



get to grips with  
**climate  
change**



# **EU-OPEC Roundtable**

## **30 May 2007**

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# Outline

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- EU and climate change
- EU Emission Trading System
- Carbon capture and storage
- Fuel Quality Directive



# Integrating Climate Change & Energy Policies: a comprehensive Climate and Energy Package



# Climate Change

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“the EU independent commitment to reduce  
GHG emissions by at least 20% in 2020  
compared to 1990”

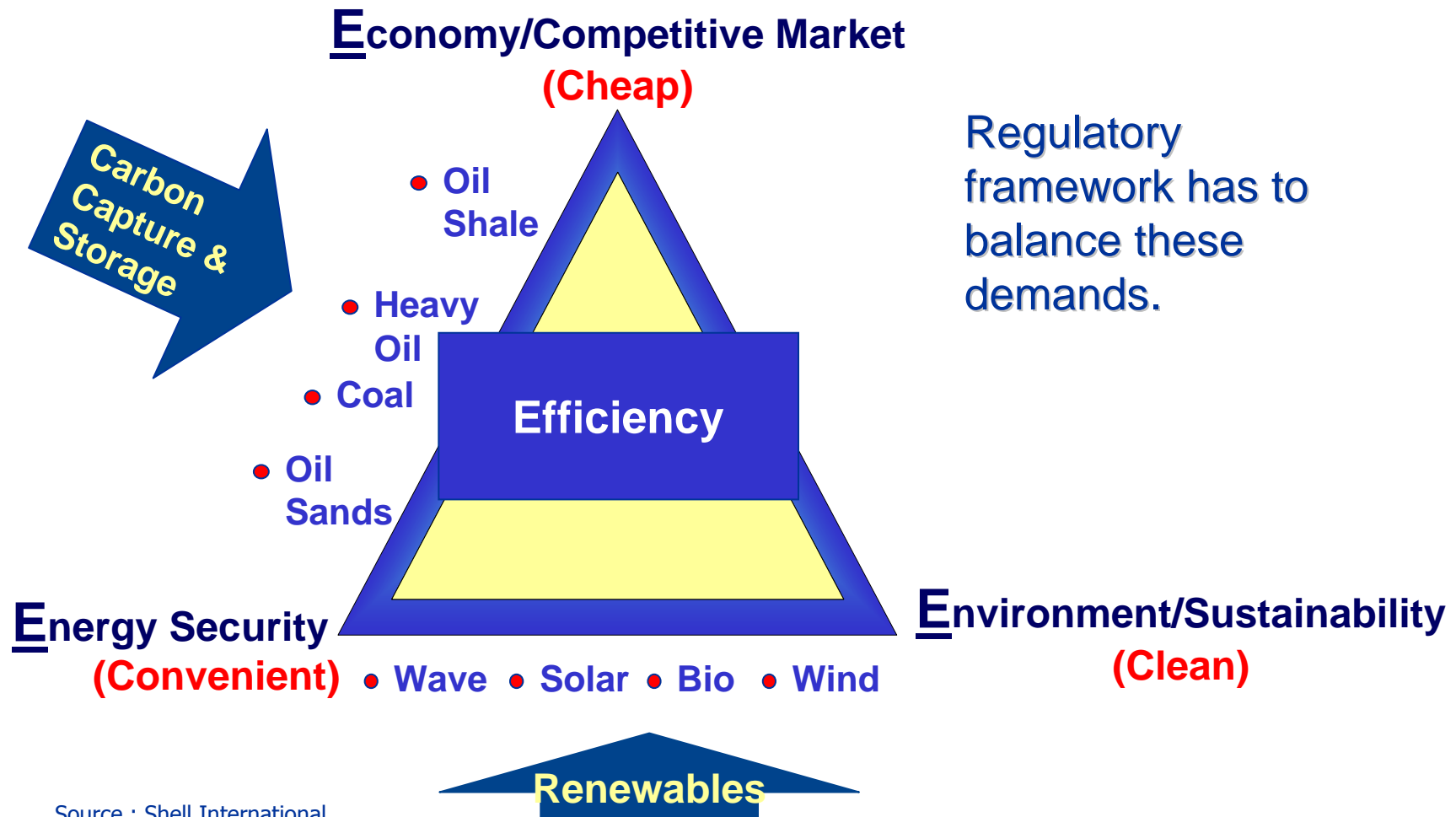
...overarching objective for both energy and  
climate policy

&

a role of the EU Emissions Trading Scheme



# Framing the energy debate



Source : Shell International



## EU's international ambition in Climate Change policy

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Limiting  
global average temperature increase  
**to 2 degrees Celsius**  
compared to pre-industrial levels





# The technology is there

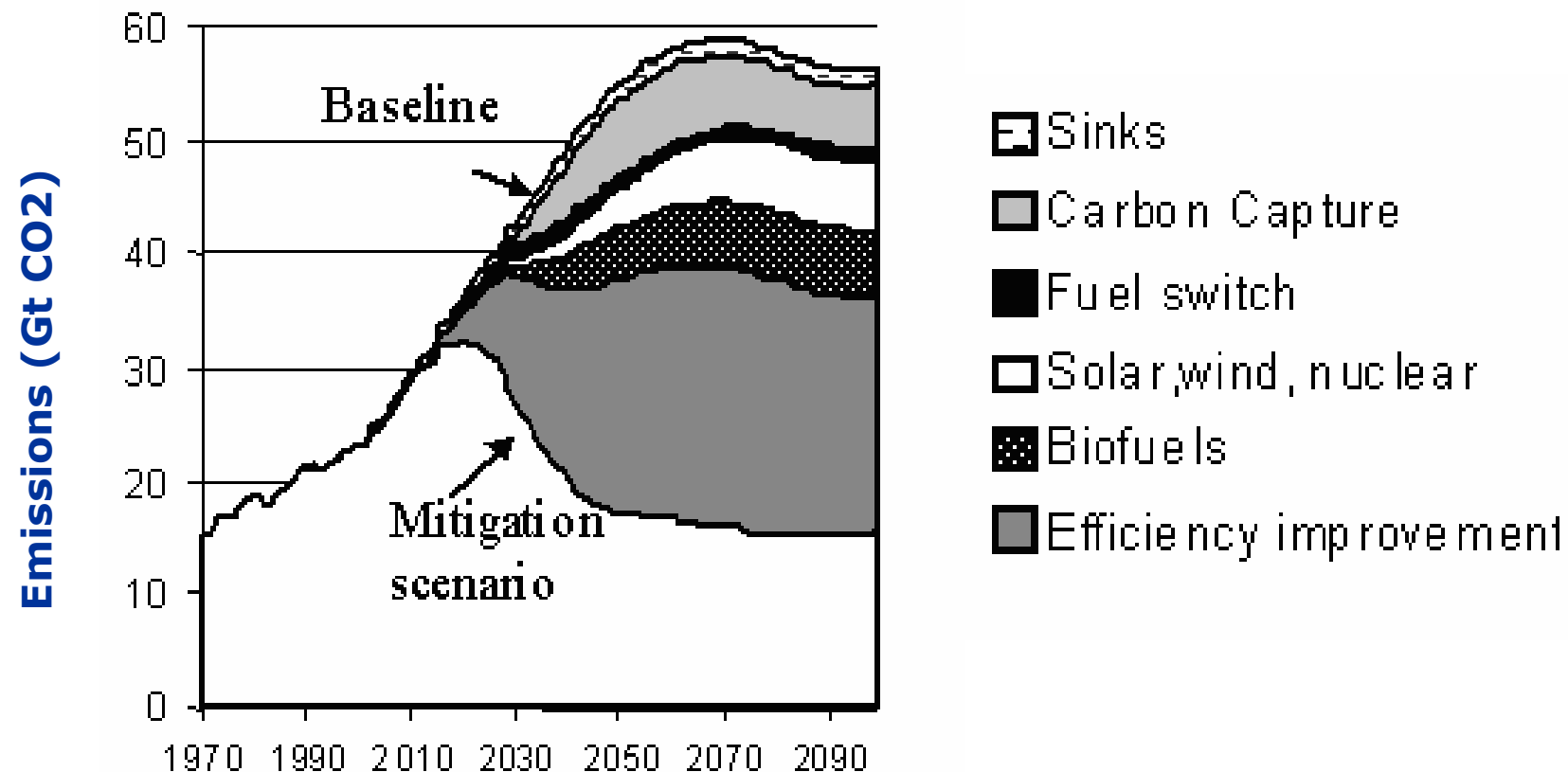
- **Efficiency**
  - Buildings, ground transport, industrial processing, lighting, electric power plants, CHP
- **Decarbonised electricity**
  - Natural gas for coal
  - Power from coal or gas with CCS
  - Nuclear Power
  - Power from renewables
- **Decarbonised fuels**
  - Synthetic fuel from coal, natural gas, with carbon capture and storage
  - Biofuels
  - Hydrogen
- **Fuel displacement by low-carbon electricity**
  - Grid-charged batteries for transport
  - Heat pumps for furnaces and boilers
- **Natural sinks**
  - Forestry (reduced deforestation, afforestation, new plantations)
  - Agricultural soils
- **Methane management**
  - Landfill gas, cattle, rice, natural gas



**Develop & Deploy**

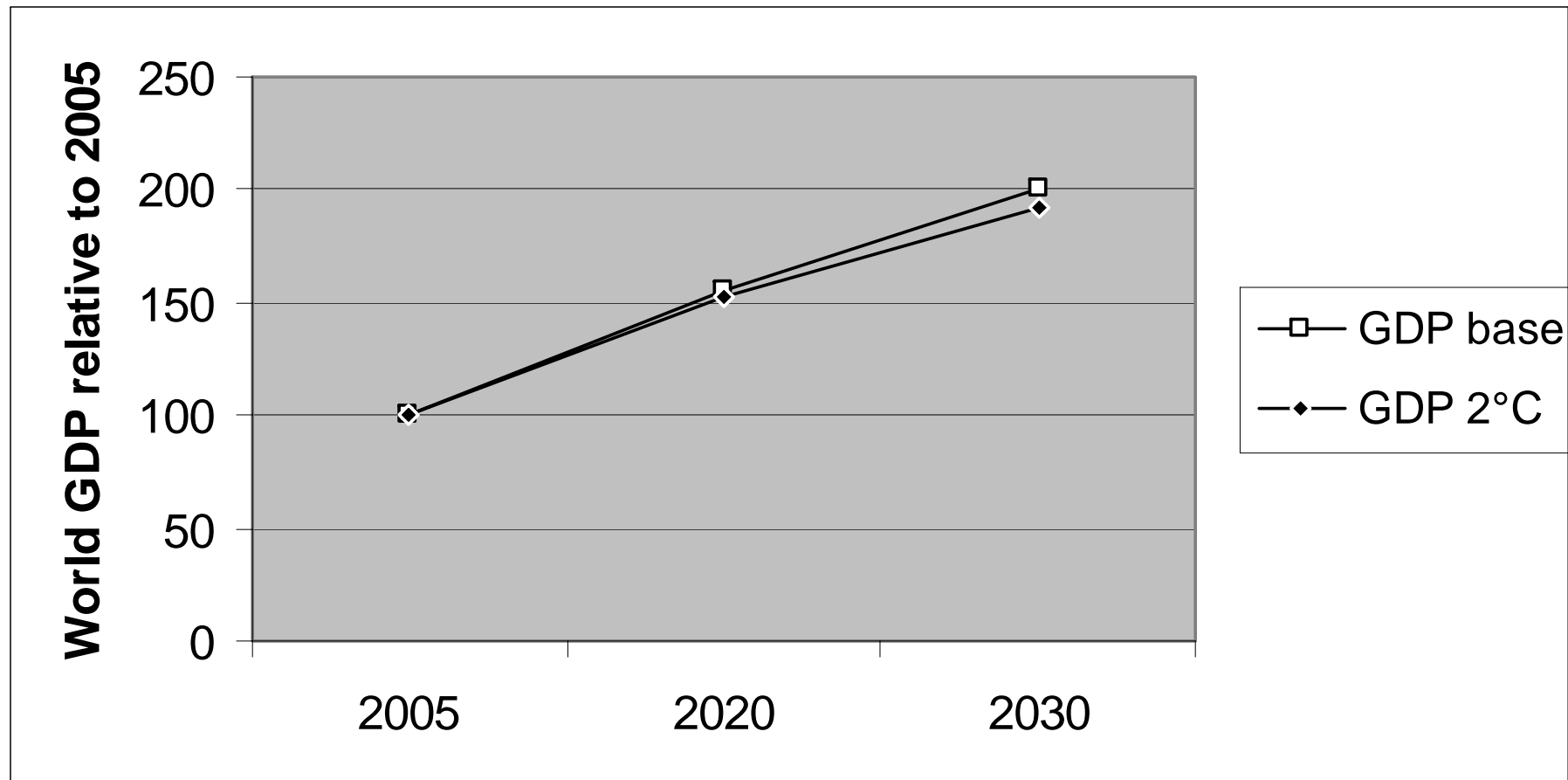


## The 'optimal' wedges: There is no silver bullet - use multiple technology options





**and...It is economically affordable**





# Shaping EU Climate change & energy policies

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## 2007 – key milestones

- 10 January 2007: European Commission has put forward a fully integrated policy package covering both climate change and energy policies:
  - “Limiting Global Climate Change to 2°C: The way ahead for the EU and the World for 2020 and beyond”
  - “An Energy Policy for Europe”
- 15 February 2007: Energy Council conclusions
- 20 February 2007: Environment Council conclusions
- **8/9 March 2007: EU Heads of State, Spring Council conclusions**



# Climate change & energy policies: agreed actions

- EU independent commitment: Reduce EU-27 GHG emissions by at least 20% in 2020 compared to 1990

- Energy Policy:

- Energy efficiency: 20% improvement by 2020
- Renewable energy: 20% mandatory objective by 2020
  - differentiation of targets between countries
  - flexibility in target setting within a country between sectors
- Biofuels target of 10% by 2020
- Internal market-options unbundling & regulatory powers:
  - Important for functioning EU ETS
  - Overcome hurdles for renewables
- Sustainable power generation from fossil fuels: 12 large scale CCS demonstration plants by 2015; aiming at near-zero emissions by 2020
- Strategic Energy Technology Plan
- Nuclear: member states' choice

**At least  
-20 %  
CO<sub>2</sub>**

- Climate Strategy:

- EU ETS (Review, aviation)
- Other policies (e.g. fuel quality)
- Global carbon market (incl. CDM)

**Up to - 5% of GHG  
emissions**



# EU Emission Trading Scheme



## EU ETS – key features

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- Applicable since 1 January 2005, for 25 EU countries
- Mandatory cap on absolute emissions across more than 10,000 large energy-intensive installations across the continent
- Covers around 2 billion tonnes of CO<sub>2</sub> emissions, half of EU's total emissions
- Simple and cost-effective approach to reducing emissions, with single market for trading allowances
- Linking foreseen with other emissions trading schemes
- Credits from emission-reducing projects in 168 countries useable by companies for meeting objective (JI/CDM)
- Market volume in 2006 : 18bn Euro



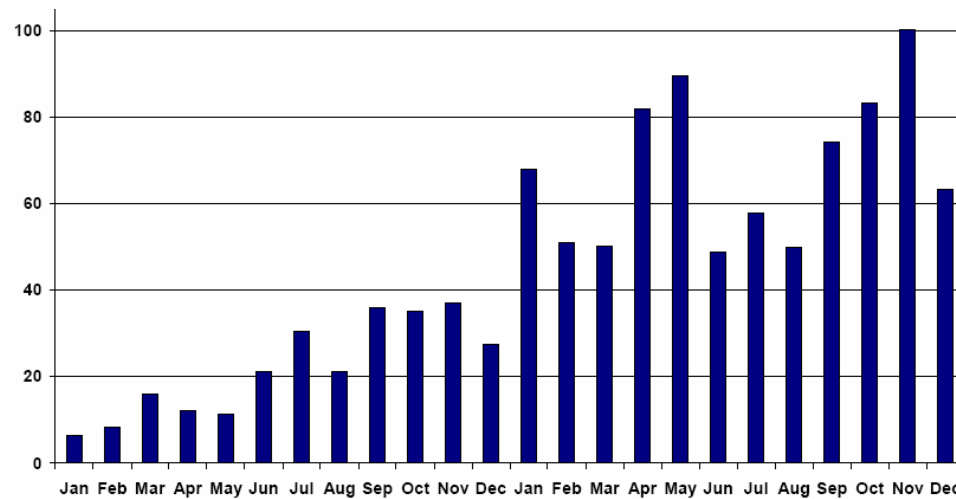
## EU ETS – stages of development

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- 2005-7: Start-up period
  - Allowances mostly allocated for free (auctioning limited to 5%)
  - Robust emissions monitoring and verification
  - Well-performing electronic registry system
  - Sound market development
  - However, insufficiently ambitious levels for emission reductions
  - Extension of EU ETS through “opt in” provisions
- 2008-12: First commitment period of Kyoto Protocol
  - Auctioning possible
  - Commission approval given to 14 plans
  - Extension of the EU ETS through “the opt-in” provisions

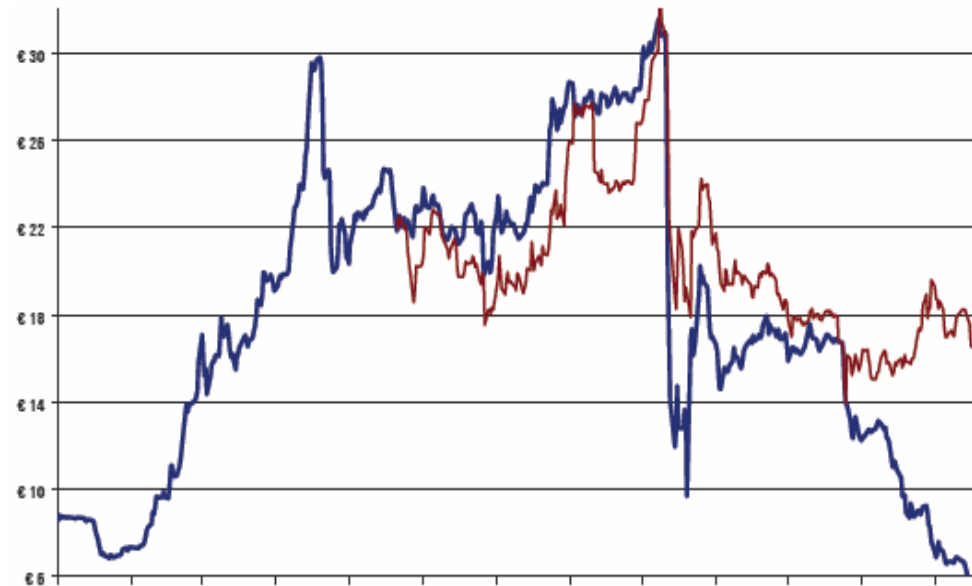


# EU ETS - Development of allowance trading in 2005-6



Volumes of allowances traded  
(in millions)

Allowances prices  
for Phase I (blue line)  
and Phase II (red line)



Source: Point Carbon



# Is the first trading period of the EU ETS a success?

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*Yes because...*

- ... more than 2 years experience and learning*
- ... an active market emerged*
- ... a common database for EU 25 exists*
- ... the infrastructure is established.*

*No, because ...*

- ... the market is likely not to be constrained.*
- ... some functioning needs to be improved*

Overall:

- ... EU companies now look systematically for low carbon strategies



## **To what extent will the second trading period be different?**

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- Fewer allowances in the market
- Experience by all market participants, from the first trading period
- More auctioning
- Market will increasingly mature
- Governments much better in handling market-sensitive data
- Emergence of first trading schemes paralleling the EU ETS (e.g. RGGI in 2009)



# Proposal to modify Fuel Quality Directive 98/70



## Revision of Directive 98/70/EC

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### Main areas of changes

- Sulphur contents
- Ethanol/oxygenates
- GHG reduction
- Other amendments



## Sulphur content - proposed

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- Road diesel
  - Confirm 10ppm sulphur from 1/1/2009
- Land based non-road fuel
  - One-step reduction to 10 ppm proposed at the latest for 31 December 2009
- Inland waterway fuel
  - Two-step reduction:
    - 300ppm by 31 December 2009
    - 10ppm by 31 December 2011



## Oxygenate - proposed changes

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### Ethanol related changes

- Max content
  - New petrol specification created with higher max oxygenates and overall oxygen content (3.7%)
  - Maximum ethanol content of 10%
- Vapour pressure:
  - Derogation from 60kPa for ethanol containing petrol blends. Level of derogation depends on % ethanol
- Commission commitment to bring forward proposal for stage II vapour recovery legislation



## Greenhouse Gas

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- Reporting of lifecycle GHG emissions from fuel supplied from 2009
- Mandatory obligation to reduce emissions per unit of energy from 2011.
- Methodology to be developed through Committee
- Reduction obligation proposed:
  - Starts at 1% per year in 2011
  - Obligation increases each year by 1%
  - In 2020 life cycle GHG from fuel would be 90% that in 2010.



## Other proposed changes

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- Poly Aromatic Hydrocarbons
  - Current 11% maximum in diesel proposed to be reduced to 8%.
- Arctic waiver
  - Proposal clarifies that applies only in coldest Member States
  - Use of the waiver would be subject to Commission approval based on the provision of necessary information



Promoting carbon capture and  
geological storage (CCS)



## Why is CCS important?

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- Essential to meet 2°C objective from a global perspective, next to RES, energy efficiency
- Compatible with conventional fossil fuels (coal, gas and oil)
- Facilitates transition to and reduces cost of carbon constrained world
- Increased energy security
- Compatible with new energy technologies, such as hydrogen (stationary and automotive), and plug-in hybrids



# Accelerating deployment

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- 10-12 demonstration plants in 2015
- Objective supported by industry-led Zero Emission Technology Platform
- Aiming for diversity
  - in technologies (pre- and post-combustion)
  - in fuel sources (coal, lignite, gas, oil)
  - in applications (electricity, refineries, other energy-intensive industries)
- Cooperation EU-China
- Participation in CSLF



# Building a regulatory framework

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- Remove regulatory barriers :
  - waste
  - water framework directive
  - other ...
- Ensure environmental integrity
  - main issue is permitting (site selection), monitoring & reporting, closure and after care provisions to avoid CO<sub>2</sub> leakage
- Include in EU ETS to reward CCS as a CO<sub>2</sub> abatement option
- Proposal end 2007



More information on how to...

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**<http://europa.eu.int/comm/environment>**