



Keynote: The EU Energy and Climate Policies: Towards Decarbonisation

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*Dr Pierre Dechamps
Policy Officer, Climate Action
Directorate General for Research and Innovation*



Outline

- ❖ Rules of the Game - The 2008 Energy and Climate Change Package
- ❖ A Policy Framework for Climate and Energy from 2020 to 2030
- ❖ Vision and Objective - The 2050 Roadmap
- ❖ Hot Issues - the ETS and Shale Gas
- ❖ Towards an Energy Union

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Rules of the Game

- The 2008 Energy and Climate Change Package



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

+

The CO₂ Geological Storage Directive

+

Inclusion of CCS in the ETS phase III

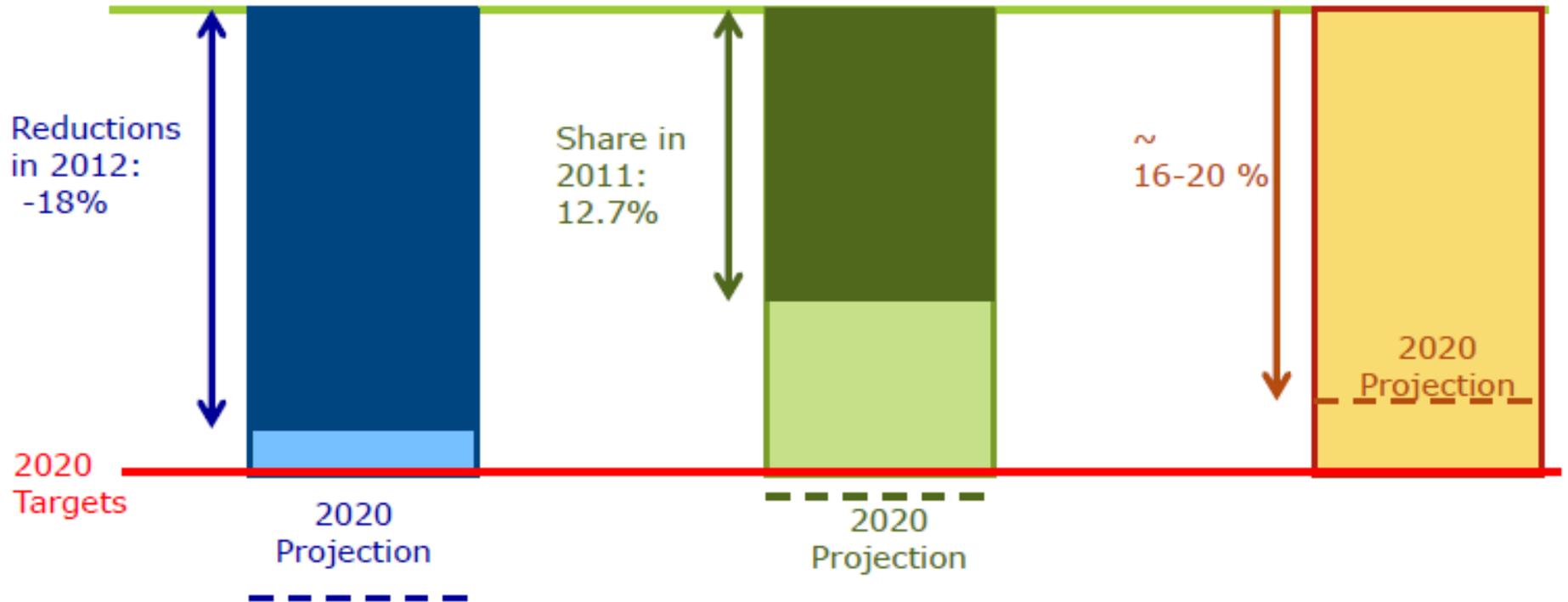
= The legal framework for a carbon constrained economy, a low carbon growth

2020 Targets – Where do we Stand ?

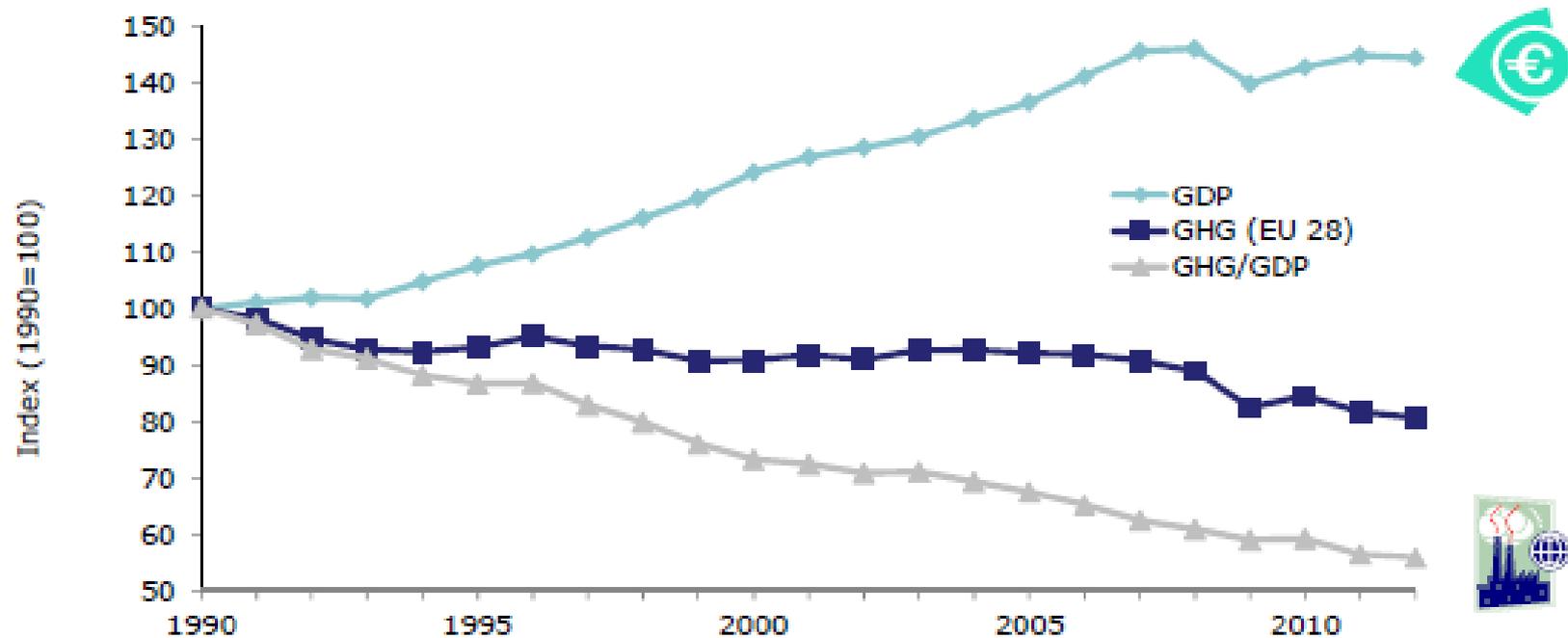
Reduce Greenhouse Gas
Emissions levels by 20%

Increase share of
Renewables to 20%

Reduce energy consumption
by 20%



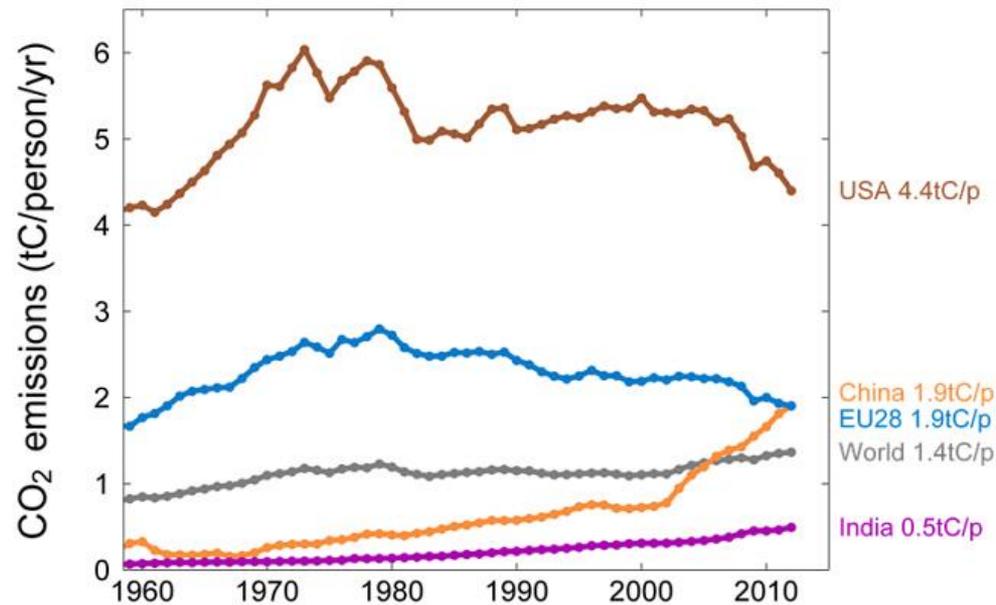
The EU is gradually decarbonising ...



Decoupling economic growth and GHG emissions:
EU GDP grew 45% in 1990 to 2011, while emissions decreased by 18.3 %

Top Fossil Fuel Emitters (Per Capita)

Average per capita emissions in 2012
China is growing rapidly and the US is declining fast



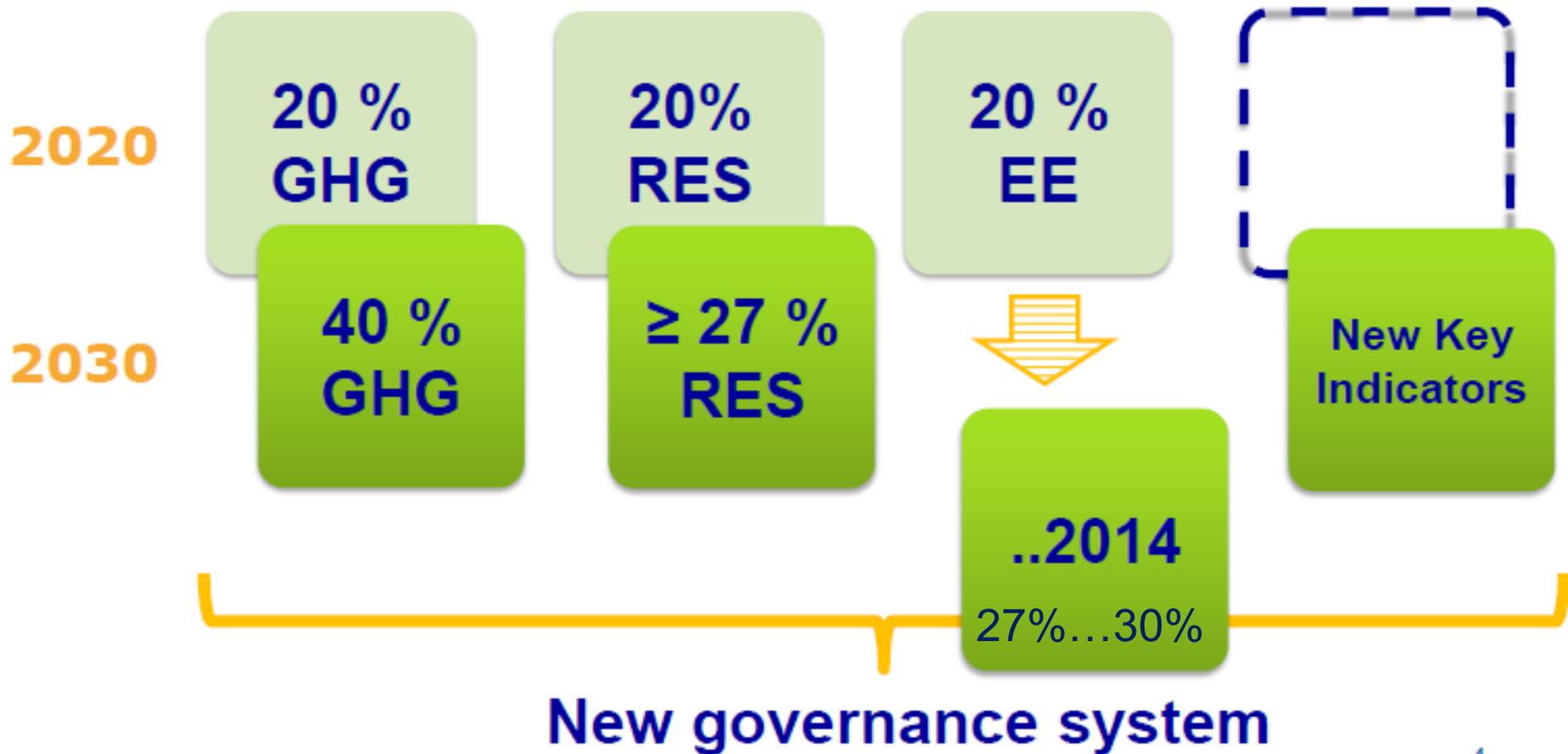
Source: [CDIAC Data](#); [Le Quéré et al 2013](#); [Global Carbon Project 2013](#)



A Policy Framework

for Climate and Energy from 2020 to 2030

2030 Framework – the Structure



2030 Framework – Possible Key Indicators



**Energy price
differentials**



**Diversification
imports,
share of indigenous
energy**



**Smart grids &
connections
between Member
States**



**Intra-EU coupling
energy markets**



**Competition and
market concentration**



**Technological
innovation**



Towards 2030 – October 2014 Council Conclusions

- 40% GHG target
 - ETS (-43% compared to 2005)
 - ETS linear reduction factor from -1.74%/yr to -2.2%/yr after 2020
 - Still some free allocations after 2020
 - Free allocations in the energy sector for MSs with GDP < 60% of the average
 - Successor to the NER300 (NER400)
 - Reserve of 2% for solidarity (for MSs with GDP < 60% of average)
 - 10% of the auctions reserved for MSs with GDP < 90% of average
 - non-ETS (-30% compared to 2005)
 - Effort sharing from -0% to -40% on the basis of GDP
 - Adjustments for MSs with GDP > average to reflect cost effectiveness



Towards 2030 – October 2014 Council Conclusions

- At least 27% share of renewable energy consumed
 - Binding at the EU level
 - No national targets
 - Plus an indicative target of at least 27% energy efficiency increase
 - To be reviewed in 2020 with 30% in mind
 - No national targets
 - Plus interconnection target

Vision and Objective

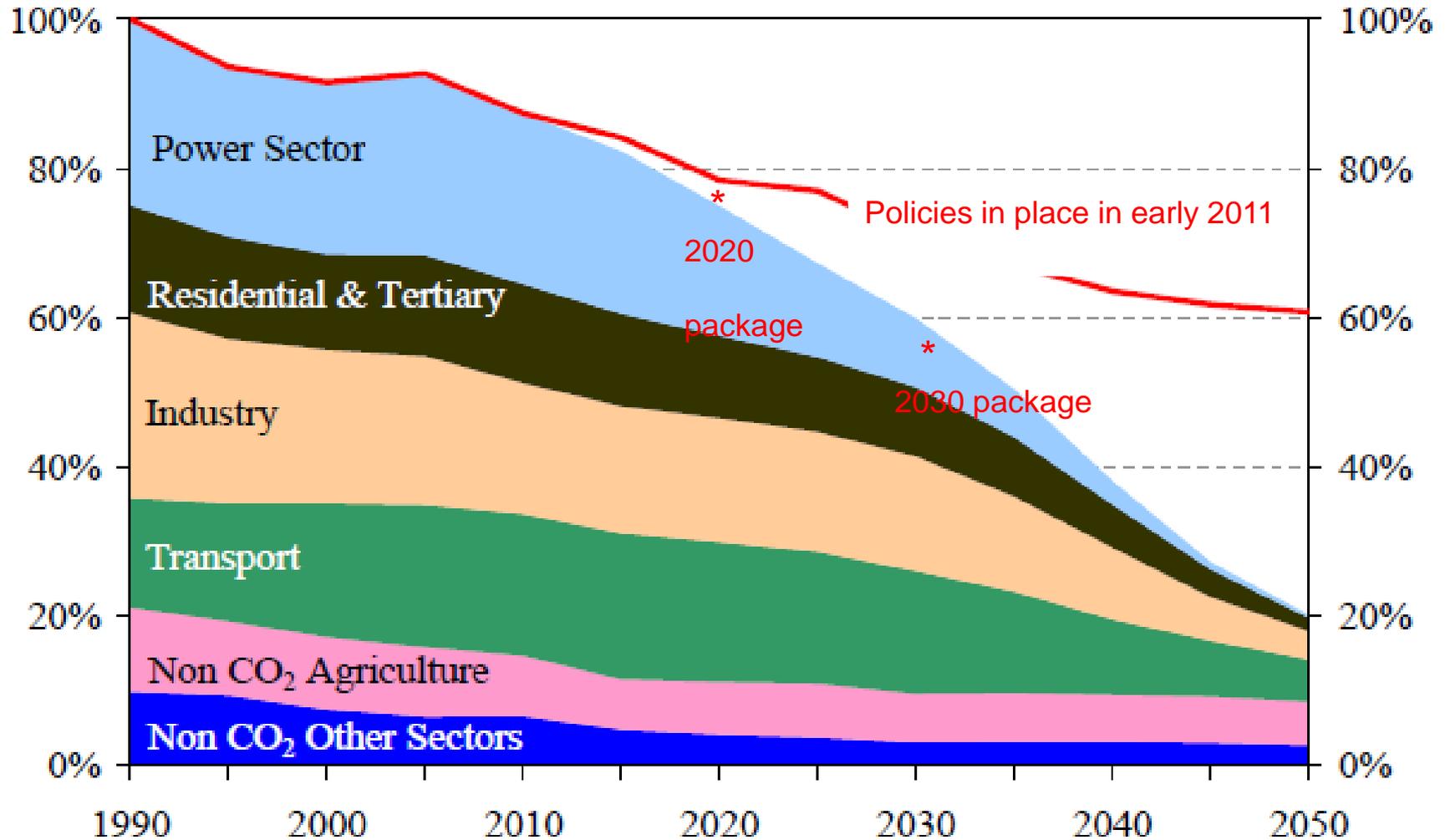
- The 2050 Roadmap



Energy Roadmap 2050 – COM(2011)112

- 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

A Sectorial Approach



Deep Decarbonisation Pathways

Require a societal / holistic approach
a lot more than just technologies
 behavioural issues
 public information / acceptability / engagement

A totally new system is required
even the 2020 objectives are already putting the existing system under
stress (capacity markets, etc)

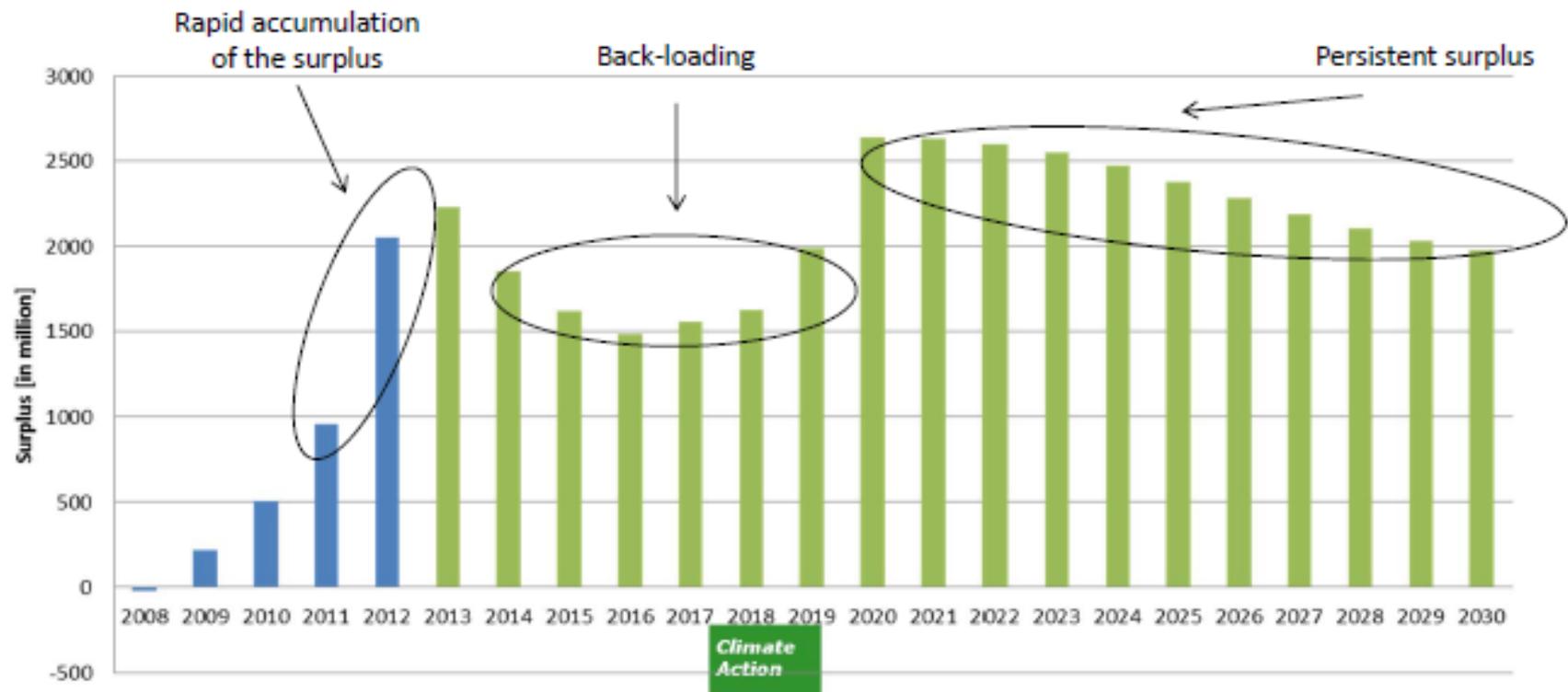
Often run out of range of existing models

A R&I topic by nature, to feed into future policies design

Hot Issues – The ETS and Shale Gas

ETS: Structural Reform is Needed

- Large and persistent market imbalance
- Back-loading of auction volumes only first, temporary step



- Reserves in the EU as well, but not well known
- Probably not a total game changer like in the US, where shale is now 60% of local production
- Not the same legal situation of the underground as in the US, the owner has to get a license, like in the coal business, but not the same incentive as "to own"
- Not significant in the EU before 2020, could only compensate the decrease in conventional gas thereafter, estimates of 10% of EU gas demand by 2035
- Large differences between MSs in the approach
- At the moment, "redirecting" coal for power generation from the US to the EU, putting our climate objectives in danger

Commission Recommendations

- Out Jan 22 2014, to Member States
 - For high volume hydraulic fracking, >1000m³ per stage or >10000m³ per well
 - To be implemented 6 months after publication
 - Member States to report to the Commission in Dec 2014, then every year
-
- Do strategic planning and environmental impact assessment before authorisation
 - Coordinate exploration / production permits if several
 - Check site suitability for hydraulic fracking (risk assessment)
 - Produce a baseline study (water, air, soil, methane, seismicity, land, etc)
 - Enforce installations design and construction BAT to prevent leaks and spills
 - Develop adequate infrastructure if several operations in the same place
 - Establish operation requirements for operators
 - Minimise, report, treat water and chemicals used
 - Establish monitoring requirements
 - Enforce environmental liability and request financial guarantees
 - Develop the necessary administrative capacity
 - Develop closure obligations
 - Be transparent (chemicals, wells, permits, baseline, incidents, sanctions)

Towards an Energy Union



3 Communications out on 25 Feb 2015

1.A Framework Strategy For a Resilient Energy Union with a Forward-Looking Climate Change Policy

1. Energy Security, Solidarity and Trust
 2. A Fully-Integrated Internal Energy Market
 3. Energy Efficiency as a Contribution to the Moderation of Energy Demand
 4. Decarbonisation of the Economy
 5. An Energy Union for Research, Innovation and Competitiveness
- + action plan, governance, roadmap

1.The Paris Protocol – A Blueprint for tackling Global Climate Change Beyond 2020

1.Achieving the 10% Electricity Interconnection Target – Making Europe's Electricity Grid Fit for 2020

In Conclusion

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

The EU has equipped itself back in 2008/9 with a coherent energy and climate package to face those challenges, with clear objectives for 2020;

We are now extending this approach, learning from the past, to 2030, in order to provide visibility to the actors;

Beyond this, a real holistic / systemic / societal approach is required.

The objective is clear : deep decarbonisation by 2050, fully consistent with the 2°C objective



THANK YOU FOR YOUR ATTENTION

Dr Pierre Dechamps
pierre.dechamps@ec.europa.eu

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