

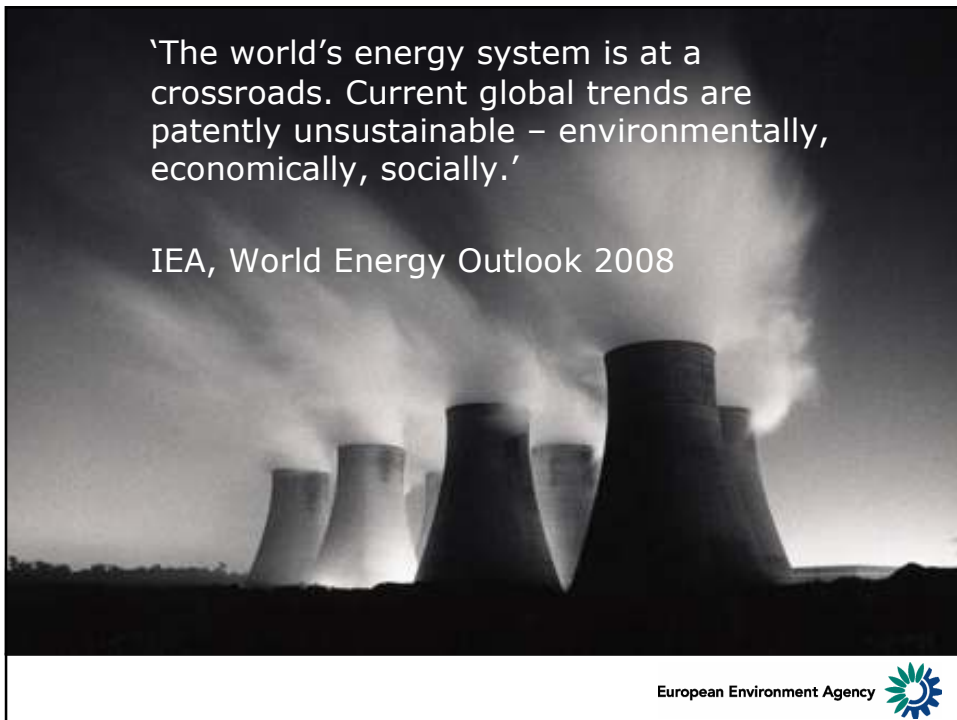
# European policy for energy efficiency and its impacts on innovation

Professor Jacqueline McGlade  
European Environment Agency



'The world's energy system is at a  
crossroads. Current global trends are  
patently unsustainable – environmentally,  
economically, socially.'

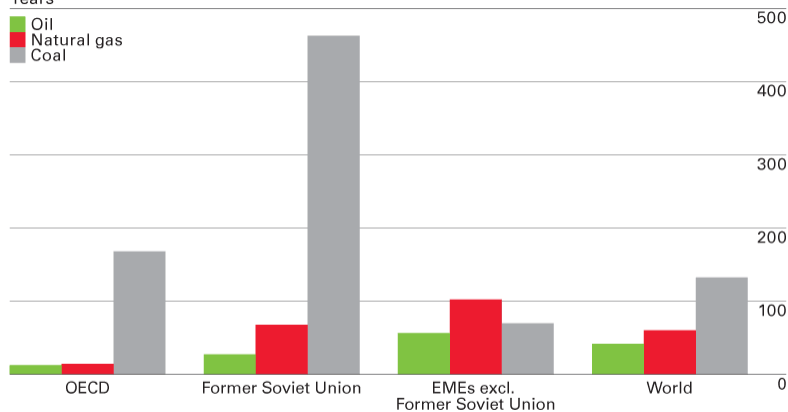
IEA, World Energy Outlook 2008



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## Fossil fuel reserves-to-production (R/P) ratios

Fossil fuel reserves-to-production (R/P) ratios at end 2007  
Years

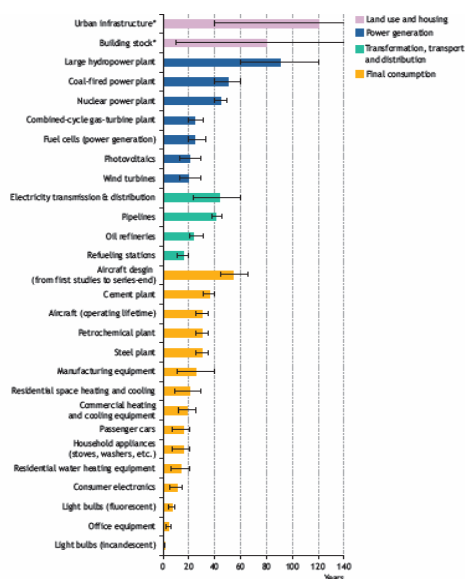


Coal remains the world's most abundant fossil fuel, with an R/P ratio of more than 130 years. In addition to being cost-competitive, coal has emerged as the world's fastest-growing fuel in part because reserves are located in key consuming countries.

BP Statistical Review of World Energy 2008

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## Life expectancy of capital assets



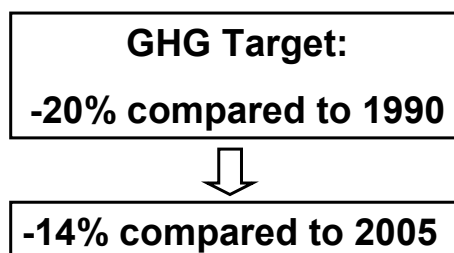
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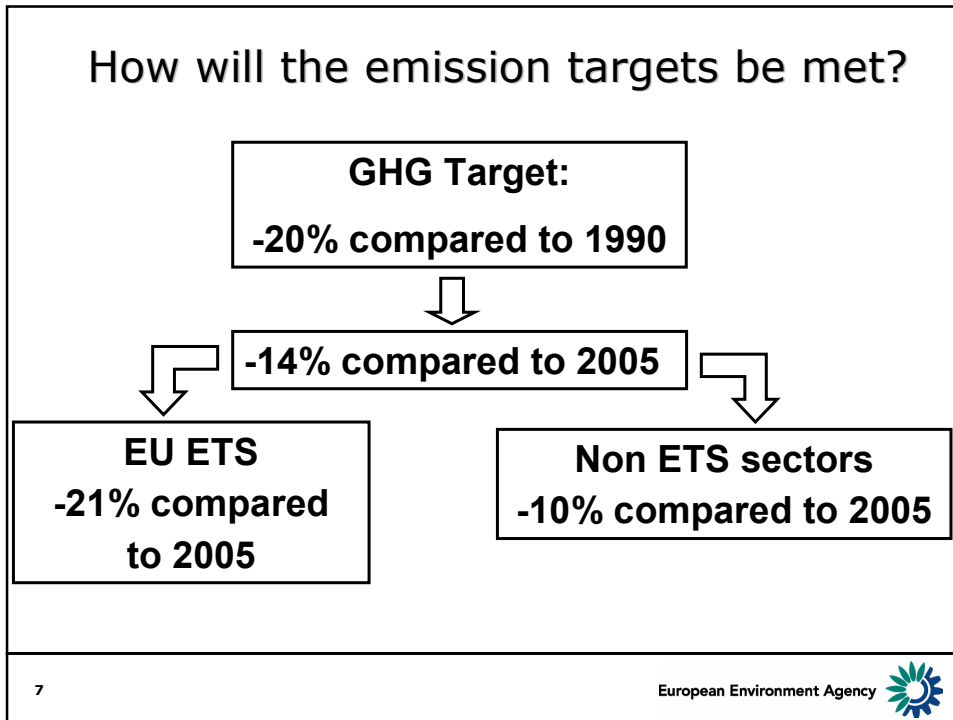
## The 2020 targets in the Climate Action and Renewable Energy (CARE) package'

- 20% GHG reduction compared to 1990
  - Independent commitment
- 20% renewables share of final energy consumption
- 10% biofuels in transport, with
  - production being sustainable
  - second generation biofuels commercially available
- **20% energy efficiency target: non-binding**

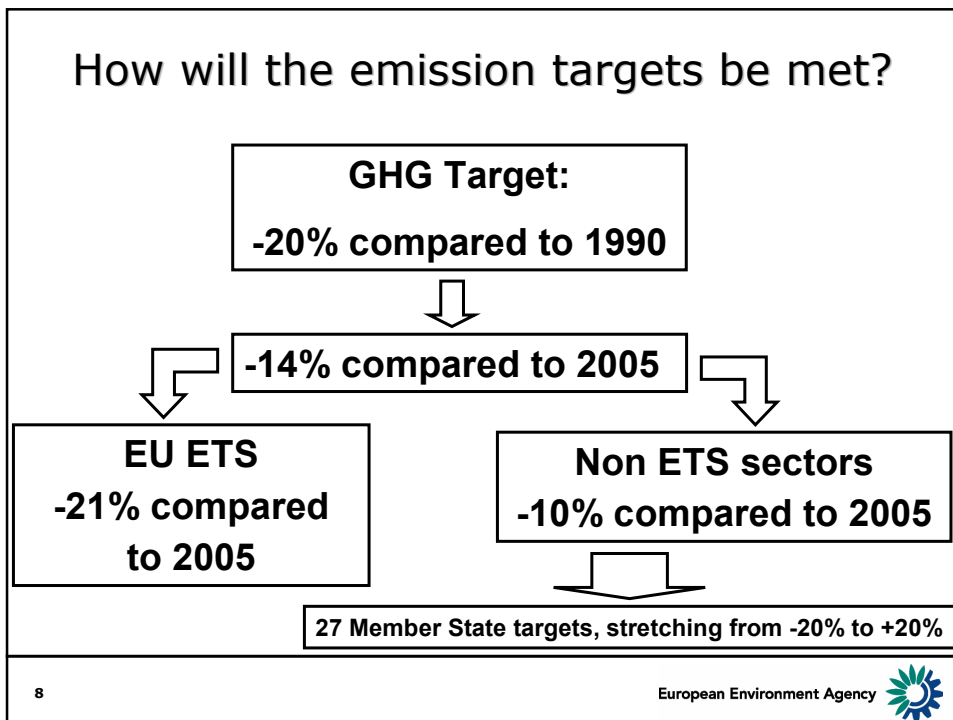
## How will the emission targets be met?

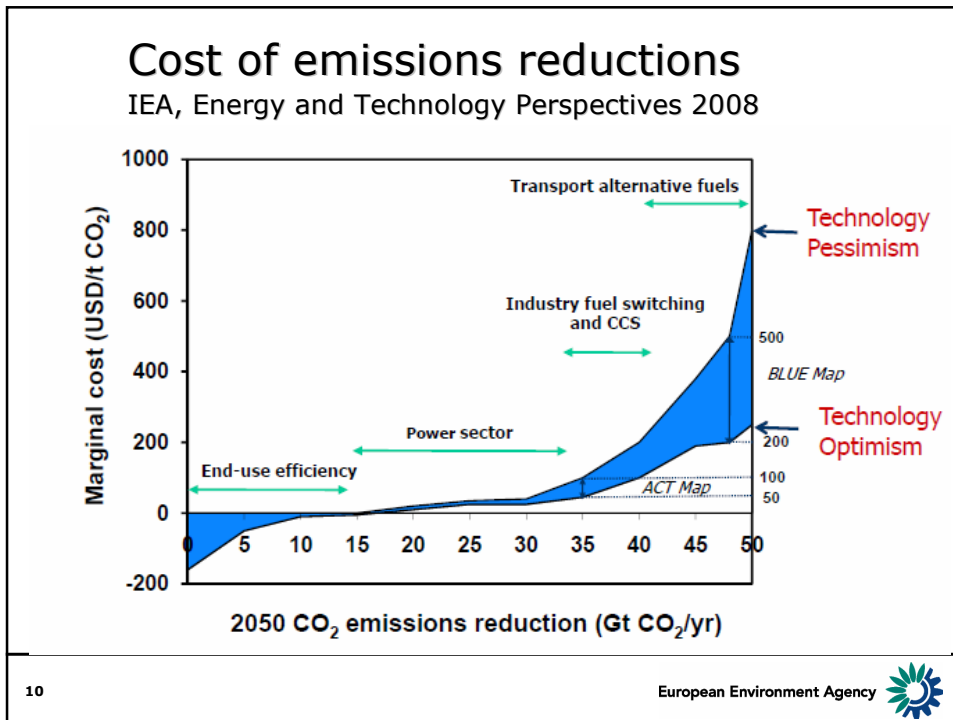
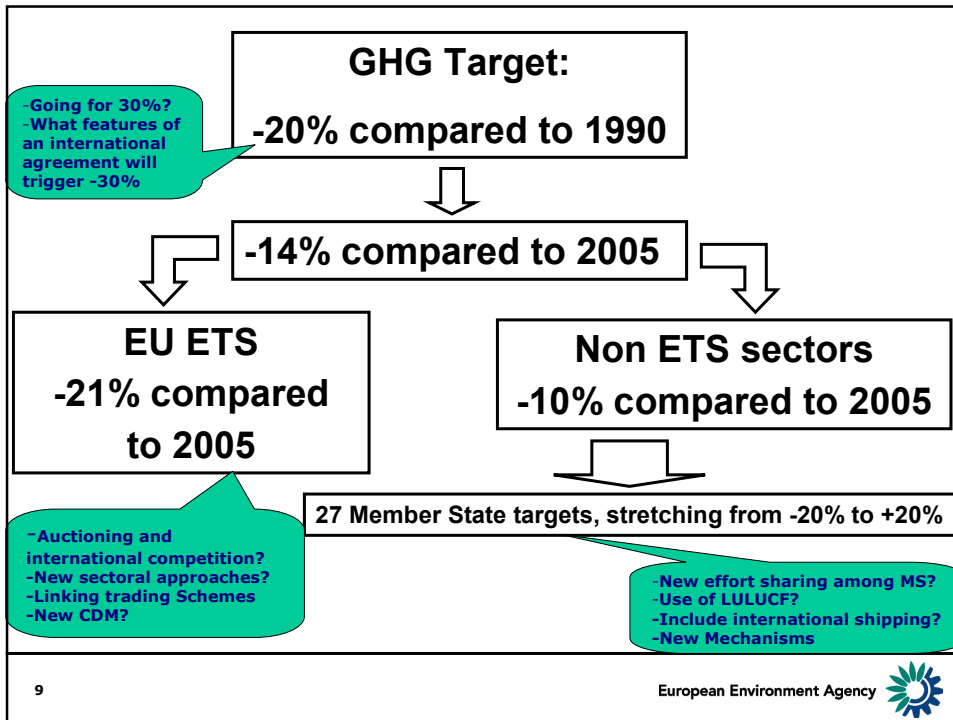


## How will the emission targets be met?



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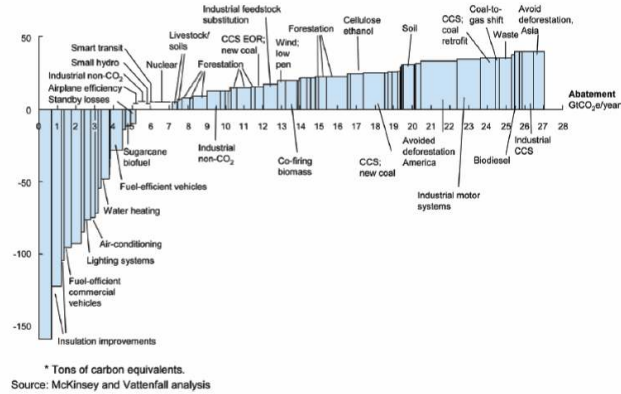


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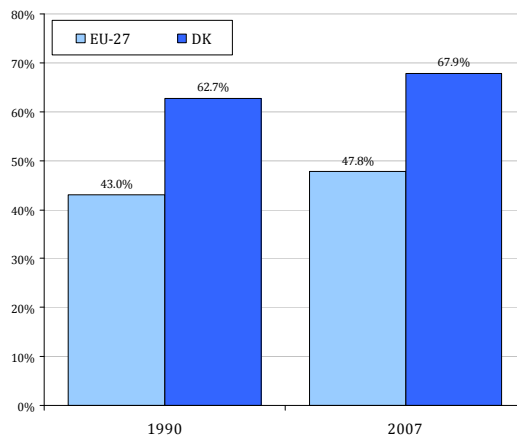
# Cost of emissions reductions

McKinsey Global Institute, 2008

THE COST CURVE PROVIDES A "MAP" OF ABATEMENT OPPORTUNITIES  
Cost of abatement, 2030, €/tCO<sub>2</sub>e\*

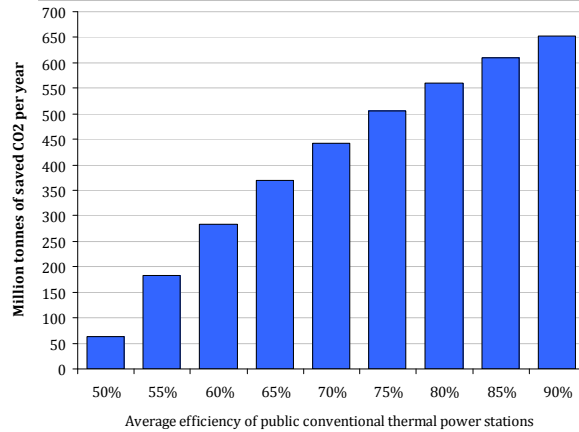


## Average transformation efficiency from public conventional thermal power stations and district heating plants

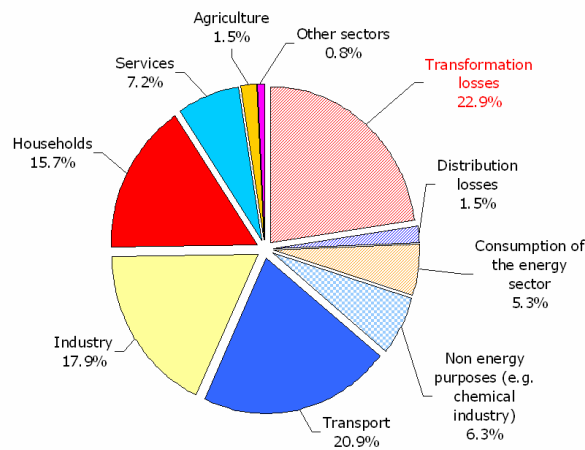


## Projected EU-27 annual CO2 emission savings assuming improved transformation efficiencies

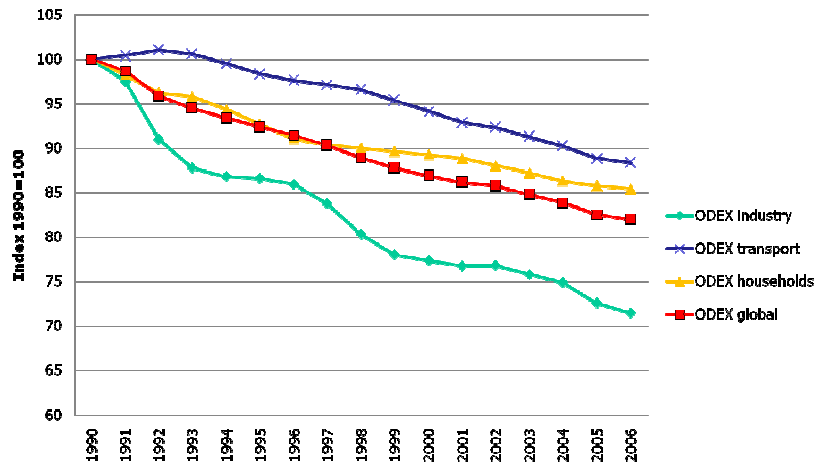
Current EU average efficiency of all conventional thermal power stations = 48.0%  
[Includes electricity-only, heat-only, and combined heat and power plants]



## Final consumption by sector and energy losses (% of primary energy consumption)



## ODEX energy efficiency index, EU-27



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Small efficiencies for households translate into huge savings for society

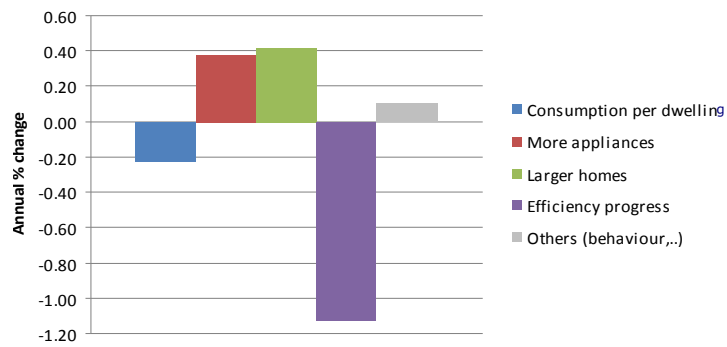


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## Improved efficiency is offset by changing behaviour



Microsoft Hohm - Windows Internet Explorer

http://www.microsoft-hohm.com/

File Edit View Favorites Tools Help

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Microsoft Hohm

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Microsoft Hohm beta

Bringing people together to save energy and money

Sign Up and start saving. It's free! ▶

Learn More...

Track and Plan Save and Share

You're the key to Hohm  
Be the first to conserve energy with Hohm and help us refine the recommendations during our U.S. beta.

**Savings Tips**

- Install and Program Your Thermostat
- Seal Your Home with Weather Stripping
- Replace the Filter in Your Furnace

**Latest News**


- Microsoft Hohm Interview
- Resolved: Load Times
- Hohm and Solar

**Tons of carbon saved**  
Leaving your car at home just 2 days a week can save 1,590 lbs. of greenhouse gas emissions each year!

**Lighting**  
Replacing a single 100-watt incandescent bulb with a 32-watt CFL can save \$30 in energy costs over the life of the bulb.

**Appliances**  
A refrigerator built in 1993 consumes twice as much energy as new models.

Internet 100%

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## Systemic change in the transport sector presents huge challenges and opportunities



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## Thank you for your attention!

Professor Jacqueline McGlade  
Executive Director  
European Environment Agency

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