICs countries, index 1990=100

OECD, 1990-2008



BRIIC, 1990-2008



Source: OECD-IEA, UNFCCC.



# International negotiations on climate change: two tracks

## 1) United Nations Framework Convention on Climate Change (UNFCCC)

- Forms a basis for a global response to climate change
- 194 Parties (near universal membership), adopted in 1992
- Ultimate objective is to stabilise greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system

## 2) Kyoto Protocol

- 192 Parties, adopted in 1997
- complements the UNFCCC
- 37 industrialised countries & the EU have committed to reducing their emissions by an average of 5 % by 2012 against 1990 levels.
- US has not ratified
- No reduction commitments for emerging economies (China, India, Brazil...)
- Allows countries to meet their emission reduction commitments abroad through market-based mechanisms such as the Clean Development Mechanism (CDM)

## Post Kyoto negotiations on climate change

- Bali 2007
- Poznań 2008
- Copenhagen 2009
- Cancun 2010
- Durban 2011



# Summary of the Cancun outcome (COP 16)

- Cancun decisions cover main elements of Bali Road Map (2007) and Copenhagen Accord (2009)
- Cancun Agreements
  - reflect agreements that have been reached thus far
  - include processes to elaborate the governance and operational procedures of these
  - transfer elements to Durban (as no agreement yet)
- Under Kyoto track: agreement to
  - capture Copenhagen Accord pledges; continued use of market mechanism etc.
- Under the Convention track: agreement on
  - **Adaptation** - equal priority to mitigation; Adaptation Framework; Adaptation Committee; programme to consider loss & damage mechanism
  - **Mitigation** – capture emission reduction pledges of all countries; assessment & enhanced reporting for developed countries; registry for developing countries' mitigation actions seeking support; market & non-market mechanisms; response measures forum
  - **Finance** - Green Climate Fund; \$30 bn fast start; \$100 bn by 2020
  - **Technology** – a Technology Mechanism; Committee; Centre & network
  - **Capacity building** - process to monitor and review effectiveness & institutions



# What Cancun did not agree on?

Cancun did not address the key equity related political questions

- The legal form of the Convention outcome & therefore the continuation of Kyoto,
  - A 2 treaty type legally binding outcome (2<sup>nd</sup> commitment period under Kyoto)
  - A single treaty type legally binding outcome (replace Kyoto)
  - No legally binding outcome (kill Kyoto)
- The level of ambition sufficient to prevent dangerous climate change
  - A long term global emission reduction goal (2050)
  - A global peaking year
  - Upfront common carbon accounting rules
  - Complementarity or limiting the use of offsets by developed countries for compliance
- The fair allocation of burden and cost
  - Need for an Adaptation Centre & Network & a Loss & Damage Mechanism
  - Comparability of effort ;
  - Comparable compliance;
  - Fair share of carbon space or time for developing countries to transition
  - Fair treatment of Intellectual Property Rights for the global climate commons
- These issues are transferred to COP 17 in Durban, South Africa



# Emerging dynamics for COP 17 in Durban

- Vulnerable countries (Africa, least developed countries, etc.) want legal obligations on all countries, to ensure
  - Mitigation of GHG emissions at a level to prevent dangerous climate change
  - Comprehensive international adaptation to support vulnerable countries
  - Provide financial, technological and capacity building support
- Some developed (US, etc.) and some developing (China, India, OPEC) countries do NOT want legally binding decisions, due to
  - US domestic politics prevent them entering any legally binding outcome now
  - The reluctance of others (China, Japan and Russia) to move without the US
  - Enable confidence & understanding of the implications of the new system with non-legal incremental steps which could be converted to legal obligations later
  - The need to take urgent action – without the delay of negotiating legal obligations
- In this context, Cancun mandated South Africa to address
  - Technical work to elaborate guidelines & modalities of the Cancun agreements
  - Further consideration of outstanding issues & big political questions
  - An inclusive and transparent consultation process to facilitate progress



# EU's energy and climate package

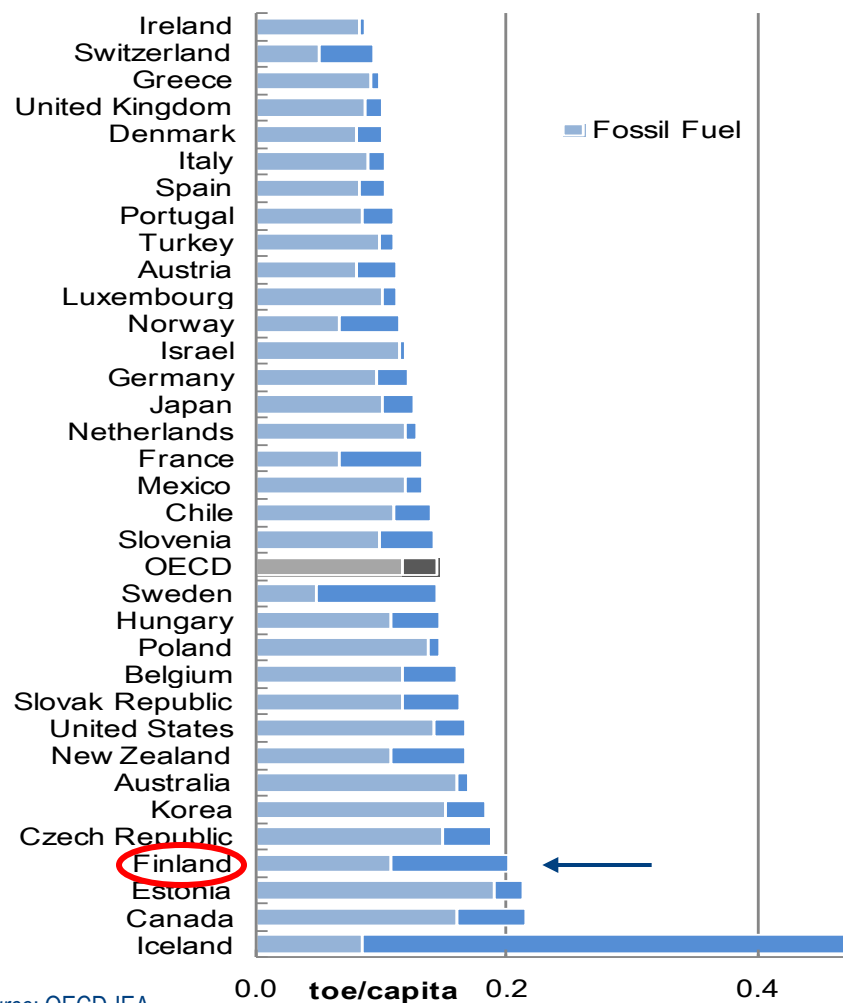
- 1) EU committed to Kyoto targets and emission trading (ETS)
  - EU has set target a 20 % emission reduction target for 2020
  - target to be raised to 30% if a global deal
- 2) Increases the share of renewable energy the final energy consumption
- 3) Reduces emissions in the non-ETS sector
- 4) Increases the share of renewable energy sources in the road transport fuels to 10 % by 2020
- 5) Energy-saving measures in all sectors



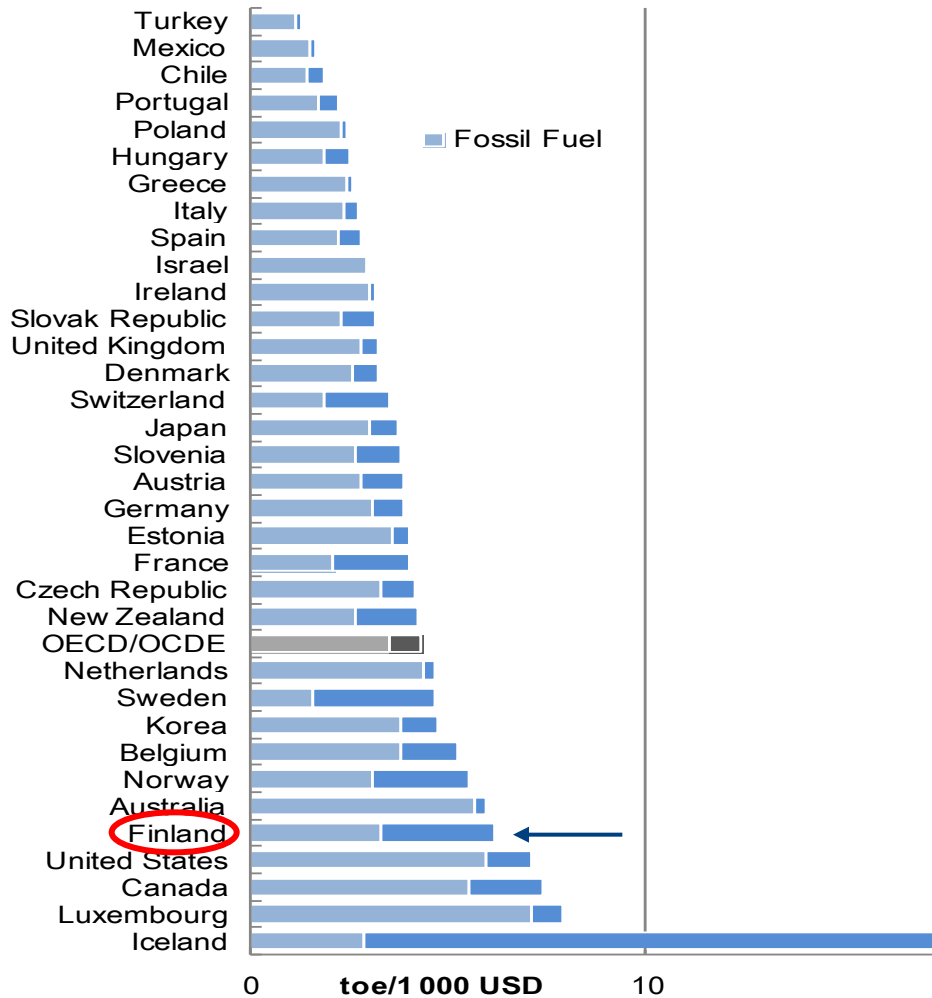


# Energy intensities in OECD countries, 2009

## Energy supply per capita



## Energy supply per unit of GDP

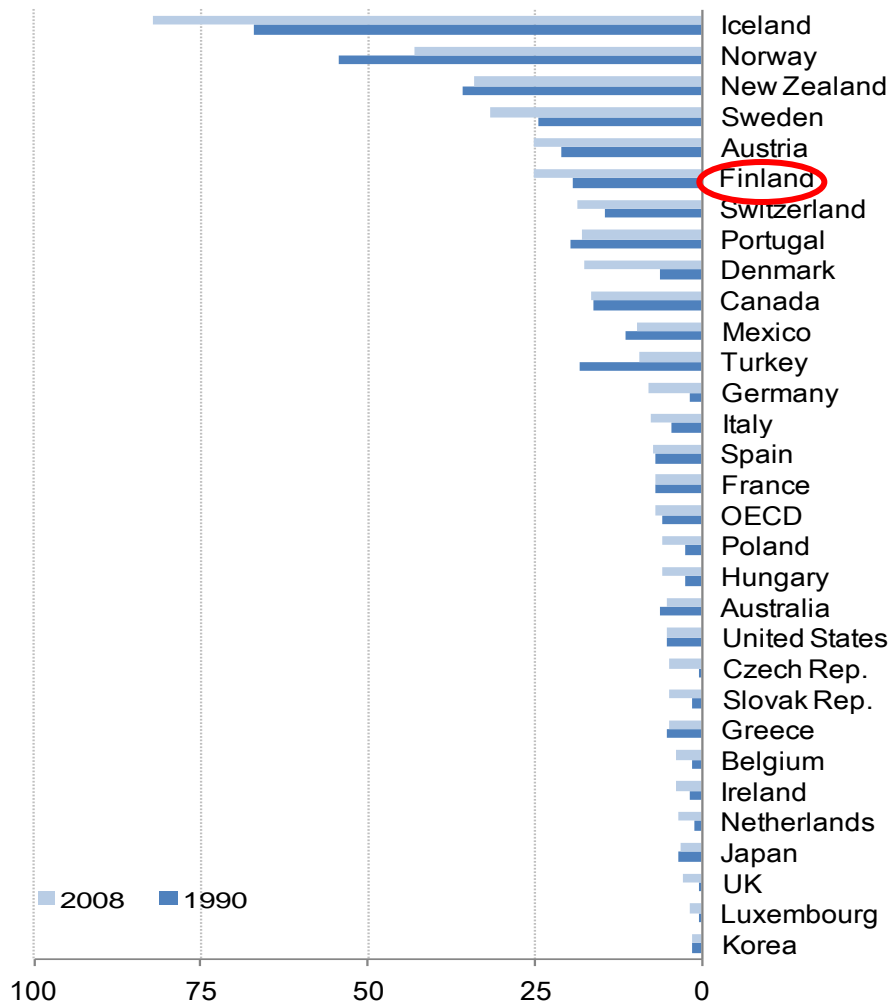


Source: OECD-IEA.

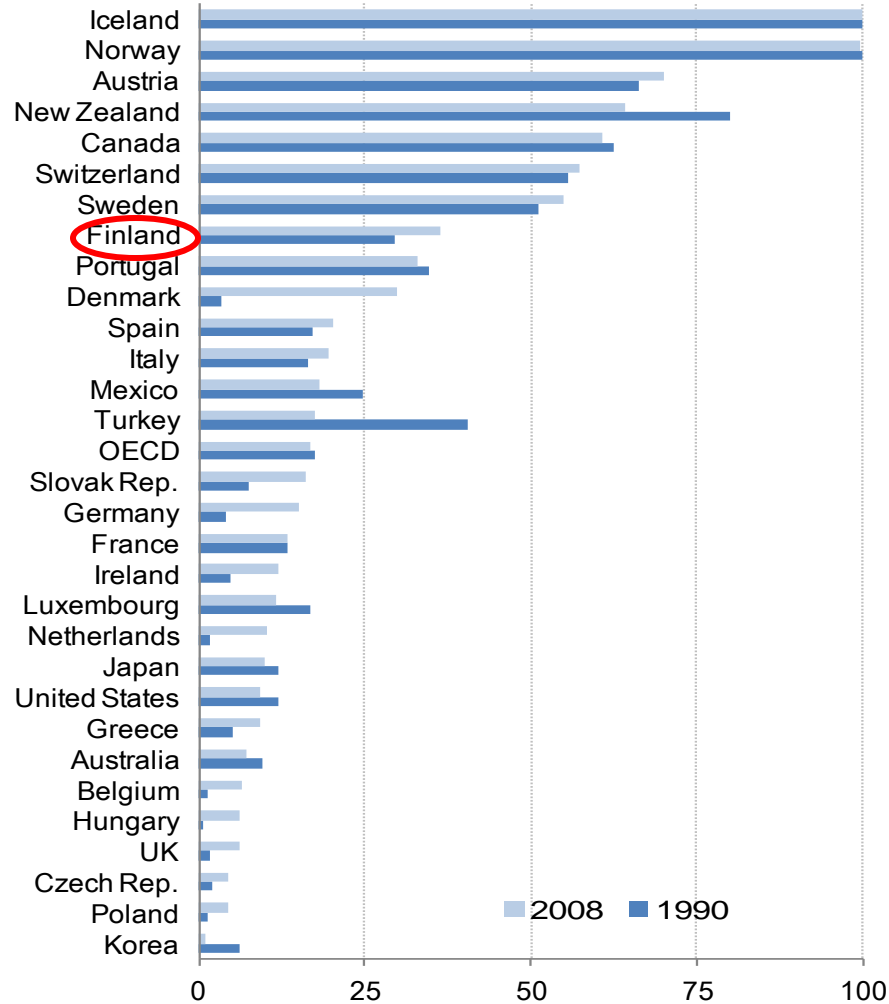


# Share of renewable energy in energy use, OECD countries, 1990, 2008

## % renewables in total energy supply

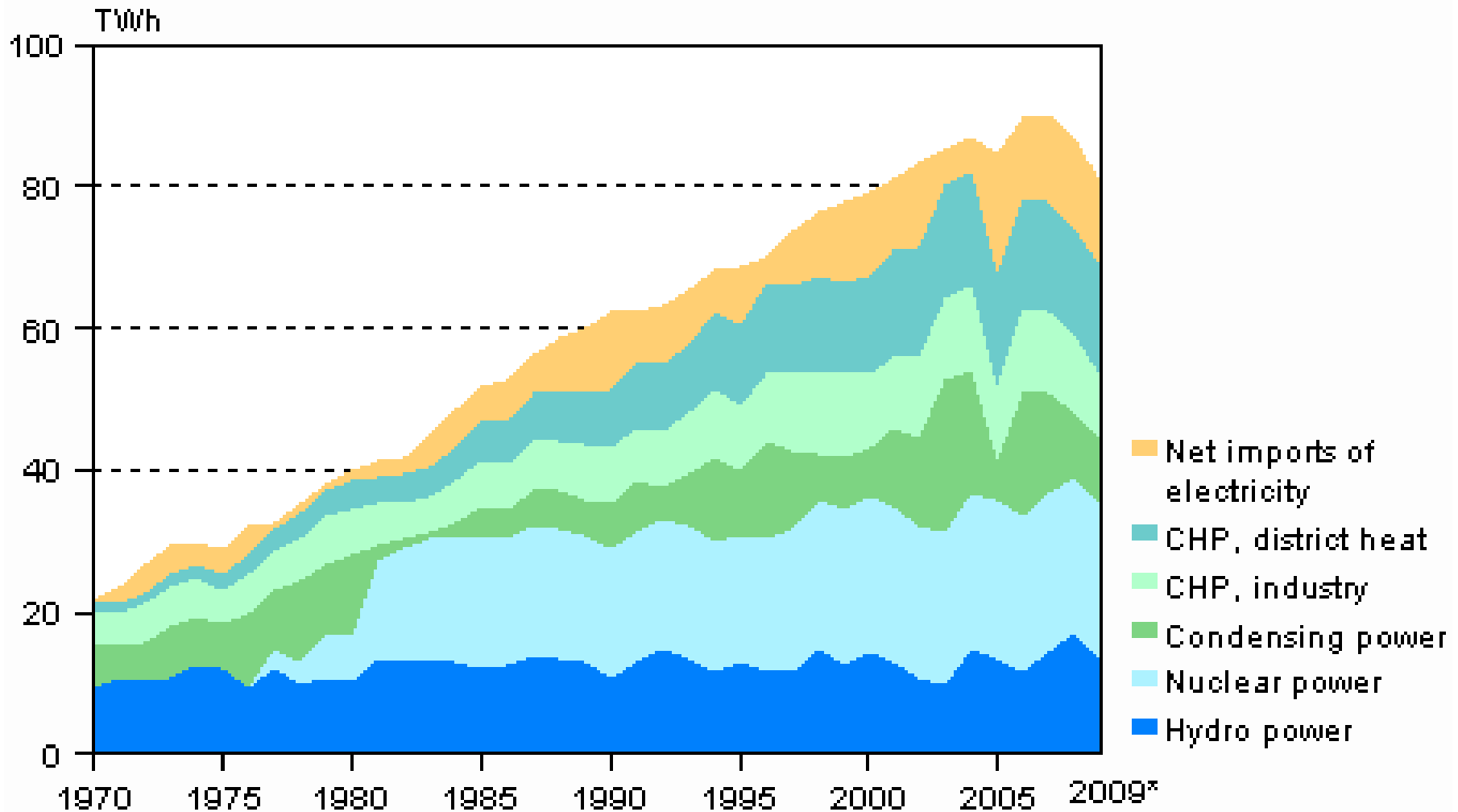


## % renewables in electricity production





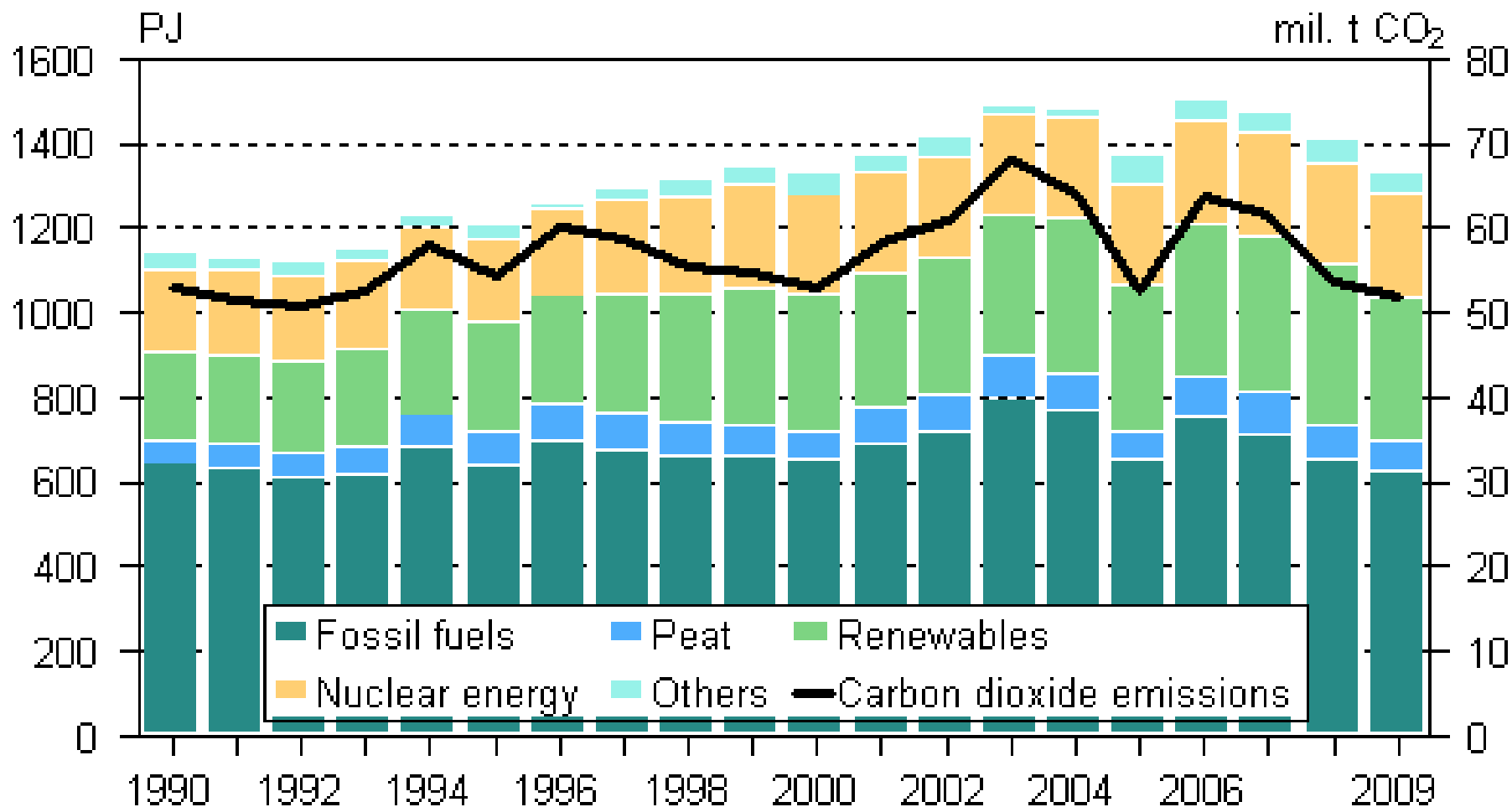
# Electricity supply 1970–2009



Source: Statistics Finland.



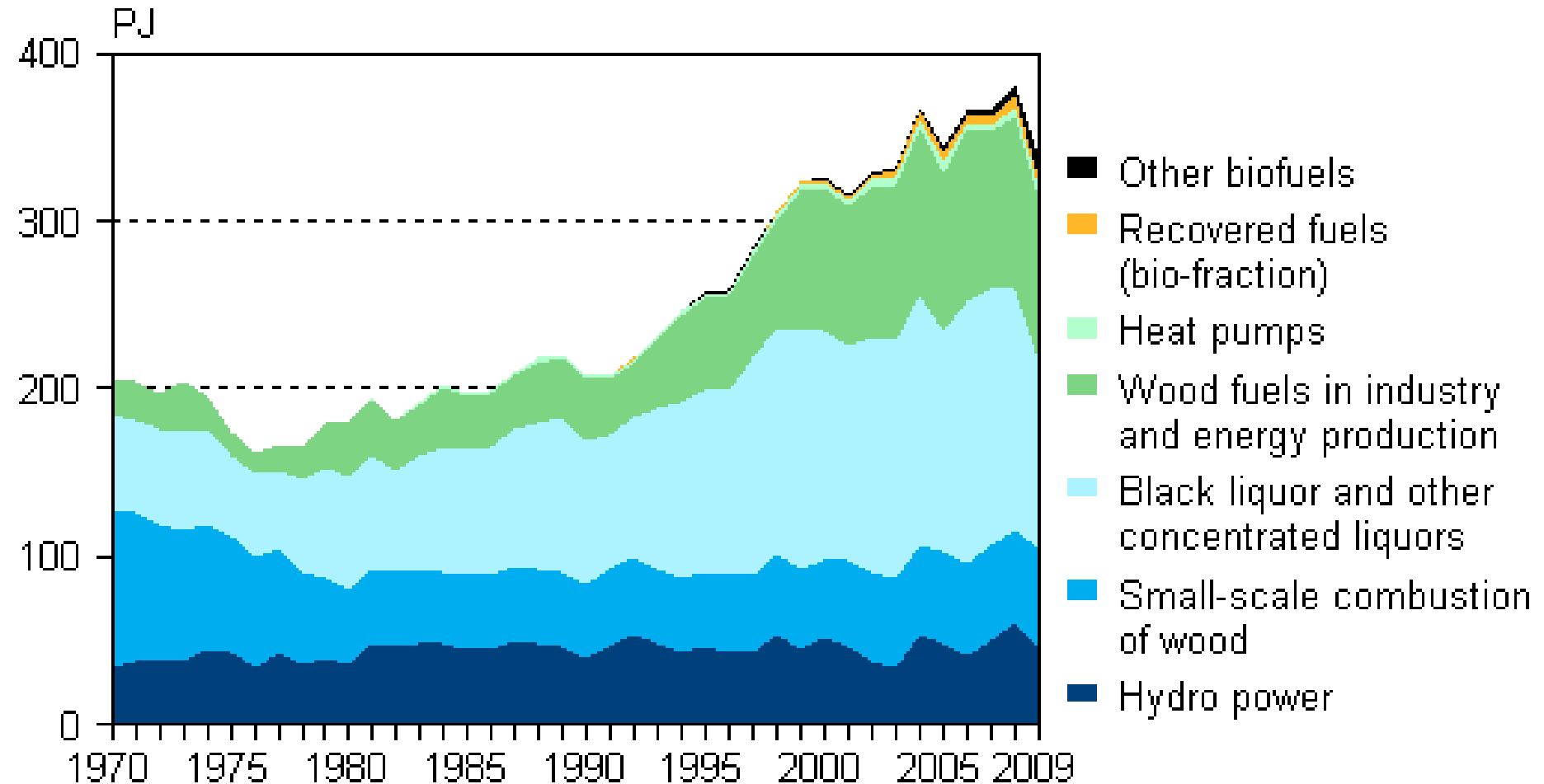
# Total energy consumption & CO2 emissions



Source: Statistics Finland.



# Renewable energy sources 1970–2009



Source: Statistics Finland.



# Finland's energy and climate policy is driven by...

1. International emission reduction commitments and on-going negotiations on a post Kyoto climate regime
2. EU energy and climate package 20-20-20
3. Long term national energy and climate strategy and other relevant strategies



# Finland's energy and climate policy (1)

- 2008 Climate and Energy Strategy outlines Finland's policy responses to the EU 20-20-20 -commitments to reduce greenhouse gas emissions, increase the share of renewable energy sources in final energy consumption and to increase the share of renewable energy in road transport.
- EU 20-20-20-package requires increasing the share of renewable energy sources of the final energy consumption to 38 % by 2020 and reducing greenhouse gas emissions outside the emission trading directive scope by 16 % from the 2005 level by 2020.
- The 10 % share of renewable energy sources in the road transport fuels by 2020 is an EU-wide goal.



## Finland's energy and climate policy (2)

- Govt passed a resolution on intensifying the measures to enhance energy efficiency over the next few years in 2010.
- The renewable energy package included several measures to increase energy production based on renewable sources.
- Promotes the use of forest chips & other wood-based energy & wind power & the increased utilisation of heat pumps.





## Finland's energy and climate policy (3)

- The biofuel distribution obligation will be increased to 6 % for 2011–2014, followed by a gradual increase to 20% by 2020.
- Decisions-in-principle approved regarding the construction of two additional nuclear power plants.
- Govt adopted in 2009 the Foresight Report on Long-term Climate and Energy Policy. Report sets as target to reduce Finland's greenhouse gas emissions by at least 80 % from the 1990 level by 2050 as part of a global effort & outlines paths to a low-carbon Finland.

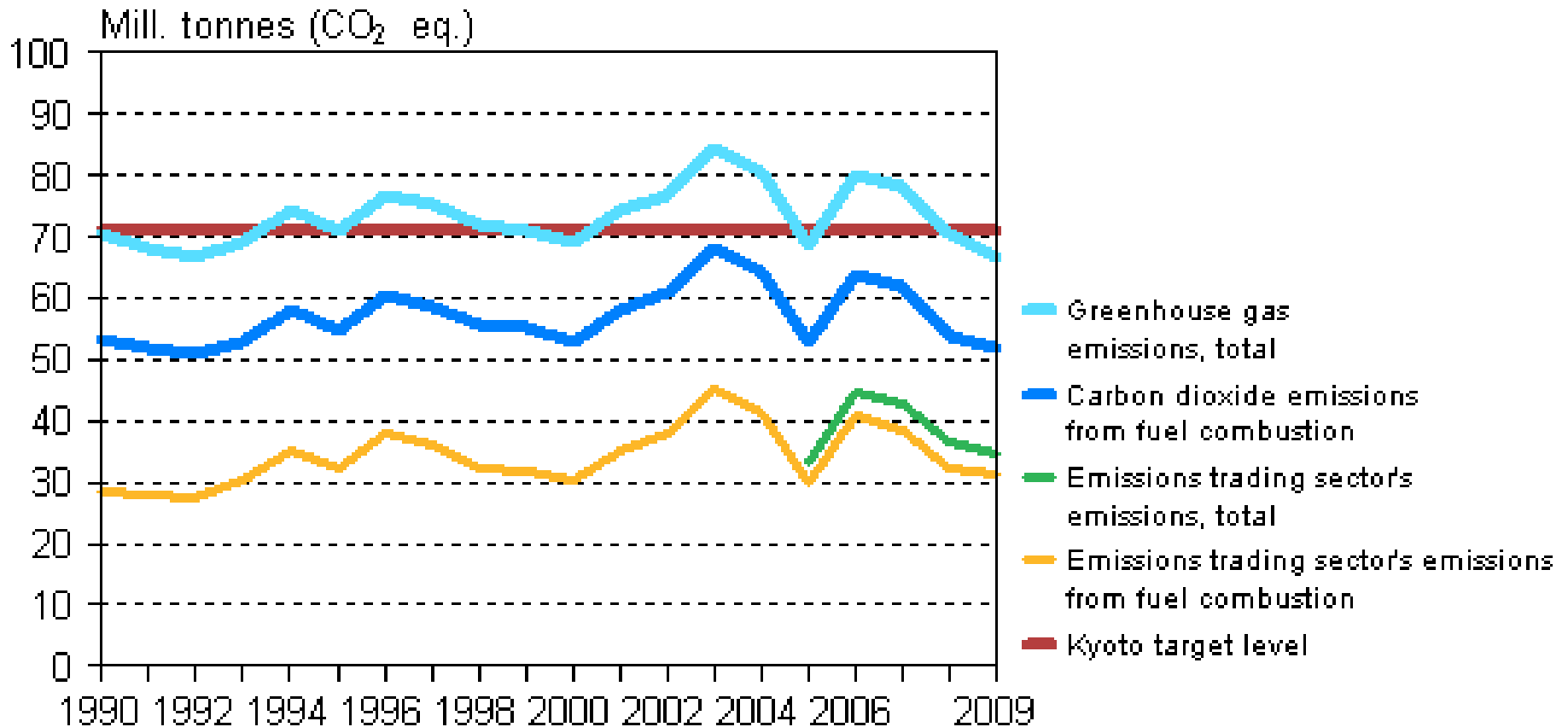


## Finland's energy and climate policy (4)

- GHG emissions decreased by 6 % in 2009
- amounted to 66.4 Mt of CO<sub>2</sub> in 2009
- Decreases occurred in all sectors primarily due to the economic recession, but also due to the implementation of policies and measures to reduce greenhouse gas emissions.
- Finland is on track to meet its Kyoto target (1990 emission level).



# Greenhouse gas emissions 1990-2009



Source: Statistics Finland.



## Finland's energy and climate policy (5)

- GHG emissions likely to continue to vary due to economic activity, etc.
- GHG emissions likely to increase compared to the exceptional year 2009 as the economy recovers from the recession.
- Hydrological situation in the Nordic countries affects Finland's GHG emissions.
- Finland forms part of the Nordic countries' electricity markets and import & export of electricity depends on precipitation in the Nordic market area (=Norway & Sweden).



# Conclusions: international negotiations

- Partial solutions do not work for a global problem
- Global emission reduction efforts lack ambition
- All key players are not committed
- International financing arrangements still open
- EU
  - Own preparations in a standstill
  - Forerunner risk?
  - Problems with ETS



# Conclusions: Finland

- EU as a forerunner is a risk for an energy intensive economy
  - Will low carbon strategy really create new Nokias?
- **Ambitious renewables target**
  - Wood and other forest resources have alternative uses besides energy and burning them for energy causes (short-term) net addition is in CO2 emissions
  - Nuclear energy reliance implies higher target
- **Cost efficient measures needed**
  - More attention to cross border measures
- Mitigation measures imply small welfare loss in a short run, but this has to be paid for a better future!