



A European Strategy for Sustainable, Competitive and Secure Energy

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The Green Paper on Energy

- This was adopted by the Commission on 8 March 2006.
- As its title suggests, it has three “core principles”:
 - Sustainability
 - Competitiveness
 - Security (of supply)

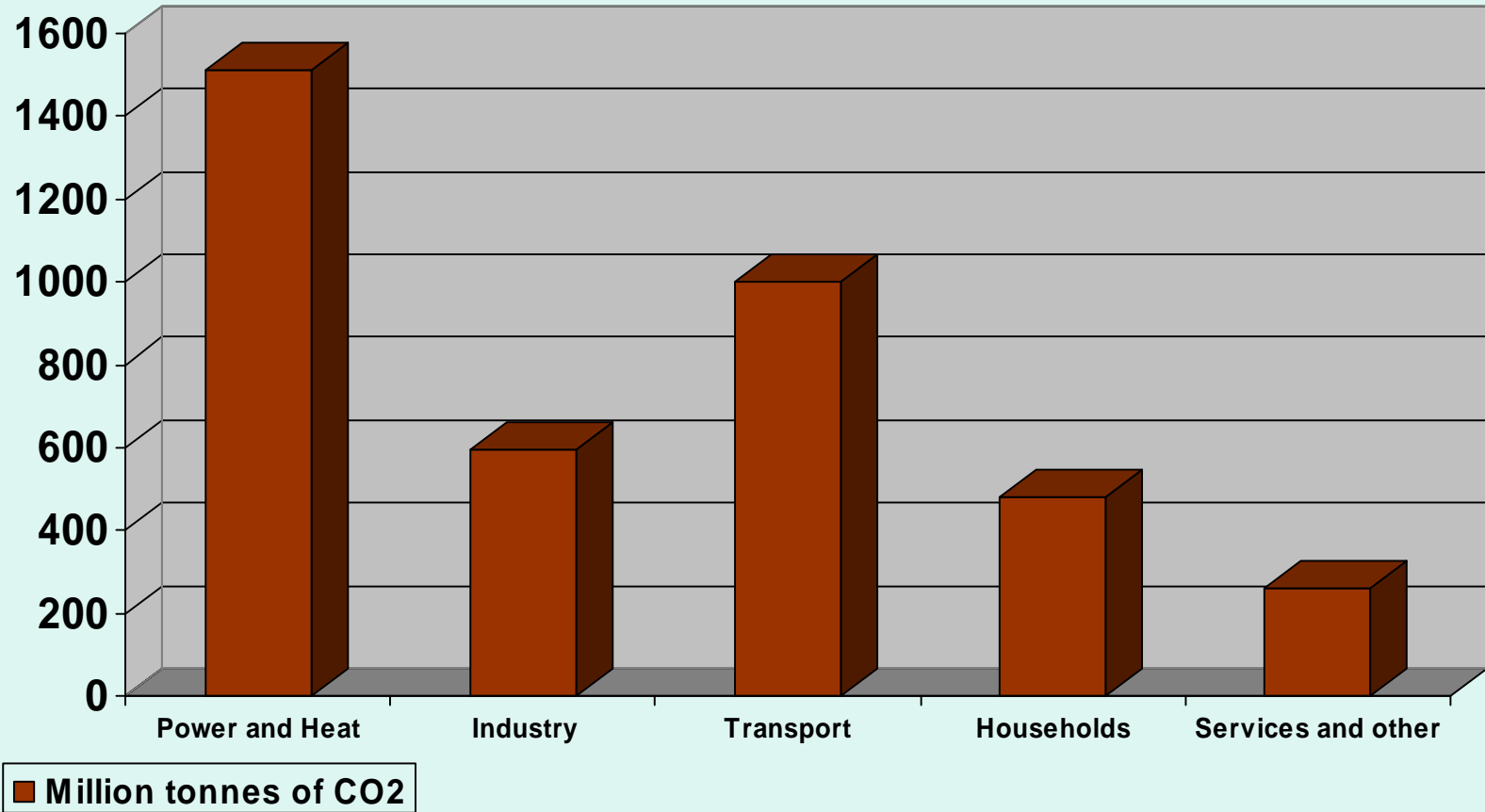


Sustainability

- The main environmental concern about energy at this moment is related to CO₂ emissions bringing about climate change
- There are two sectors in which CO₂ emissions are expected to grow considerably above 1990 in the future – transport and electricity production
- The presently planned “phase outs” of nuclear capacity in some Member States will only serve to exacerbate this problem. (In following graphic there is a declining nuclear share after 2010)



EU CO₂ emissions by sector



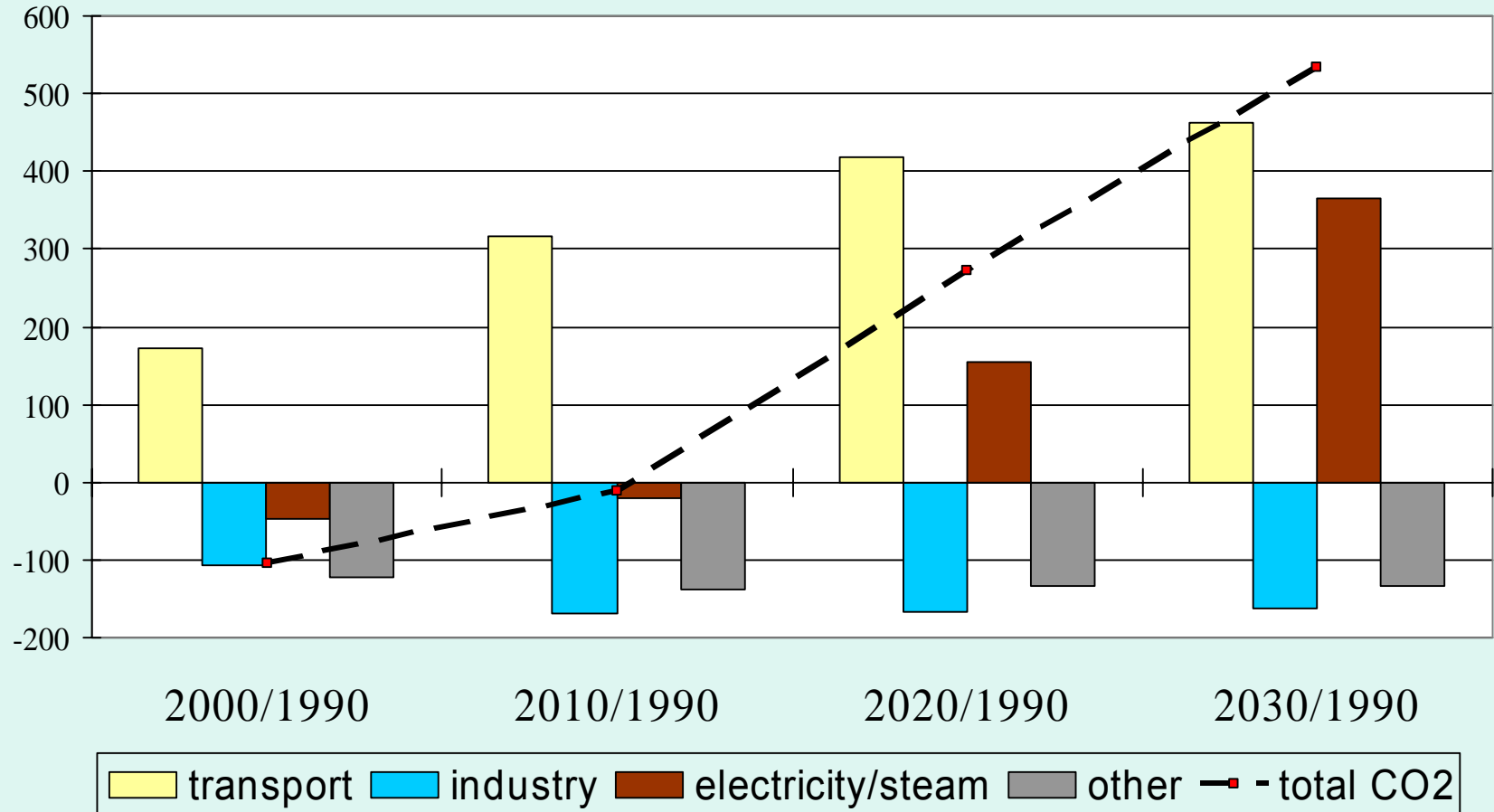
6 September 2006

FORUM, Berlin



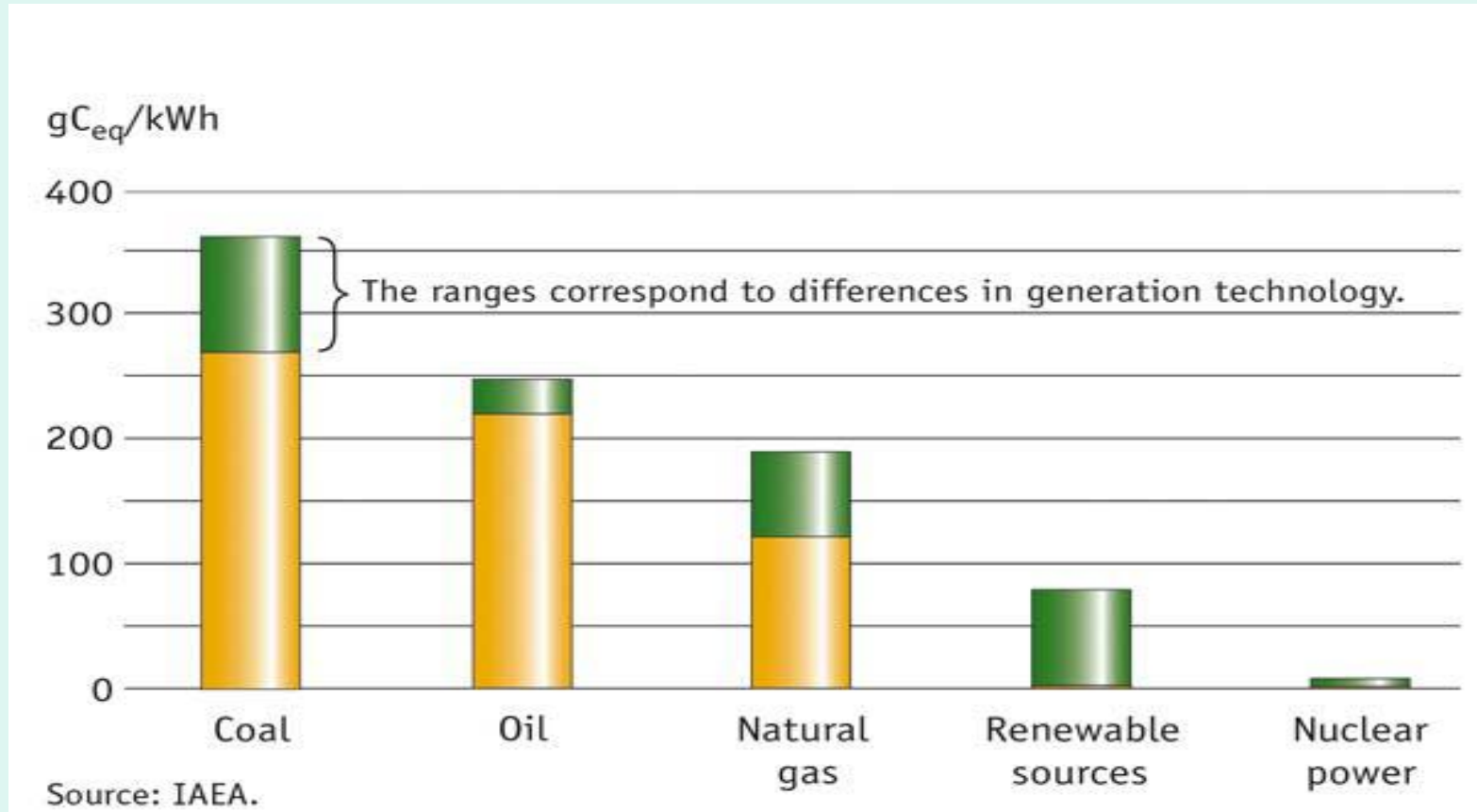
Changes in CO₂ emissions

(in millions of tonnes – relative to 1990)





Energy sources of CO₂



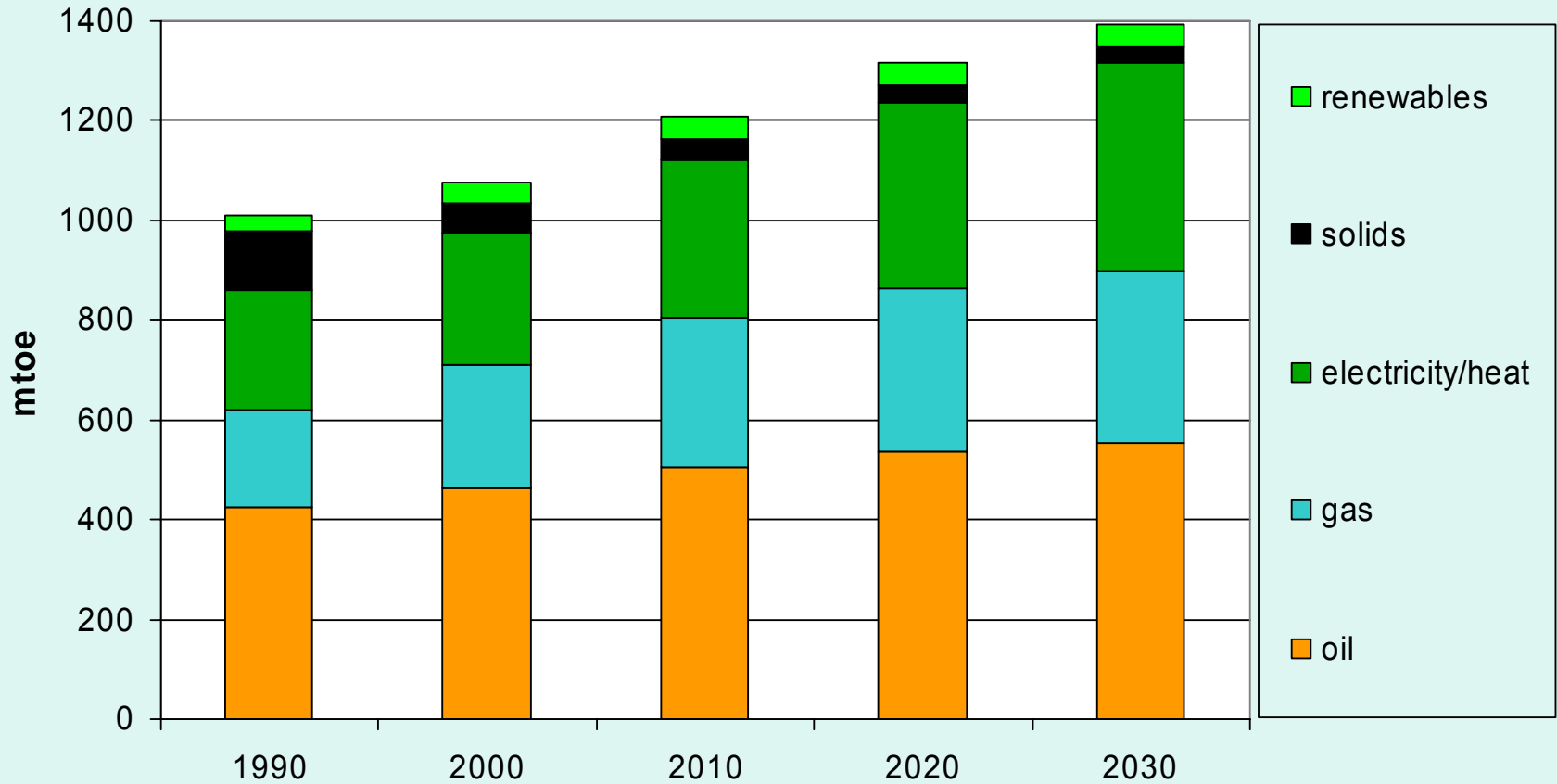


Competitiveness

- Competitiveness of the EU may well be strongly influenced by energy prices
- According to the IEA, liberalisation of energy markets delivers lower prices and improved security of supply.
- The EU is undertaking the liberalisation of its gas and electricity markets – but it is clear that while some benefits have been realised in terms of prices, the process is still far from complete
- However, energy prices are on the rise

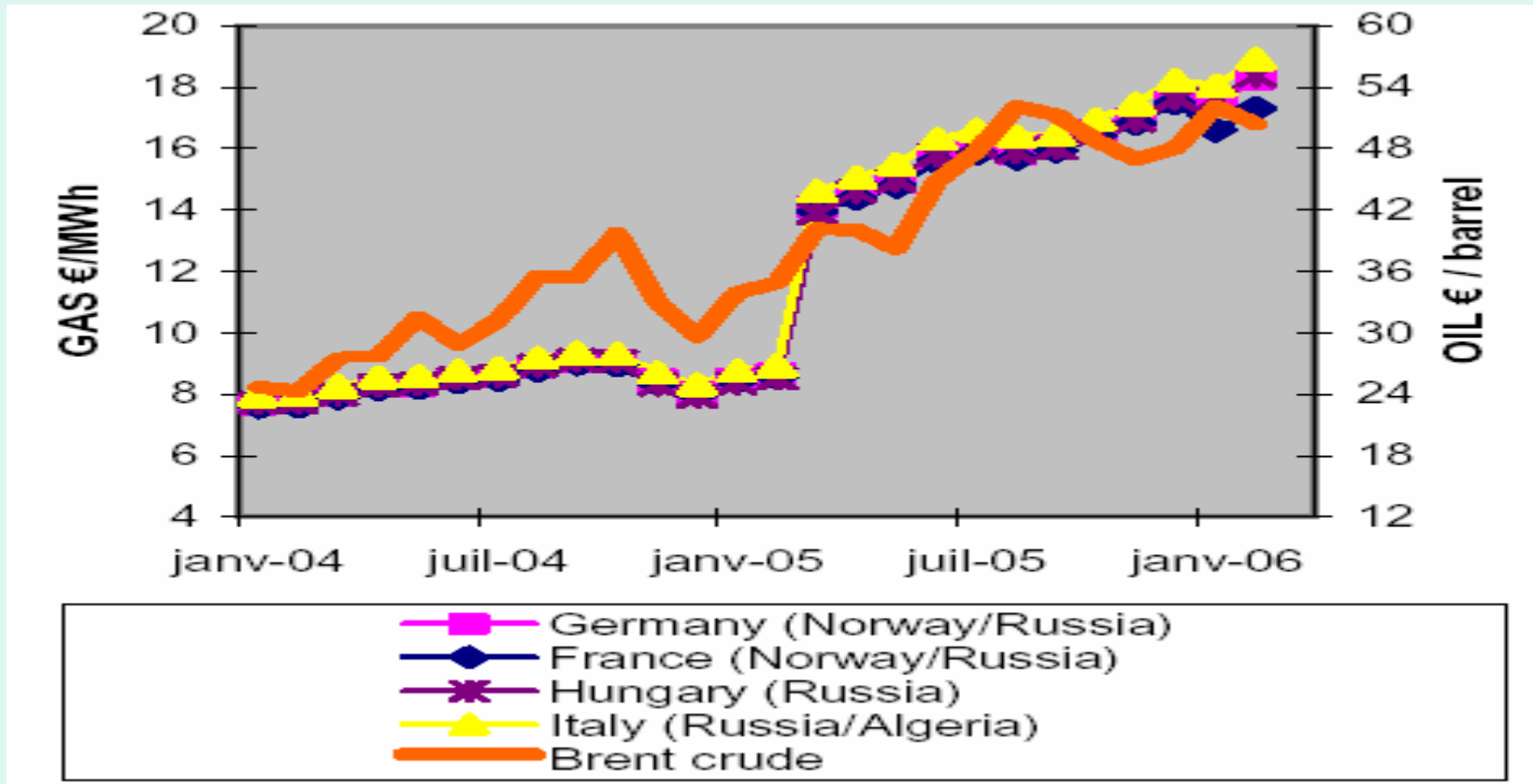


Final energy demand – by fuel



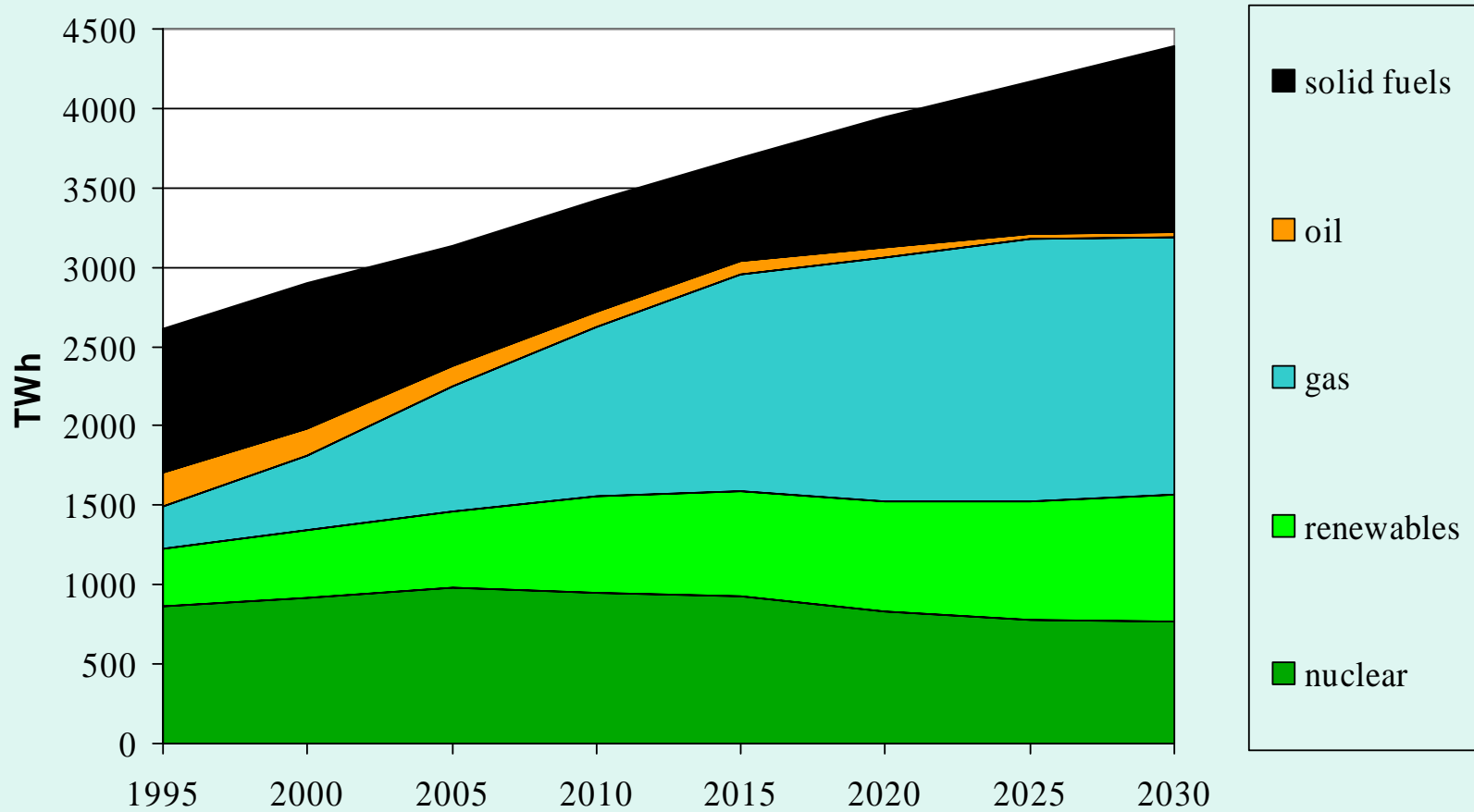


Border prices for oil and gas



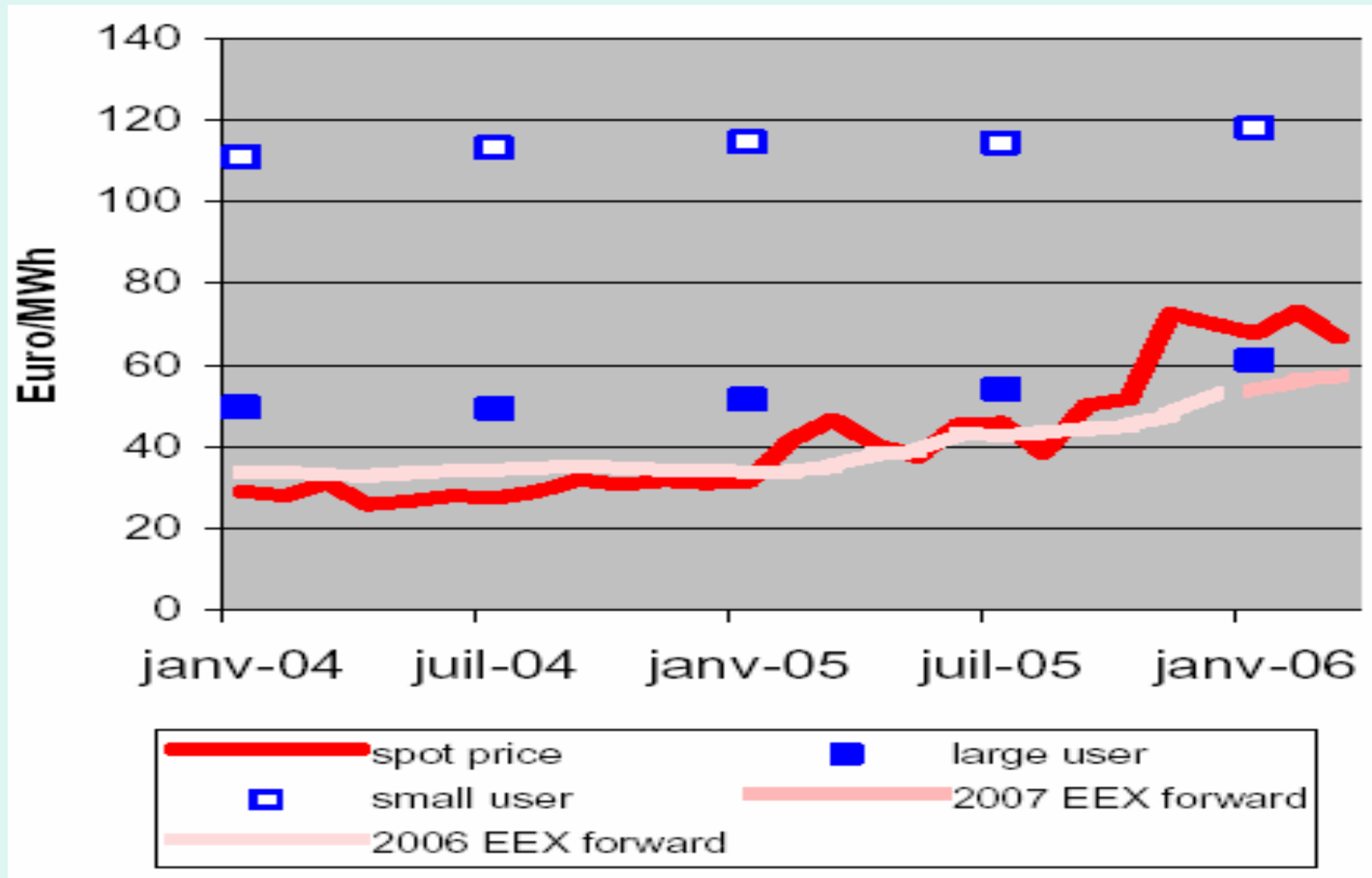


EU electricity generation - by source



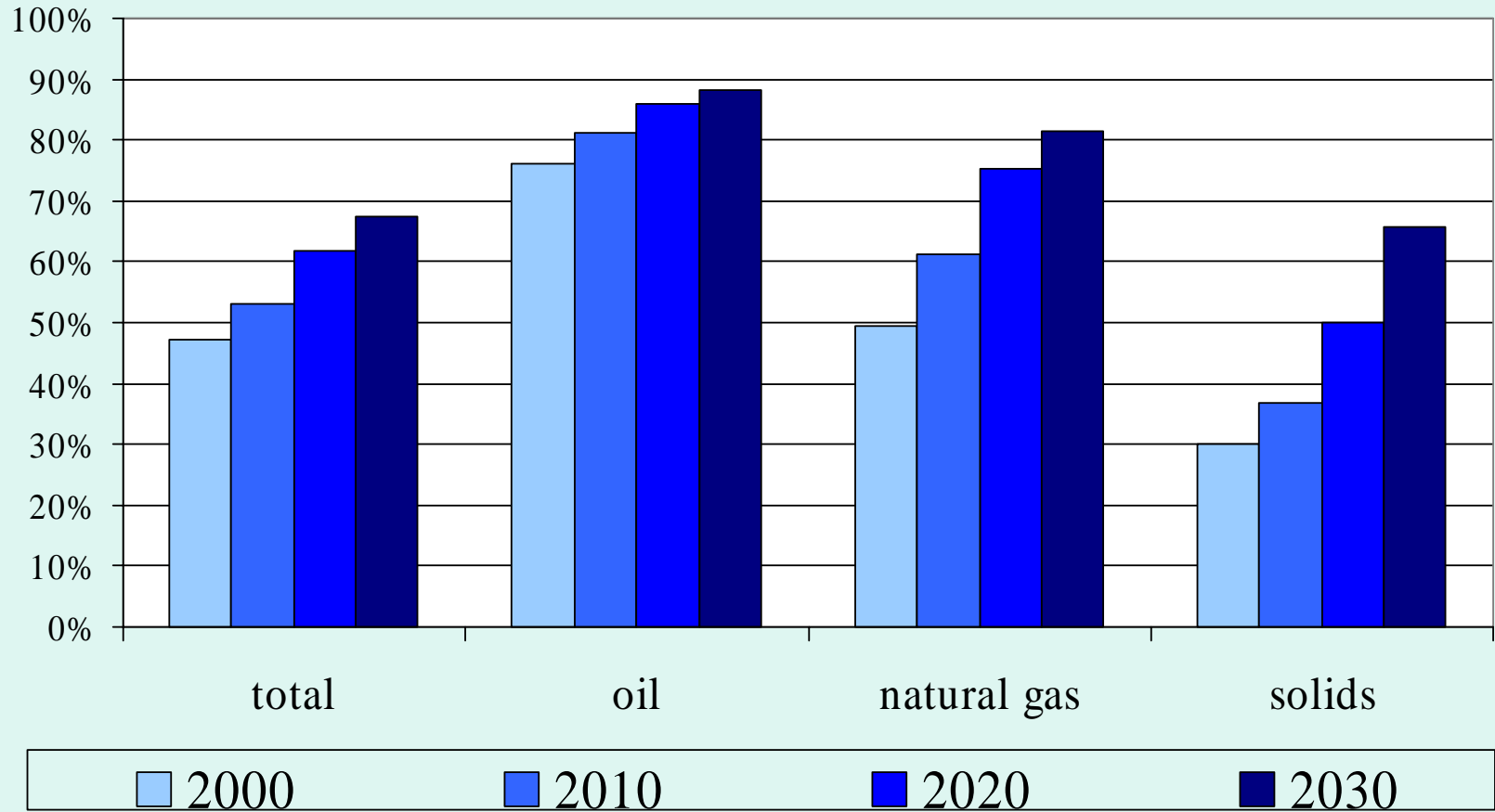


Wholesale and retail electricity prices in “Western Europe”





Import dependency of the EU





Origin of imports to EU

(in 2004)

- Main suppliers of oil

- Russia (31%)
- Norway (20%)
- Saudi Arabia* (13%)
- Libya (10%)
- Iran* (7%)

- (* Total Middle East
~22%)

- Main suppliers of gas

- Russia (33%)
- Norway (29%)
- Algeria (21%)
- Mainly LNG (12%)

- Main suppliers of coal

- South Africa (26%)
- Russia (16%)
- Australia (15%)
- Colombia (12%)



Green Paper

Six priority areas

- **Environment** → integrated approach to tackling climate change: energy efficiency, renewable & low carbon energy production
- **Internal market** → towards a fully competitive internal energy market
- **Energy mix** → diverse, efficient & sustainable
- **Internal energy supply policy** → solidarity among Member States
- **Energy technology & innovation** → strategic approach
- **External relations** → coherent external energy policy



Environment

– emission reduction

- We must reduce our CO₂ emissions
- We have signed up to the Kyoto protocol, but many Member States are having great difficulty achieving their targets.
- The Emission Trading Scheme (ETS):
 - Cover 10 000 installations across EU
 - is clearly having an impact
 - but is not without its problems
 - The upcoming review will be an opportunity to improve the scheme.



Environment – efficiency

- Decreasing our energy consumption whenever possible is an even better way to sustainability.
- In 2005, the Commission published a Green Paper focussed on energy efficiency.
 - proposed to aim for an additional 20% savings
 - this could lead by 2020 to an annual savings of primary energy of around 380 Mtoe
 - a net annual cost savings of more than 150 billion euros annually with current oil prices.
- Commission is in process of finalising an Action Plan on Energy Efficiency to achieve the 20%



Environment - renewables

- All public opinion surveys indicate that renewable energies are the most popular with the public
- But with the exception of large hydro plants have so far played a limited role in energy supply, mainly because of their costs
- High fossil fuel prices and technology improvements that could bring about cost decreases (especially for wind) could improve the competitiveness of some sources.
- Biofuels are one of the few options for replacing oil use in transport.
- Public consultation on promotion of heating and cooling from renewable energies – closes on 6 October 2006



Completing the Internal Market

- Sustainable, competitive and secure energy needs **open and competitive energy markets**
- Need competition between companies looking to become **European-wide competitors** - not dominant national players.
 - Open markets, not protectionism, will strengthen Europe.
- A truly competitive single European electricity and gas market would
 - **bring down prices,**
 - **improve security of supply** and
 - **boost competitiveness.**
- It could also help the environment, as companies react to competition by **closing energy inefficient plant.**



Unfortunately

While much has been done to create a competitive market, work is not yet complete because:

- many markets remain **largely national**, and dominated by a few companies.
- **many differences** remain between Member States' including:
 - the extent of powers given to independent regulators,
 - level of independence of network operators from competitive activities,
 - grid rules,
 - balancing and
 - gas storage regimes



In brief, the main problem is...

- ***Lack of integration between national markets***
- Key indicators of this are:
 - the absence of price convergence across the EU; and
 - the low level of cross-border trade.

This is generally due to:

- the existence of ***barriers to entry***,
- inadequate use of existing infrastructure and
- (in the case of electricity) ***insufficient interconnection*** between many Member States, leading to congestion.



Core areas for attention

- A European Grid
- A priority interconnection plan
 - Minimum of 10% of electricity capacity
- Investment in generating capacity
 - Maybe 500 GWe of new capacity by 2030 ... or more!
- A level playing field – unbundling
- Boosting the competitiveness of European industry
 - The High-Level Group on Energy, Environment and Competitiveness



Energy Mix

- Each Member State and energy company chooses its own energy mix. However, choices made by one Member State inevitably have an impact on the energy security of its neighbours and of the Community as a whole, as well as on competitiveness and the environment. For example:
 - decisions to rely largely or wholly on ***natural gas for power generation*** in any given Member State have significant effects on the security of supply of its neighbours in the event of a gas shortage;
 - decisions by Member States relating to ***nuclear energy*** can also have very significant consequences on other Member States in terms of the EU's dependence on imported fossil fuels and CO₂ emissions.



A possible strategic objective

- It might be appropriate to **agree an overall strategic objective for the EU**, balancing the goals of sustainable energy use, competitiveness and security of supply.
- For example, **an objective might be to aim for a minimum level of the overall EU energy mix originating from secure and low-carbon energy sources.**
- This objective should:
 - reflect the potential risks of import dependency,
 - identify an overall aspiration for the long term development of low carbon energy sources and
 - permit the identification of the essentially internal measures necessary to achieve these goals.



Energy mix and coal

- Coal and lignite, for example, presently account for around one-third of the EU's electricity production: climate change means that this is only sustainable if accompanied by clean coal technologies and commercialised carbon capture and storage.
- A forthcoming Communication on “Sustainable Coal” will look at possible targets for achieving near-zero carbon emission electricity generation.



Energy mix and Nuclear

- Nuclear power, at present, contributes roughly one-third of the EU's electricity production and, whilst careful attention needs to be given to the issues of nuclear waste and safety, represents at present the largest source of largely carbon free energy in Europe.
- The Strategic Energy Review should allow a transparent and objective debate on the **future role of nuclear energy in the EU**, for those Member States concerned.
- The EU can play a useful role in ensuring that all costs, advantages and drawbacks of nuclear power are identified for a well-informed, objective and transparent debate
- A new draft “Illustrative Nuclear Programme” should be adopted by the Commission around the end of the year.



Green Paper – Follow-up

- In January 2007 the European Commission plans to adopt an "***Energy Package***"
- This will contain a number of Reports, Communications and proposals for Legislation covering a range of energies – together with a Strategic Energy Review.
- These will be discussed under the German Presidency – which will have the task of achieving wide support for the Commission's many proposals and for an Action Plan on energy.
- But first, we must complete the **public consultation** on the present Green Paper – for those who have not already reacted, the ***closing date is very soon!***



Concluding remarks

- Energy issues have shot up the political energy
- Partly driven by rapidly increasing concerns over security of our supplies
 - especially our imports (including competition resulting from impressive economic growth in China and India)
- Partly by recognition that climate change is already happening
- Partly by concerns over the competitiveness of European industry
 - and the problems the loss of that competitiveness will cause both in Europe and globally.....
- The “Great Energy Debate” has been launched ...but action **MUST** follow quicklyand we must **ALL** play our part.