

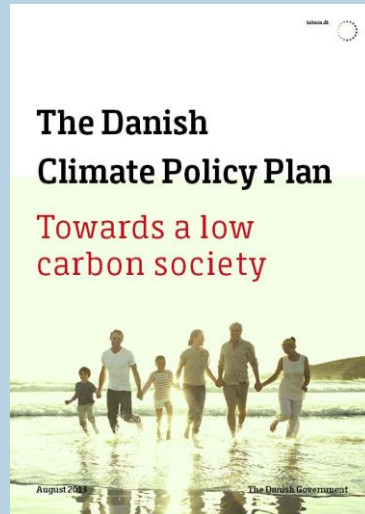
# Danish climate policy

## – Targets and progress

SBI 41 Working Group Session  
Multilateral Assessment  
6 December 2014

**Mercan-Ellen Nielsen**

Chief negotiator,  
Centre for Global Cooperation,  
**Danish Energy Agency,**  
**Ministry of Climate, Energy and Building**



# Denmark

## – a Member State in the European Union

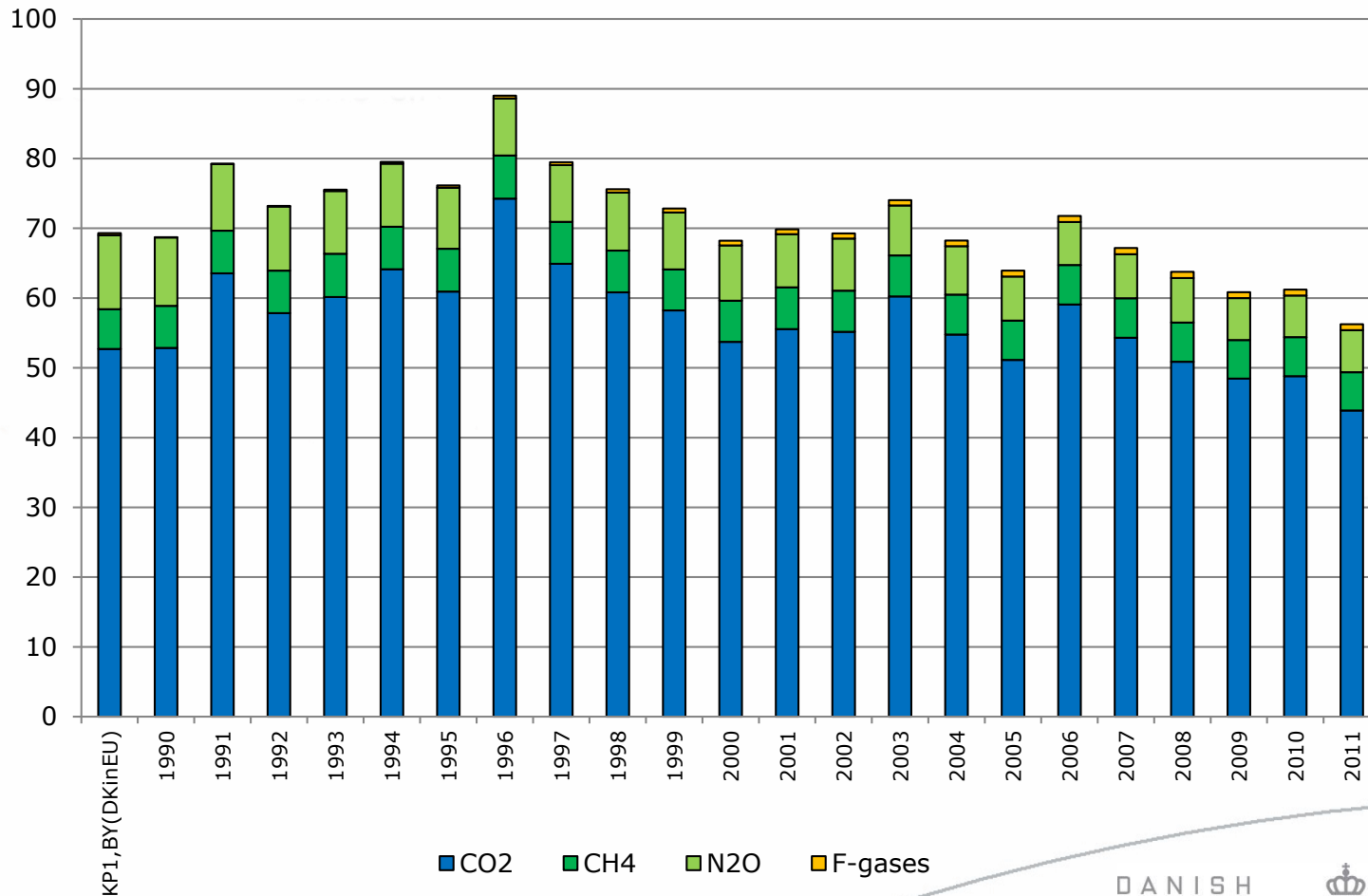
- The EU and its Member States communicated to the UNFCCC an unconditional quantified economy-wide emission reduction target of a **20 per cent emission reduction by 2020 compared with 1990 levels** (document FCCC/SB/2011/INF.1/Rev.1 of 7 June 2011). The EU target is further explained in the EU submission to the UNFCCC from 20 March 2012 (document FCCC/AWGLCA/2012/MISC.1).
- The use of **carbon credits** from international market-based mechanisms is explained in the EU submission from 2012. With regard to the role of **Land Use, Land-Use Change and Forestry (LULUCF)**, the EU pledge does not include emissions/removals from LULUCF.
- As this 20 % reduction target by 2020 will be fulfilled jointly by the EU and its member states, **no individual target for Denmark** is included in the joint EU target under the Convention.

# Denmark's participation in the joint EU target for 2020

- (a) Danish **greenhouse gas emissions**;
- (b) **Assumptions, conditions and methodologies** related to Denmark's contribution to the attainment of the joint EU quantified economy-wide emission reduction target;
- (c) **Progress** in Denmark's contribution towards the achievement of the joint EU quantified economy-wide emission reduction target.

# (a) Danish greenhouse gas emissions – total (excl. LULUCF) and by gas

Denmark's greenhouse gas emissions excl. LULUCF, 1990-2011,  
Million tonnes CO2 equivalents



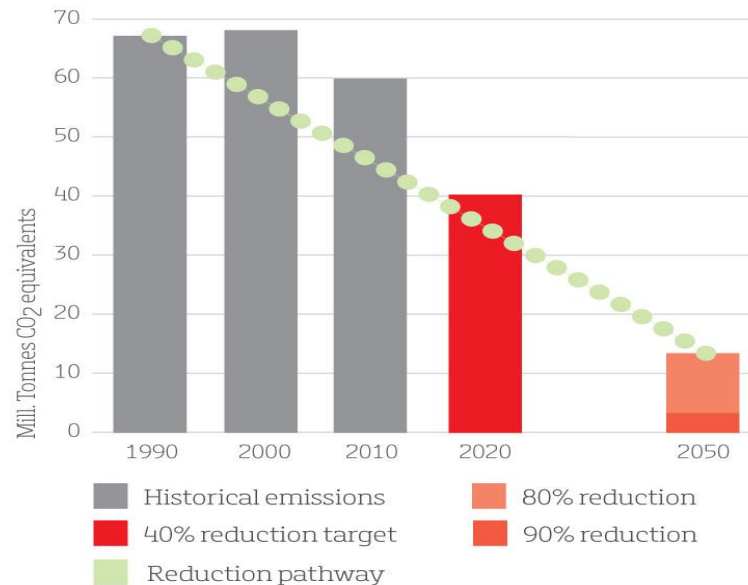
## (b) Assumptions, conditions and methodologies related to Denmark's international targets

	KP/CP1	Changes for KP/CP2
<b>Base year:</b>	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O: 1990 / HFCs, PFCs and SF <sub>6</sub> : 1995	NF <sub>3</sub> : to be decided
<b>Target:</b>	21 % reduction as Denmark's contribution to the joint EU15 target of 8 % reduction from the base year to 2008-2012.	An emission level of 32.803901 MtCO <sub>2</sub> eq. as annual average 2013-2020 in the sectors not covered by EU ETS.
<b>Period for reaching target:</b>	From 1990 to 2008-2012.	From 1990 to 2013-2020.
<b>Gases:</b>	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs and SF <sub>6</sub> .	NF <sub>3</sub>
<b>Sectors:</b>	Energy (including Transport), Industrial processes, Agriculture, LULUCF (only accounting of activities under articles 3.3 and 3.4 (FM, CM and GM) of the protocol) and Waste.	Energy (including Transport) not covered by EU ETS, Industrial processes not covered by EU ETS, LULUCF (as accounting of activities under articles 3.3 and 3.4 of the protocol only, no retirements towards the EU28 and Iceland joint fulfilment of targets, cancellations towards the domestic target)
<b>GWPs:</b>	IPCC 2 <sup>nd</sup> AR.	IPCC 4 <sup>th</sup> AR.
<b>Role of LULUCF:</b>	Included (activity-based approach).	Excluded (activity-based approach).
<b>Possible scale of MBMs:</b>	13 million credits from JI- and CDM-projects.	0.

# Denmark's domestic climate and energy targets

## Climate:

- **80-95 % GHG reduction 1990-2050**  
(following EC and recommendations from IPCC)
- **40 % GHG reduction 1990-2020 (domestic)**



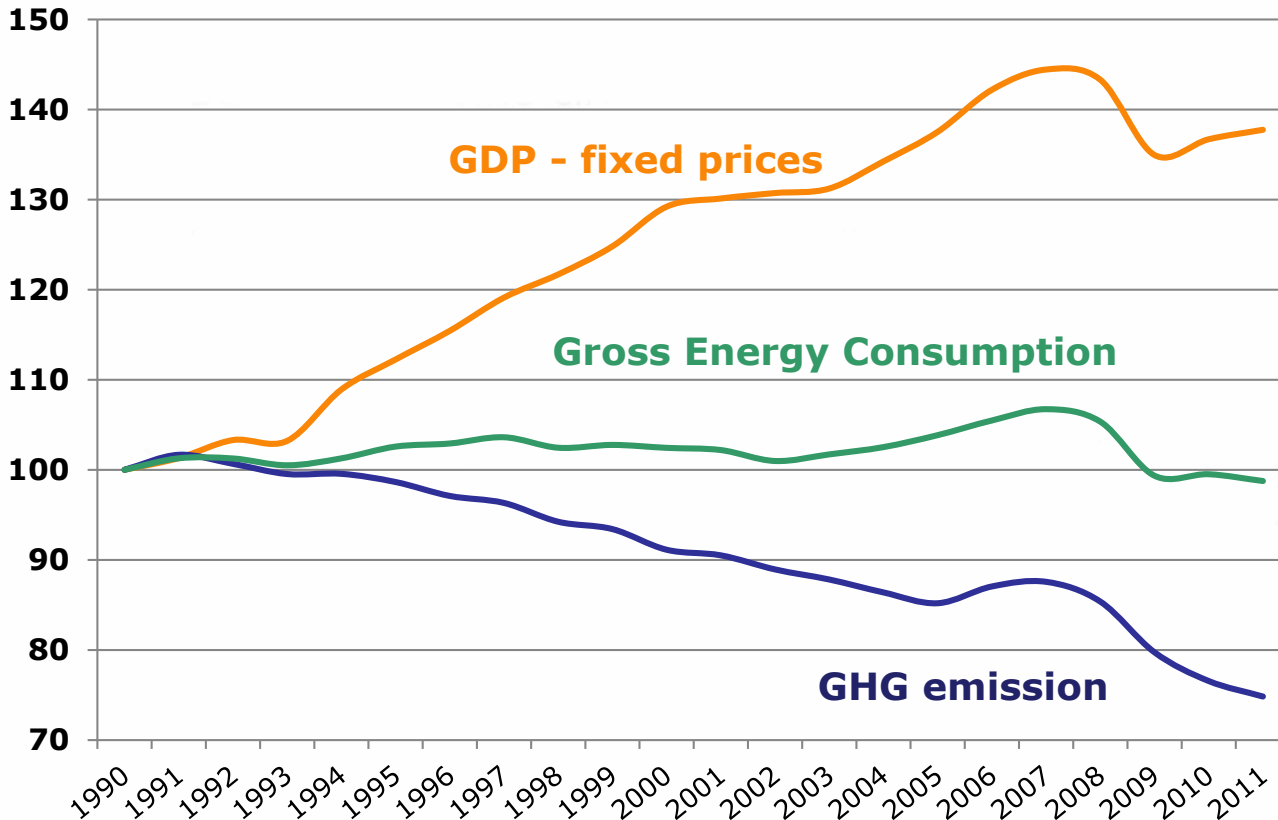
- **20 % non-ETS emissions by 2020 relative to 2005 (EU obligation)**

## Energy:

- **Fossil fuel phase-out/ RES conversion by 2050**
- **Energy sector based on 100% RES by 2035**
- **Ambitious energy agreement up to 2020 – with the following energy targets:**
  - More than 35% renewable energy in final energy consumption.
  - Approximately 50% of electricity consumption to be supplied by wind power.
  - 7.7% reduction in gross energy consumption in relation to 2010.

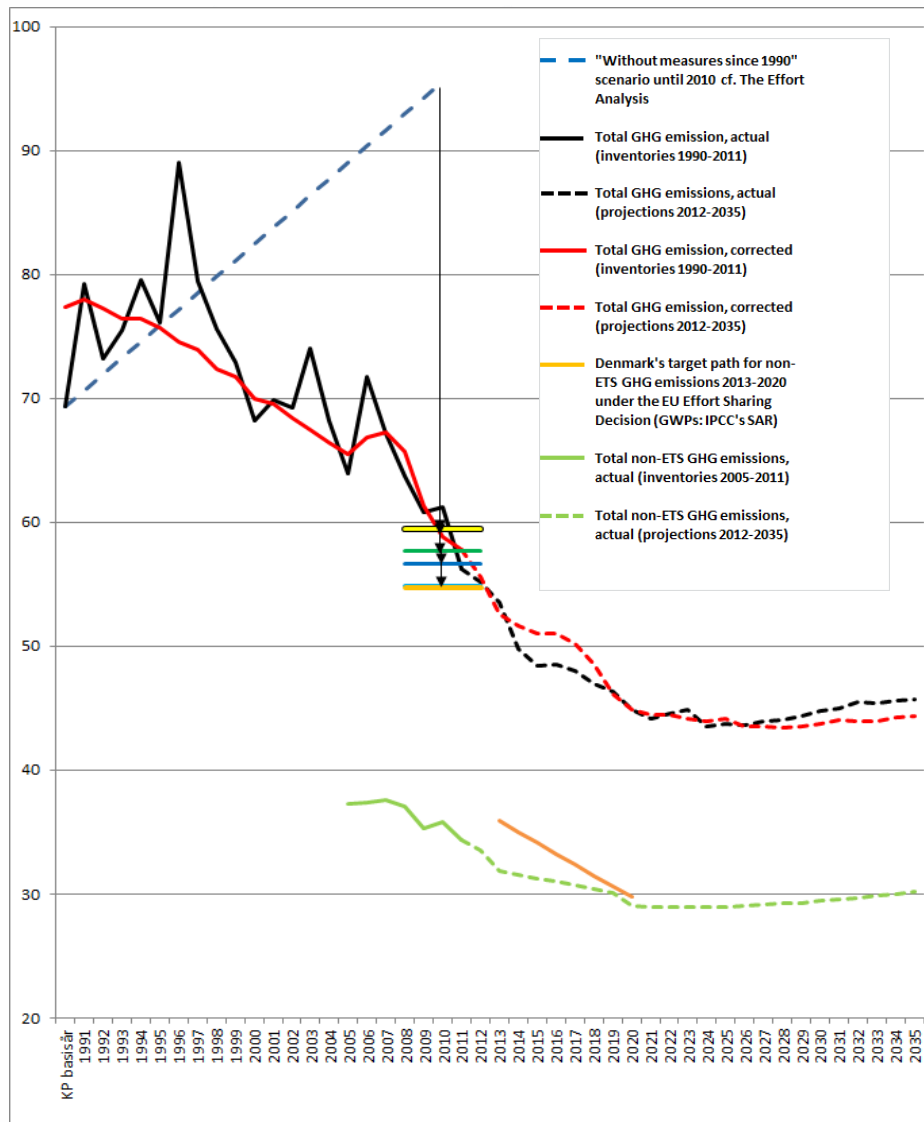
# Denmark

## Decoupling of GHG emissions and energy consumption from economic growth



- 3 main reasons:
- 1) CHP/DH,
  - 2) Renew. Energy
  - 3) Energy Savings

# (c) Progress in Denmark's contribution towards the achievement of GHG emission reduction targets



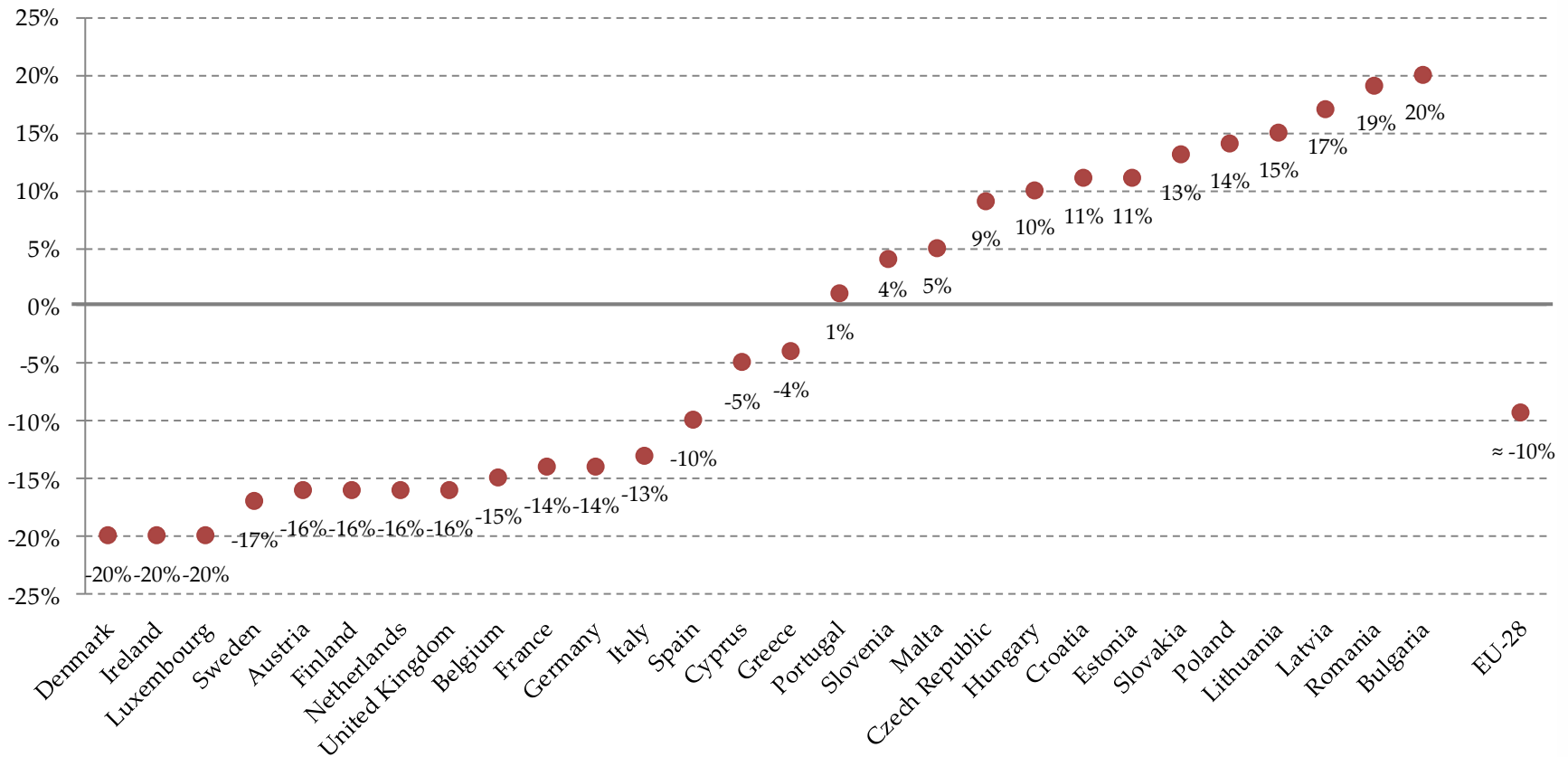
- **Denmark will achieve its 21% reduction target for 2008-2012 from the base year (1990/95) as Denmark's contribution the joint EU15 8% reduction target in the first commitment period of the Kyoto Protocol – through:**
  - Implementation of policies and measures since the first CO<sub>2</sub> reduction strategy from 1990,
  - Credits from activities under articles 3.3 and 3.4 of the Kyoto Protocol,
  - An EU base year compensation under the EU Burden Sharing Agreement, and
  - Credits from activities under articles 6 (JI-projects) and 12 (CDM-projects).
- **Denmark project to achieve its 20% reduction target for 2020 in the non-ETS sectors (base year: 2005) and stay below the target path for 2013-2020 according to the EU Climate and Energy Package. This will be achieved through existing measures and further implementation of adopted policies and measures.**



# Denmark

## Denmark's non-ETS target for 2020 in EU legislation

2020 Member States targets (as a % of 2005 emissions)





## **Further information:**

### **Denmark's NC6 and BR1**

[http://unfccc.int/files/national\\_reports/annex\\_i\\_natcom/submitted\\_natcom/application/pdf/nc6andbr1-dnk-2jan2013\[1\].pdf](http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/nc6andbr1-dnk-2jan2013[1].pdf)

### **The Energy Agreement, March 22 2012**

<http://www.kebmin.dk/sites/kebmin.dk/files/climate-energy-and-building-policy/denmark/energy-agreements/FAKTA%20UK%201.pdf>

### **Accelerating Green Energy Towards 2020**

[http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/accelerating\\_green\\_energy\\_towards\\_2020.pdf](http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/accelerating_green_energy_towards_2020.pdf)

### **The Danish Climate Policy Plan**

[http://www.ens.dk/sites/ens.dk/files/policy/danish-climate-energy-policy/danishclimatepolicyplan\\_uk.pdf](http://www.ens.dk/sites/ens.dk/files/policy/danish-climate-energy-policy/danishclimatepolicyplan_uk.pdf)

### **Our Future Energy**

[http://www.ens.dk/sites/ens.dk/files/policy/danish-climate-energy-policy/our\\_future\\_energy.pdf](http://www.ens.dk/sites/ens.dk/files/policy/danish-climate-energy-policy/our_future_energy.pdf)

### **Energy Strategy 2050**

[http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/energy\\_strategy\\_2050.pdf](http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/energy_strategy_2050.pdf)

### **Energy Statistics 2012**

[http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/energy\\_statistics\\_2012.pdf](http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/energy_statistics_2012.pdf)

# **Thank you for your attention.**

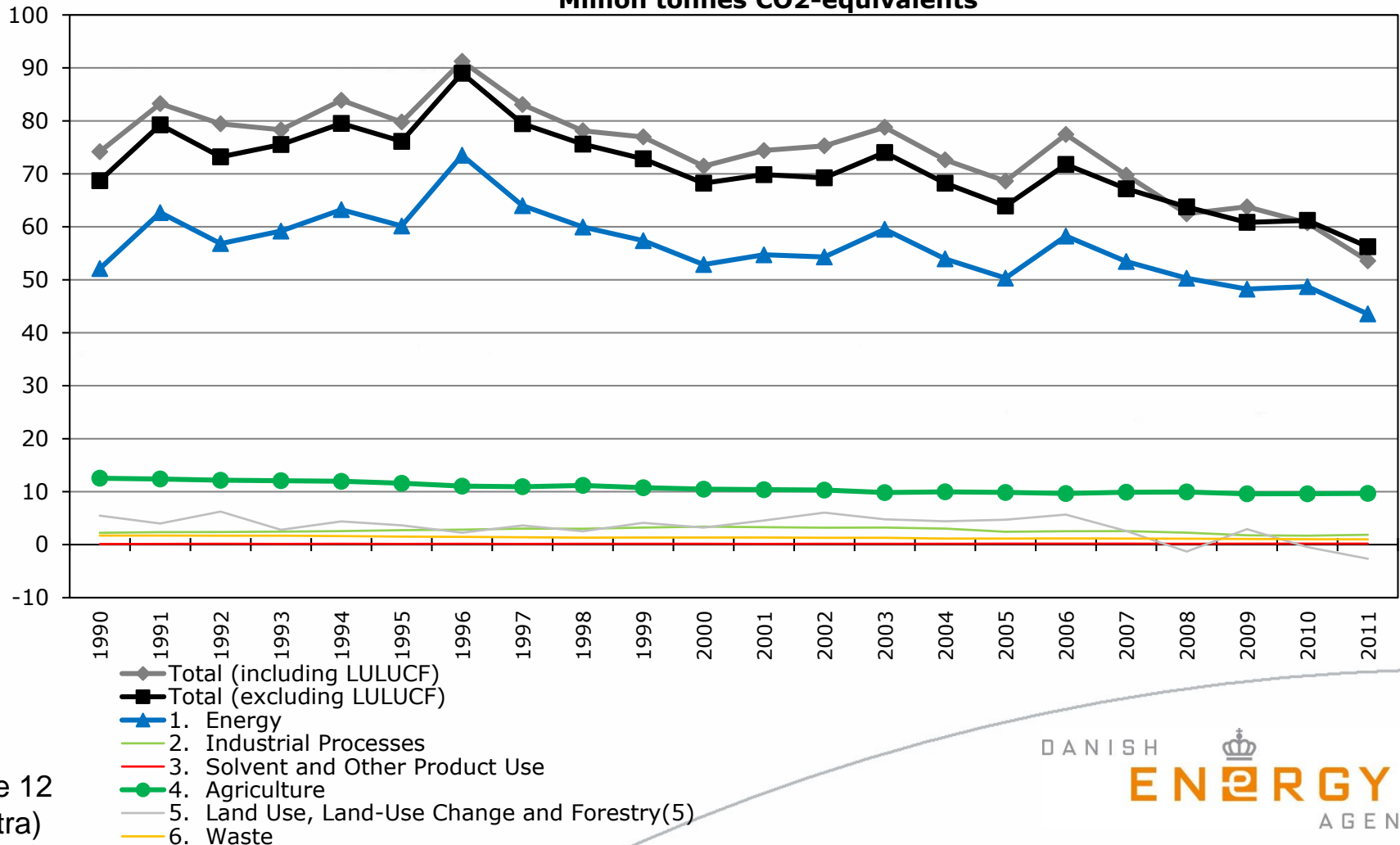
# Denmark

## Extra slides

# Denmark

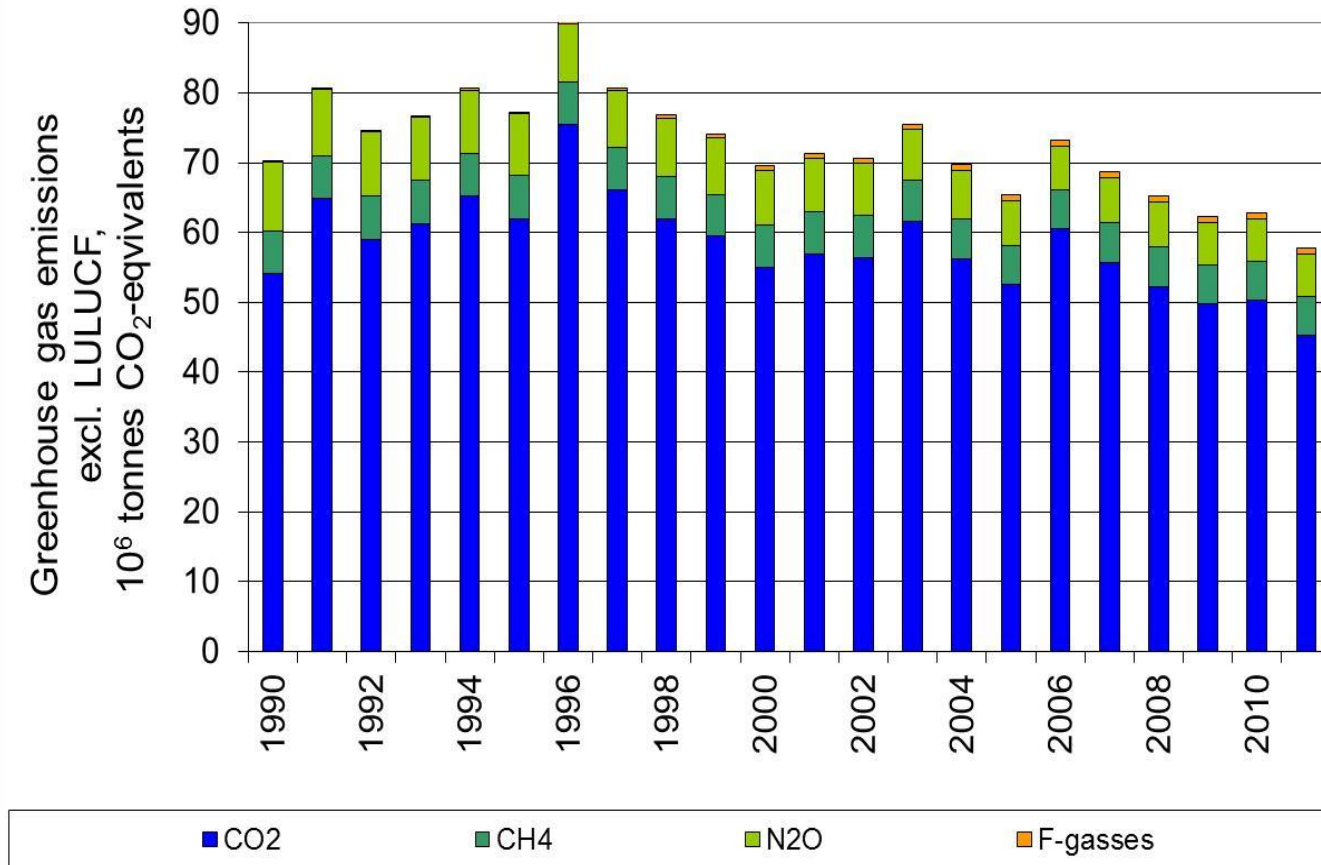
(a) Denmark's greenhouse gas emissions and removals - total (including and excluding LULUCF) and by sector

**Danish greenhouse gas emissions by source/sector in 1990-2011,  
Million tonnes CO<sub>2</sub>-equivalents**



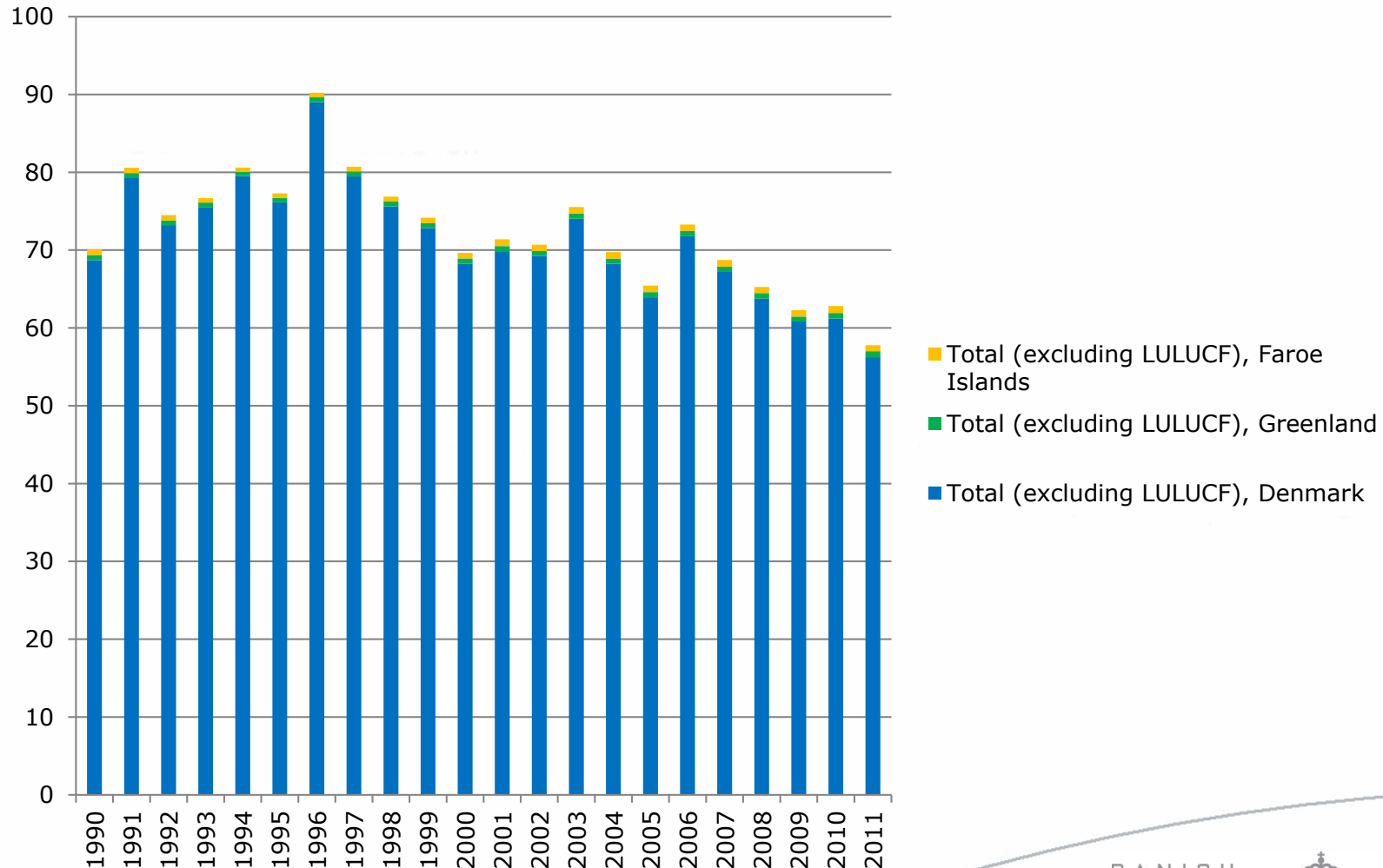
# Kingdom of Denmark

Denmark's, Greenland's and Faroe Islands' greenhouse gas emissions  
- total (excl. LULUCF) and by gas



# Kingdom of Denmark

Denmark's, Greenland's and Faroe Islands' greenhouse gas emissions  
– total (excl. LULUCF)



# Denmark

## Rapid decline in energy sector emissions

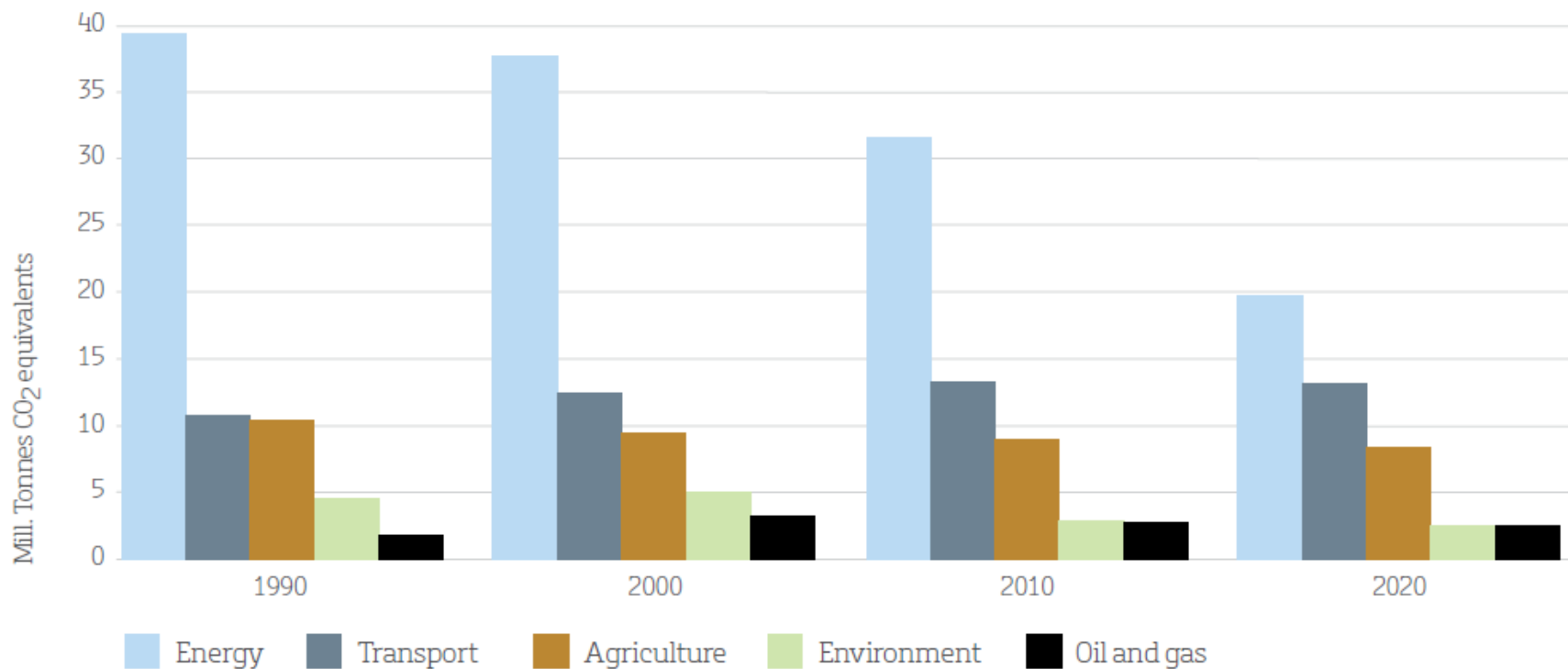


Figure. Historical and projected Danish greenhouse gas emissions for 1990 to 2020

Source: Danish Centre for Environment and Energy and the Danish Energy Agency

# Progress in Denmark towards the energy targets for 2020

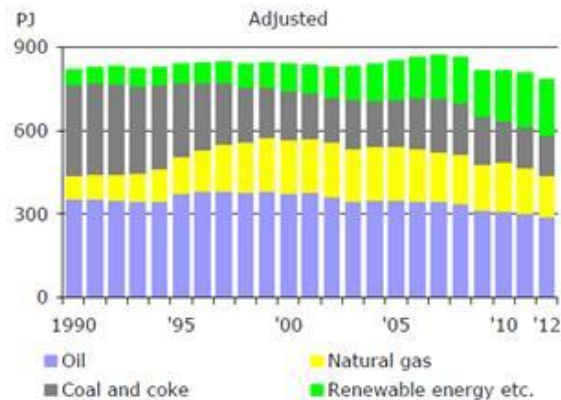
## • Targets for 2020:

- More than 35% renewable energy in final energy consumption.
- Approximately 50% of electricity consumption to be supplied by wind power.
- 7.7% reduction in gross energy consumption in relation to 2010.

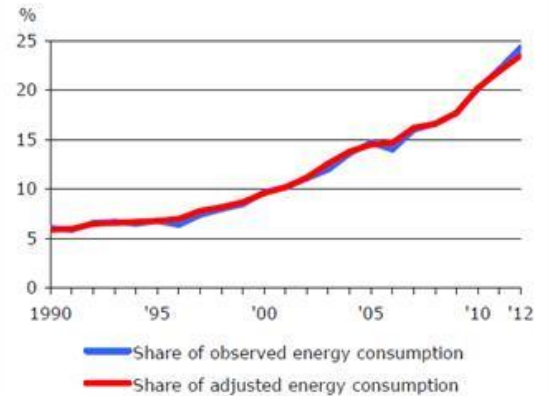
## • Progress in 2012:

- 24.3% renewable energy in final energy consumption.
- 29.8% of electricity consumption was supplied by wind power.
- 3.8% reduction in gross energy consumption in relation to 2010.

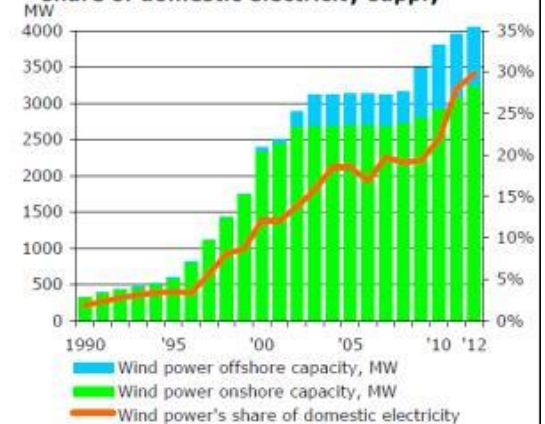
Gross energy consumption by fuel



Renewable energy – share of total energy consumption



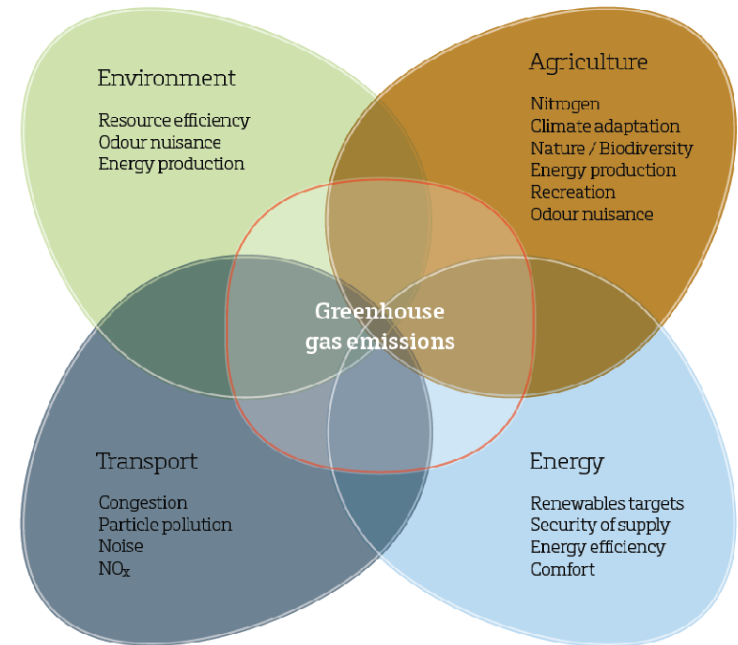
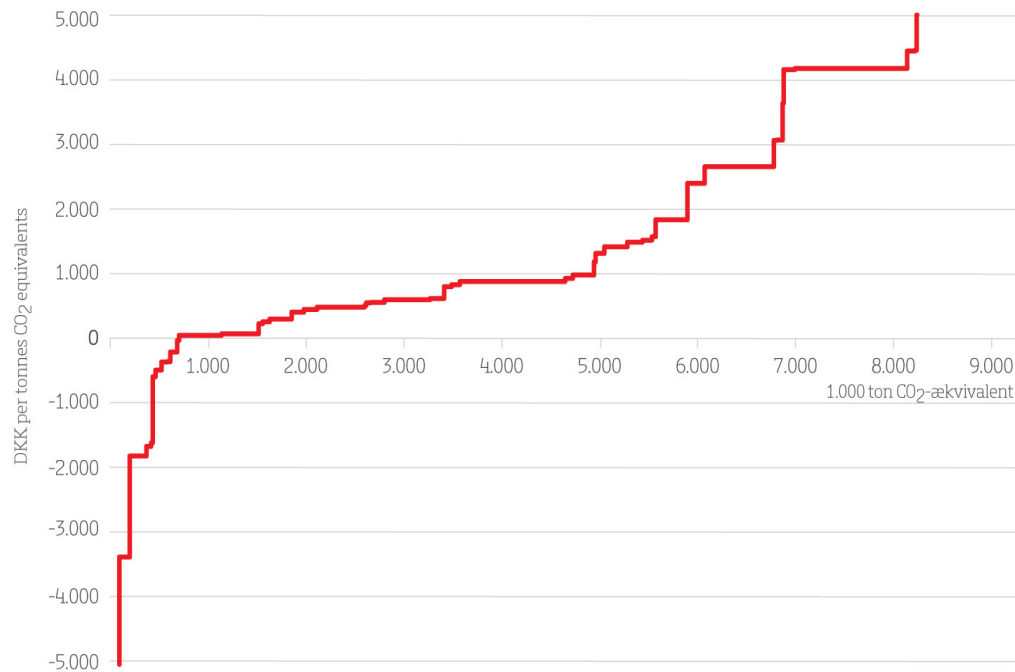
Wind power capacity and wind power's share of domestic electricity supply





# Denmark

## Cost-effective measures through synergies with other policies



- MAC curve for reductions (including policy instruments) across energy, transport, agriculture and environment/waste sectors

# Denmark

## Next steps

- **Integration of climate policy in sector policies, based on following principles:**
  - In line with growth and employment, competitiveness
  - Cost-effective (low socio-economic costs)
  - Limited public financing
  - Structural effect/ supporting long-term transition
- **Climate Bill to enter into force in full as of 1 January 2015**
- **Support for ambitious EU climate policies**