



# A European Overview

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***Dr Pierre Dechamps  
Adviser for Energy, Climate Change and the  
Environment***

## ❖ The Energy and Climate Change Package

## ❖ CCS

## ❖ Current and New Initiatives

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# The Energy and Climate Change Package

Adopted at the end of 2008:

20% GHG emissions in 2020, compared to 1990 (legally binding)  
ETS sectors, and non-ETS sectors

with the possibility to go to -30% if conditions are met

20% share of renewables by 2020 (legally binding)

20% more energy efficiency by 2020

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The CO<sub>2</sub> Geological Storage Directive

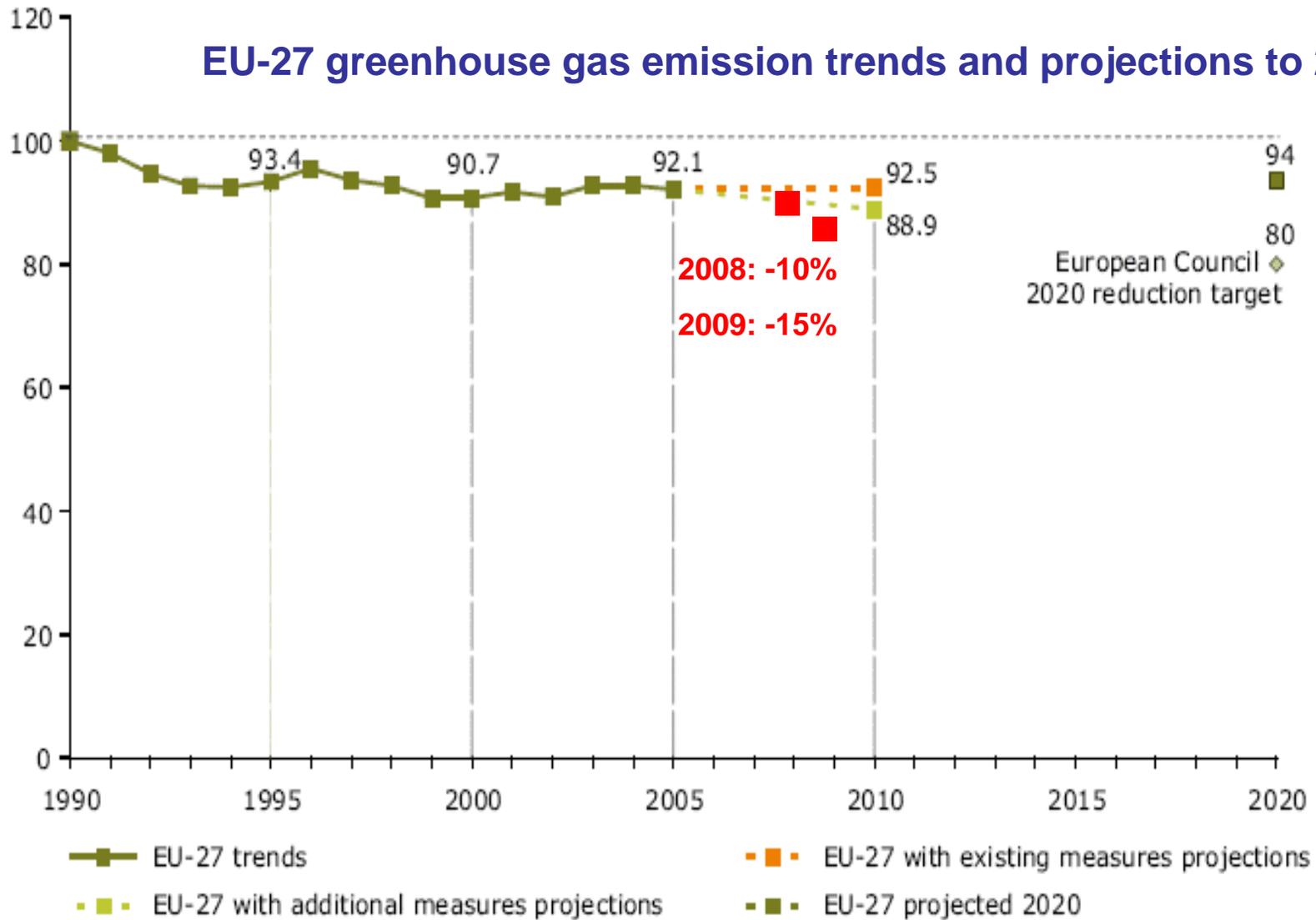
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Inclusion of CCS in the ETS phase III

= The legal framework for a carbon constrained economy, a low carbon growth.

Index 100 = 1990 level

## EU-27 greenhouse gas emission trends and projections to 2020



# Greenhouse Gas and the Emission Trading Scheme – Present Situation

From 2005:

The Emission Trading Scheme (ETS) is in place

It involves only CO<sub>2</sub> and only some industrial sectors (power generation and large combustion installations)

For 2008-2012:

This is the second period of the ETS

It corresponds to the 1st commitment period of the Kyoto Protocol

The Kyoto commitment is for the EU15 and there is a burden sharing agreement between the Member States

After 2012 :

Improvements of the ETS

-20% GHG compared to 1990

**See next slides**

# CO2 in the Emission Trading Scheme

Objective: To improve the functioning of the European Emissions Trading Scheme (ETS)

- A better definition of the “combustion installation”
- The inclusion of greenhouse gases other than CO2
- The inclusion of petrochemicals, ammonia and aluminium
  - A market covering 150 million tons of CO2 equivalent per year
- Auctioning the emission allowances for the power sector from 2013
  - A potential revenue of 30000 to 50000 million €/yr for Member States, some of which must be re-injected in low greenhouse gas technologies
- The inclusion of CO2 capture and storage from 2013 in the ETS
  - With a specific directive on the geological storage of CO2
- Specific arrangements for energy intensive industries to maintain their competitiveness

**Objective: To decrease the greenhouse gas emissions not covered by the ETS by 10% by 2020**

■ « burden » sharing between the Member States on the basis of their CO2 emissions in 2005 and of their GDP projections

**•Examples:**

**•DE : -14%**

**•FR : -14%**

**•UK : -16%**

**•PL : +14%**

■ Reporting and verifications mechanisms for the above

■ The possibility to use CDMs

■ Limited to 3% per year of the CO2 emissions of the country in 2005 if there is no international agreement in place by 2011

■ Unlimited if there is an international agreement

## Objective: to get to 20% RES by 2020

■ « Burden » sharing between the Member States, on the basis of the current share of RES and the GDP projections

■ **Examples:**

■ **DE: 5.8% in 2005, 18% in 2020**

■ **FR: 10.3% in 2005, 23% in 2020**

■ **UK: 1.3% in 2005, 15% in 2020**

■ **PL: 7.2% in 2005, 15% in 2020**

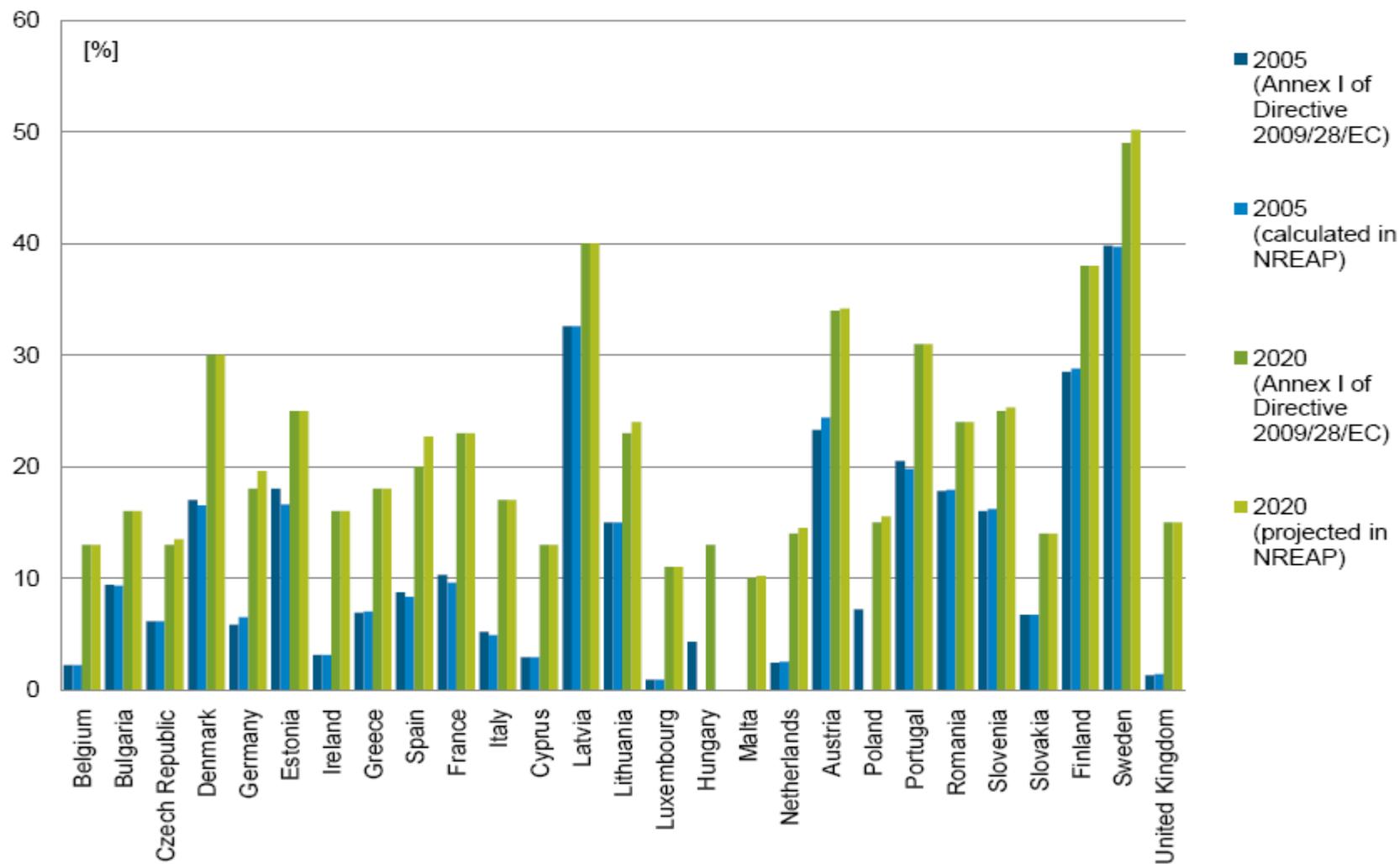
■ Recognising the existence of national support schemes

■ With the possibility of statistical transfers between Member States

■ A specific 10% target for sustainable renewable based fuels in transport, in each Member State.

## Objective: to get to 20% RES by 2020

- Dir 2009/28/EC establishes renewable energy action plans in the 27 MS
- Decision of the Commission of June 2009 laid out the template for reporting
- Objectives
  - Assess the situation
  - Assess progress according to the trajectory
  - Share best practice
  - Detect problems before they happen
- Due by end of June 2010
  
- **Analysis shows that NREAPs are realistic, almost all MSs planning to produce enough RES, just a few buying from others, no major problems in the plans, so implementation will need to be watched**



*Renewable energy shares according to Annex I of Directive 2009/28/EC and according to the NREAP documents (Table 3 of the Template)*

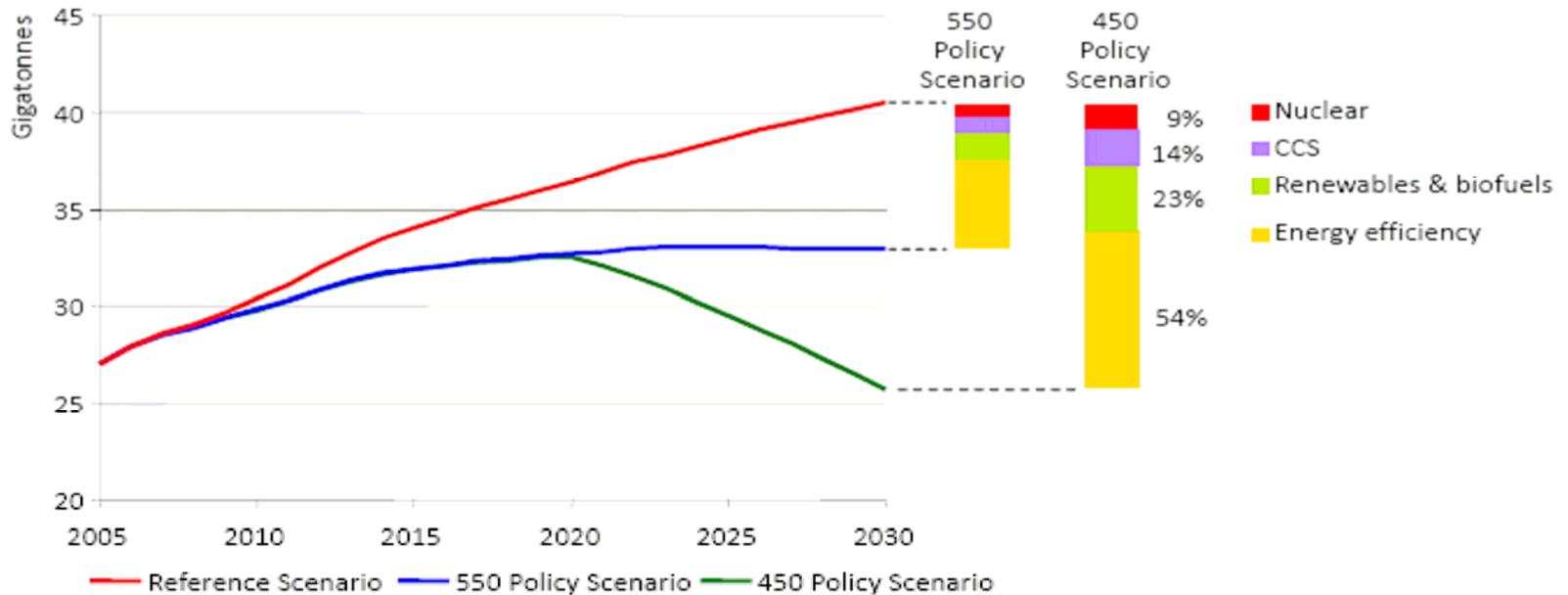
# 20% more energy efficiency in 2020

Not a legally binding target, but

- **Commission Strategic Energy Review**
  - **Many Community legislations**
    - **CO2 and cars, Efficient light bulbs, Labelling**
  - **Many national legislations**
  - **Does also contribute to the GHG objective**
  - **Many win/win solutions**
- 
- **It seems that we will only get to 10% without new policies**
  - **We could go down to -25% GHG with a 20% efficiency increase**
  - **The Commission has issued a European Action Plan for Energy Efficiency on March 8, 2011.**
  - **Commission to review the situation in 2012 and propose corrective measures if needed**

# Why energy efficiency is so important

## Reductions in energy-related CO2 emissions in the climate-policy scenarios



*While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings*

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Source: World Energy Outlook 2008

## CCS Directive – An enabling approach

Draft directive on geological storage sets environmental rules and liability requirements

Member States determine whether and where CCS will happen on their territory

Emissions captured and stored are recognised as not emitted under the Emissions Trading Scheme

Companies decide whether to use CCS on the basis of conditions in the carbon market

Capture-ready assessment required to avoid lock-in of high-emissions technology

Guidance documents and scientific panel announced Q1 2011

# New Entrants Reserve “NER300” - definitions

## Principle

300 million free allocations available to finance innovative RES and CCS

## Definition of relevant costs for CCS :

Relevant costs of CCS demonstration projects shall be those investment costs which are borne by the project due to the application of CCS net of the net present value of the best estimate of operating benefits and costs arising due to the application of CCS during the first 10 years of operation.

# New Entrants Reserve “NER300” – calls and timing

## First 200 million allowances:

First call for proposal published 9 November 2010

End 2011: selection and award → no: will be end 2012

End 2015: construction, completion, followed by entry in operation

## Second call, 100m allowances

deadline for award decisions 31 December 2013

Second call used to adjust geographical and technological balances.

Second call based on revised Decision, with adapted criteria adopted by comitology

A maximum of 34 RES and 8 CCS projects, max. 3 per country.

# New Entrants Reserve “NER300” – latest news

Over 150 proposals for CCS and RES received last week

22 CCS and 131 RES

6 pre-combustion

8 post-combustion

4 oxyfuel

4 industrial

National governments have until May 9 to check validity and submit to EIB

# European Energy Recovery Programme (EERP)

## CCS

€1.0 bn for CCS demonstration projects

6 projects short listed by the Commission in December 2009:

Hatfield UK

Jaenschwalde DE

Compostilla SP

Maasvlakte NL

Belchatow PL would receive up to €180 million each

Porto Tolle IT to receive up to €100 million

## **Resource Efficiency Flagship (June 2011)**

Energy Action plan revised – out on Nov. 10 (efficiency, markets, technology, empowering consumers, external policy)

Infrastructure package – out Nov. 17 – CCS infrastructure

Energy efficiency action plan (March 2011)

Roadmap for a low carbon economy in 2050 (March 2011)

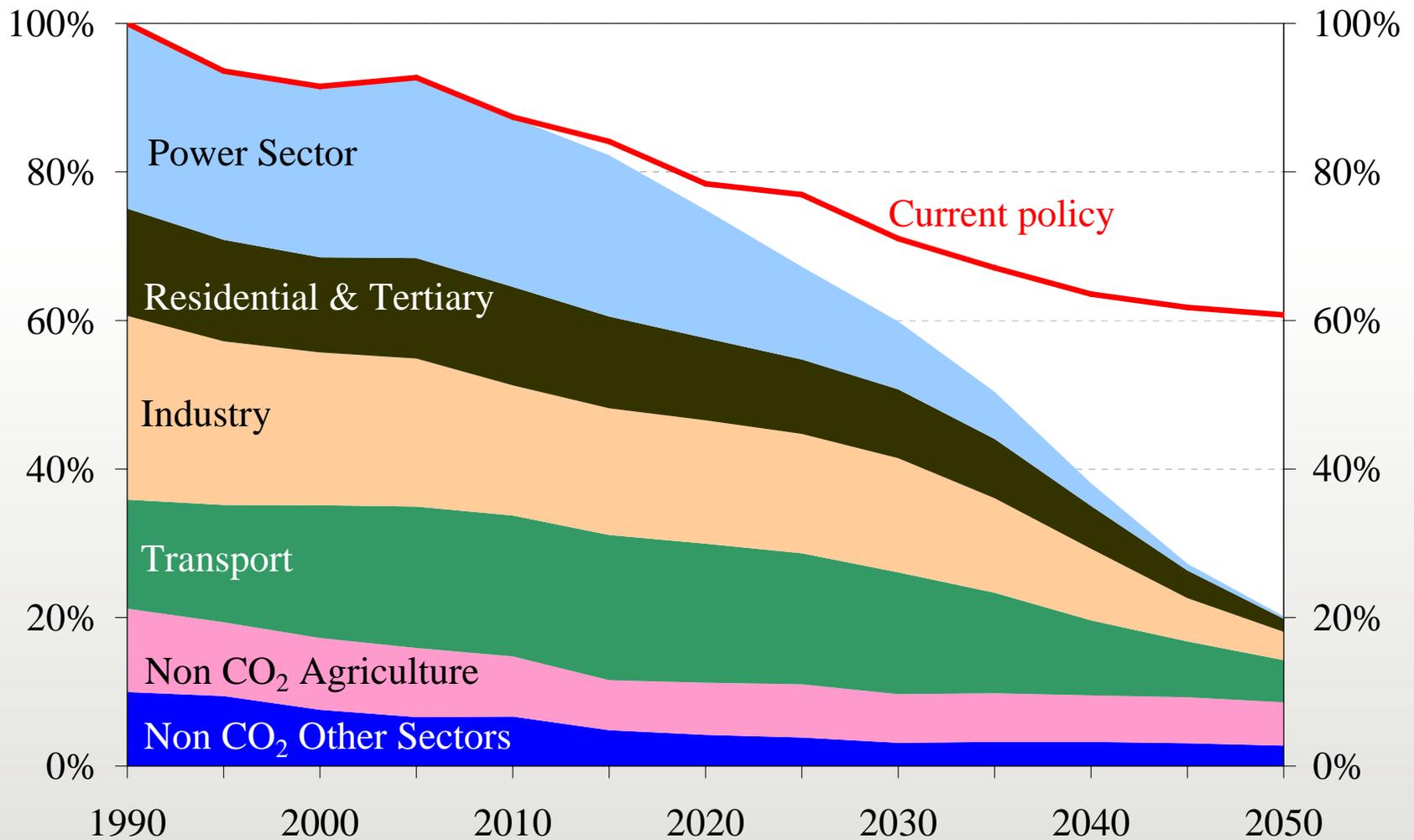
White Paper on transport (March 2011)

Report on financing needs and methods – June 2011

Energy Dimension of the External Policy (June 2011)

Decarbonisation of the energy sector (September 2011)

# A Roadmap to 2050



## A Roadmap to 2050

GHG reductions compared to 1990	2005	2030	2050
Total	-7%	-40 to -44%	-79 to -82%
Sectors			
Power (CO <sub>2</sub> )	-7%	-54 to -68%	-93 to -99%
Industry (CO <sub>2</sub> )	-20%	-34 to -40%	-83 to -87%
Transport (incl. CO <sub>2</sub> aviation, excl. maritime)	+30%	+20 to -9%	-54 to -67%
<i>Surface Transport</i>	+25%	+8 to -17%	-61 to -74%
Residential and services (CO <sub>2</sub> )	-12%	-37 to -53%	-88 to -91%
Agriculture (non-CO <sub>2</sub> )	-20%	-36 to -37%	-42 to -49%
Other non-CO <sub>2</sub> emissions	-30%	-72 to -73%	-70 to -78%

## In Conclusion

The EU energy policies are based on the three interdependent pillars: security of supply, competitiveness and sustainability;

The EU has equipped itself with a coherent energy and climate package to face those challenges;

We are and are willing to remain clearly at the forefront of the fight against climate change, hoping that the other regions of the world will make comparable efforts in the light of the “common but differentiated responsibilities” principle;

Complementary initiatives (on energy strategy, energy efficiency, financing, infrastructures, long term decarbonisation, etc) are in the making.

The long term objective is clear : decarbonisation by 2050

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# THANK YOU FOR YOUR ATTENTION

Dr Pierre Dechamps  
[pierre.dechamps@ec.europa.eu](mailto:pierre.dechamps@ec.europa.eu)