



CCS – A European Update

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

❖ The Rules of the Game - The Energy and Climate Change Package

greenhouse gas
renewables
efficiency

❖ Roadmap 2050 and New Initiatives

❖ The 3 Game Changers and Durban

❖ More on CCS

❖ Conclusions

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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 CO₂ Geological Storage Directive

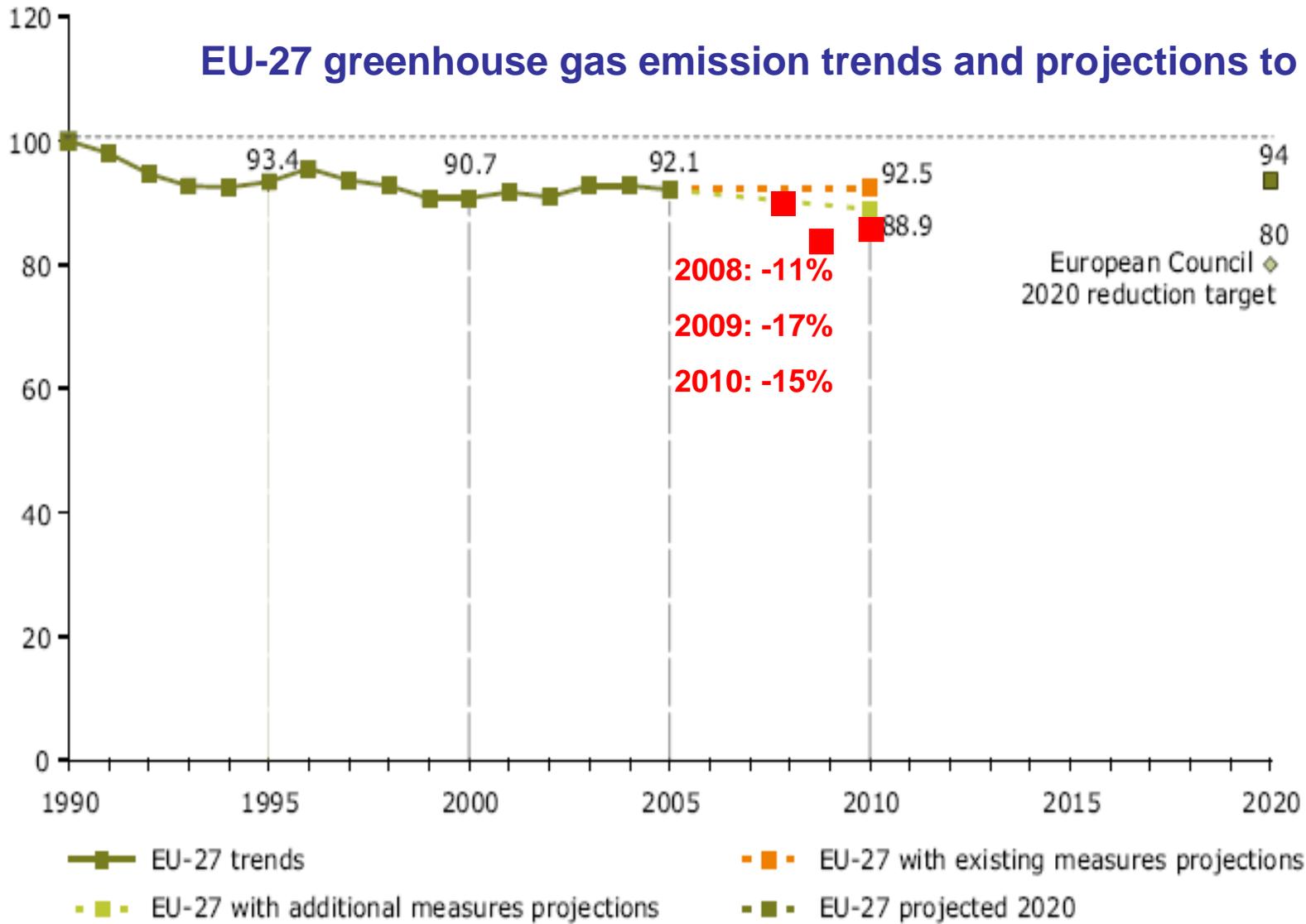
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Inclusion of CCS in the ETS phase III

= 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



CO2 in the Emission Trading Scheme phase III

Objective: To improve the working 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 for Member States, some of which must be re-injected in low greenhouse gas technologies
 - with transitional exceptions for 10 Member States up to 2020
 - ETS prices too low now: Set aside ? Floor price ? Other solutions ?
- 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

CO2 outside of the ETS

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

Objective: to get to 20% RES by 2020

■ « Burden » sharing between the Member States, on the basis of the 2005 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

National Renewables Energy Action Plans submitted, and mostly OK.

BUT more RES does not automatically mean less GHG

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

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
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- It seems that we will only get to 10% without new policies
 - Possibility to go down to -25% GHG with a 20% efficiency increase ?
 - So a direct impact on ETS prices
 - 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

Recent and Future Initiatives

Resource Efficiency Flagship (June 2011)

Energy Action plan revised – out on Nov. 10 2010 (efficiency, markets, technology, empowering consumers, external policy)

Infrastructure package – out Nov. 17 2010 – CCS infrastructure

Energy efficiency action plan (March 2011)

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

White Paper on transport (March 2011)

Energy Dimension of the External Policy (June 2011)

Energy Roadmap 2050 (Dec 2011)

Energy Roadmap 2050

- Reduction of energy sector emissions by 85% by 2050
- Energy costs rising to 2030, coming down thereafter
- 5 scenarios
 - high efficiency
 - diversified supply technologies
 - high RES
 - delayed CCS (not commercial by 2030)
 - no nuclear
- RES more than 50% of supply in all scenarios
- **CCS providing 20-30% of GHG reductions in 2050**

The 3 Game Changers

Fukushima

followed by the possible end/delay of the nuclear renaissance

German decision to phase out nuclear by 2022

Middle East and North Africa instabilities

over 80% of additional oil in the next decades coming from the region

Shale gas

a boom in the US

LNG projects redirected to the EU / Asia, even maybe US LNG exports

shale gas in the EU as well ?

from exploration banned in FR

to

great expectations in PL

The Outcome of Durban

- Roadmap towards “*a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties*”, by 2015, in place by 2020
- Extension of the Kyoto Protocol - mostly undefined – covering only around 15% of world emissions
- Green Climate Fund moving towards operation
- Various progress in the Long-Term Cooperative Action
 - **CCS: Modalities and procedures for carbon dioxide capture and storage in geological formations as clean development mechanism project activities : adopted**

More on CCS

CCS Directive – An enabling approach

The 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

No mandatory CCS at this stage – maybe only after the demonstration phase

Had to be transposed in national legislation by end of June 2011 – but very few Member States have fully done so.

New Entrants Reserve “NER300” – calls and timing

First 200 million allowances:

First call for proposal published 9 November 2010

Award decision expected 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 in March

13 CCS projects received – 7 of which in the UK.

National governments had until May 9 2011 to check validity and submit to EIB

Monetisation on-going

Award decision expected end 2012

European Energy Recovery Programme (EERP)

CCS

€1.0 bn for CCS demonstration projects

6 projects short listed by the Commission in December 2009:

Hatfield / Don Valley UK

Jaenschwalde DE

Compostilla SP

Maasvlakte NL

Belchatow PL to receive up to €180 million each

Porto Tolle IT to receive up to €100 million

Combined funding of EERP and NER300 cannot exceed 50% of the additional costs of CCS – the other 50% should come from Member States and industry.

European Energy Recovery Programme (EERP)

All projects are facing difficulties

- funding
- public acceptance
- slow transposition of the CCS Directive

Notably,

German project facing public opposition, so political support in Brandenburg fading away, and the project may not obtain storage permits.

Polish project facing financial difficulties – neither PGE nor the Polish Government willing to substantially finance the project.

Change of the UK project.

CCS - The More Global Environment

CCS developments lost momentum this year.

Industry shows reluctance to invest into a technology for which no clear political commitment exists in the majority of Member States.

The financial crisis has provoked a decline in energy consumption, hence in emissions, hence in the ETS price – a direct influence, plus a decrease in the value of the NER300.

High oil prices are redirecting some projects to EOR applications.

Public acceptance is finally recognized and materializes as a major threat.

→ Storage under the North Sea is gaining importance, but probably more expensive than on-land, unless on a very large scale.

→ The EC could envisage to actively facilitate the cooperation between MS around the North Sea, notably based on the Infrastructure Package, according to market needs.

CCS and the Infrastructure Package

The rapporteur tasked with seeing the energy infrastructure package through the European Parliament, said that:

“around 10%-15%” of the €9.1 billion funding in the legislation would be spent on the technology.

“CCS is by nature under-developed and by definition this leverage will be fundamental for it”.

“The instrument that we had before to pay for projects and for research, studies and planning probably will apply more for CCS in its present phase”

“But we cannot be limited to this because if we are just using the old method, we will catch CCS in a trap and it will never be developed”

To be followed

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 put forward. There is a role for CCS in this global picture.

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