

Directorate-General
for Energy
and Transport



EUROPEAN
COMMISSION

From an energy policy for Europe to a common energy policy and towards a post-Kyoto regime

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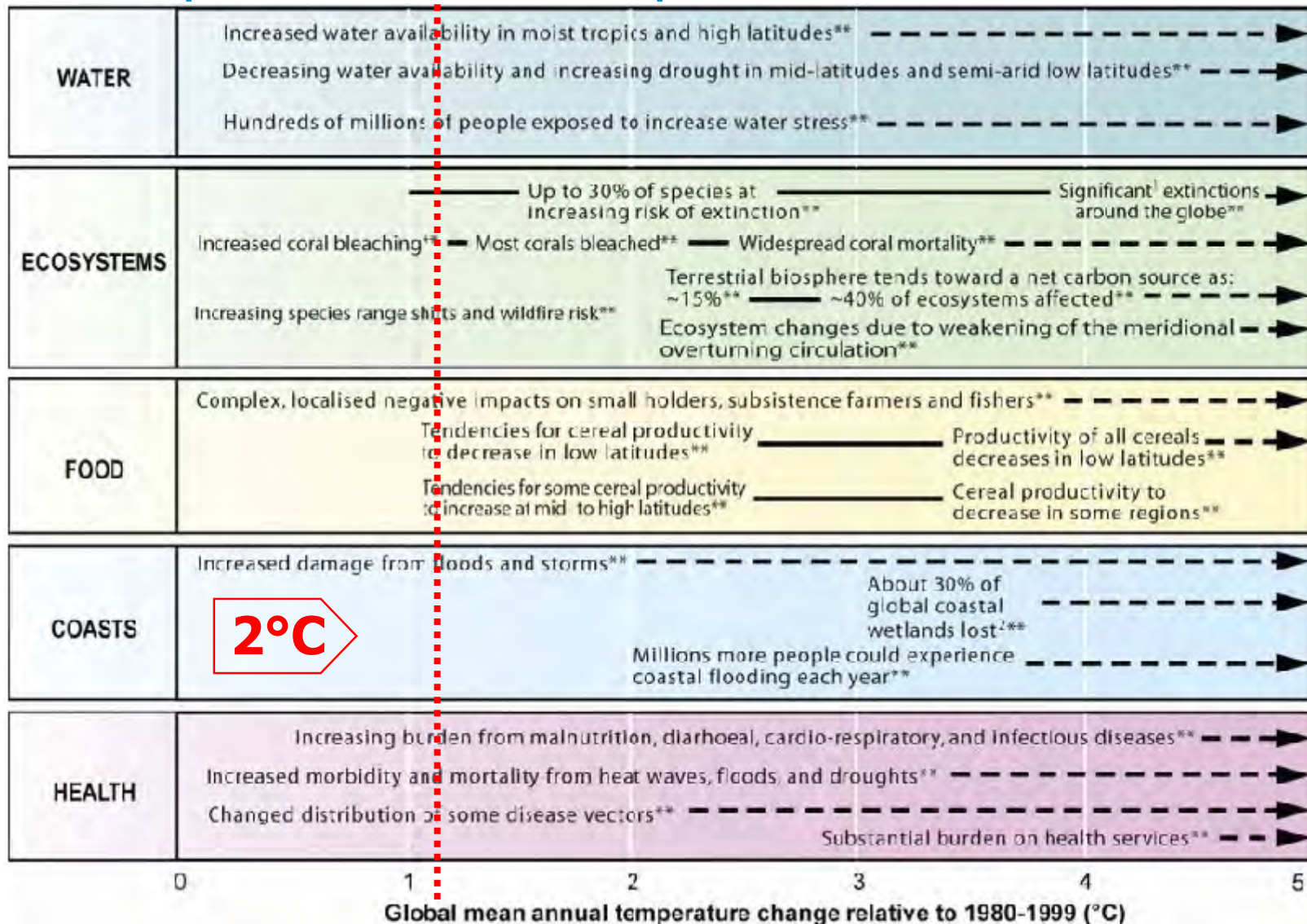


Outline:

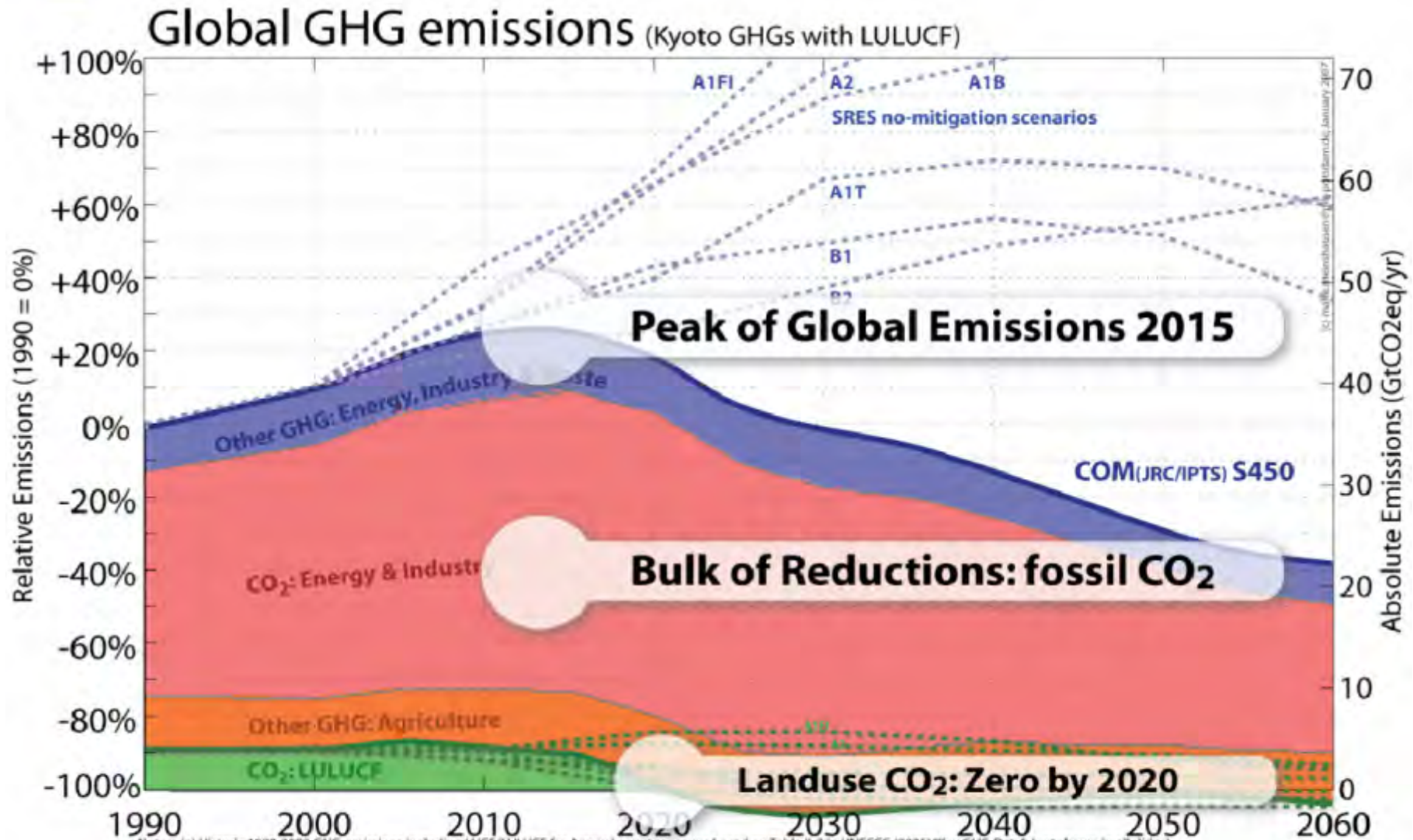
- The climate imperative and what it means for energy systems
- Europe's First Strategic Energy Review
- What this climate-oriented strategy means for energy security
- Europe's Second Strategic Energy Review
- Looking forward to 2050



Broad consensus, EU goal – stay within 2°C of pre-industrial temperatures



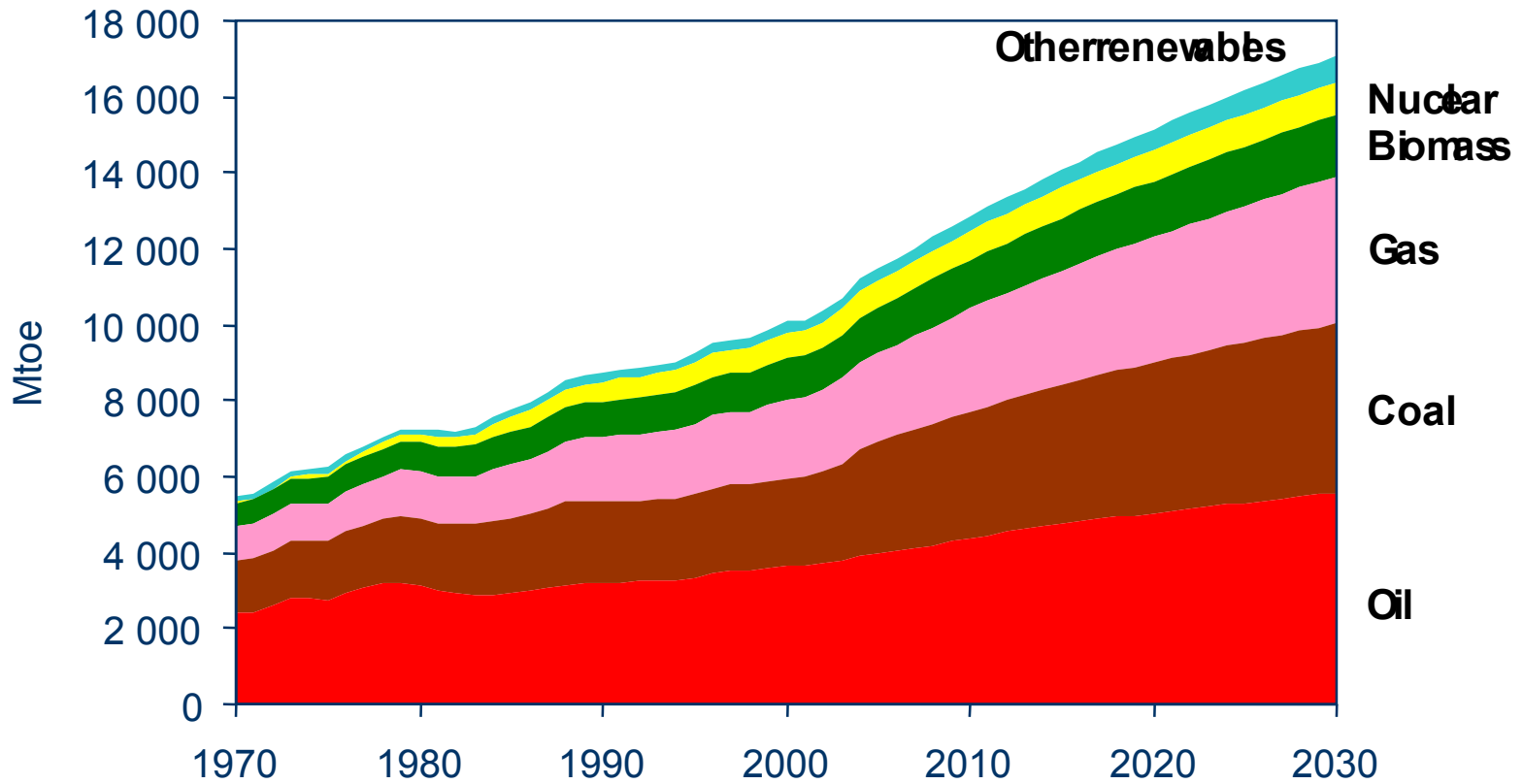
For a 50% chance of staying within 2°C



Notes: (a) Historic 1990-2003 GHG emissions including LULUCF/LULUCF for Annex I country groups based on Table II-7 in UNFCCC (2005) "Key GHG Data": (not shown in all slides)
 (b) Shown are various multi-gas FAIR-SIMCaP (den Elzen & Meinshausen, 2006) and EQW pathways (Meinshausen et al. 2006) relative to 1990 for peaking at approximately 500 ppm and stabilizing at 450ppm CO₂eq (grey pathways) and peaking at 475 with subsequent stabilization at 400ppm CO₂eq (green pathways).
 (c) Shown are as well SRES scenarios (Nakicenovic and Swart, 2000), emission pathways used in the STERN review (2006), and the scenario presented by EU Commission COM(2007)2, Fig11, 10th January 2007.
 (d) The here shown pathways comprise the SRES country groups OECD90 and REF (Economies in Transition). Note that the absolute GHG emission data is (~15%) higher compared to absolute Annex I emissions reported to the UNFCCC, partially due to non-reported sources, as landuse related emissions, and slight differences in countries (Turkey, some REF).
 (e) The probabilities are given to stay below 2°C global-mean warming relative to preindustrial levels, assuming an IPCC consistent climate sensitivity pdf



Business-as-usual - not sustainable



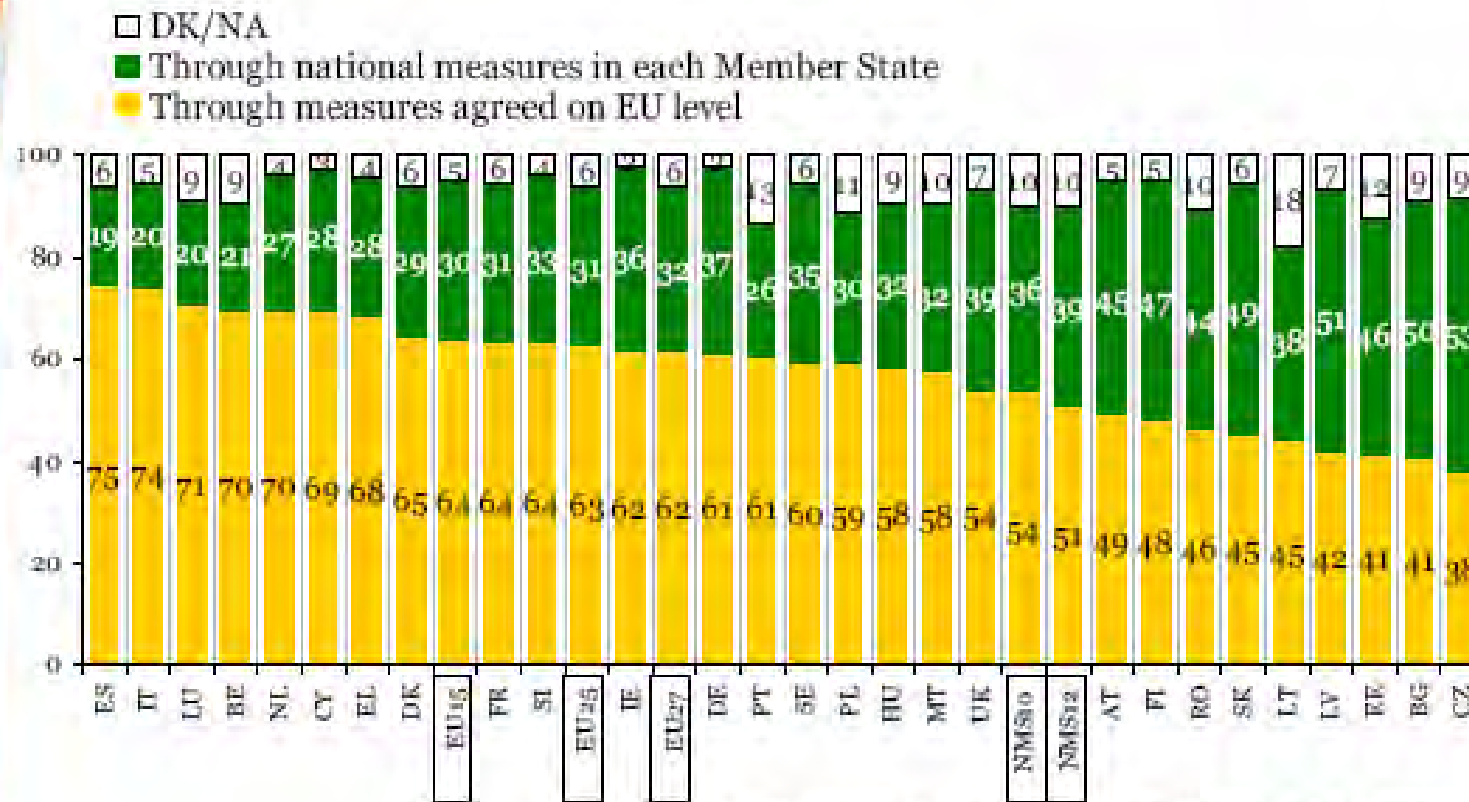
● The climate challenge implies a transition to a high-efficiency, low-carbon energy system

- 65% of global greenhouse gas emissions are **energy-related**:
 - - from **power production** (24%)
 - - from **energy use** in transport (14%), industry (14%), heating, cooling and appliance use in buildings (8%)
 - - other (5%)
- Non-energy emissions:
 - deforestation and other land-use changes (18%),
 - agriculture (14%)
 - waste (3%)



The best way to tackle energy-related issues

Flash Eurobarometer 206a – The Gallup Organization, Hungary



Q8. What do you think is the best way to tackle energy-related issues?
 %; Base: all respondents, by country

● **Europe's strategy and leadership role:
1st Strategic Energy Review : 20-20-20 by 2020**

20% reduction in greenhouse gas emissions,
compared to 1990

Emissions capping and trading – **credible carbon price; demand for emissions reductions in developing countries**

Equivalent measures in other sectors

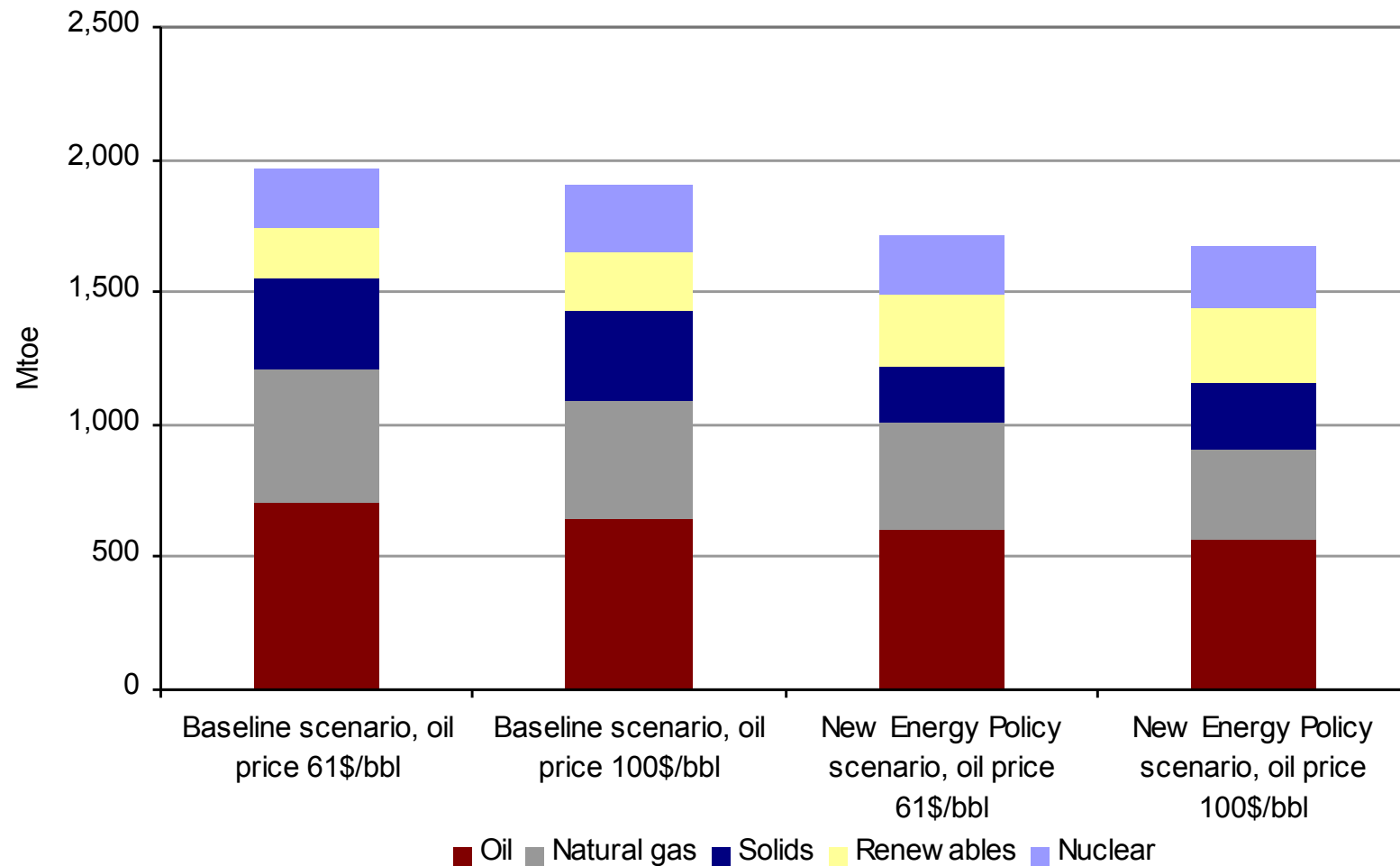
20% renewable energy in energy consumption – EU target, binding national targets derived

Includes 10% biofuels in road transport fuel - binding minimum national target – contingent on sustainability

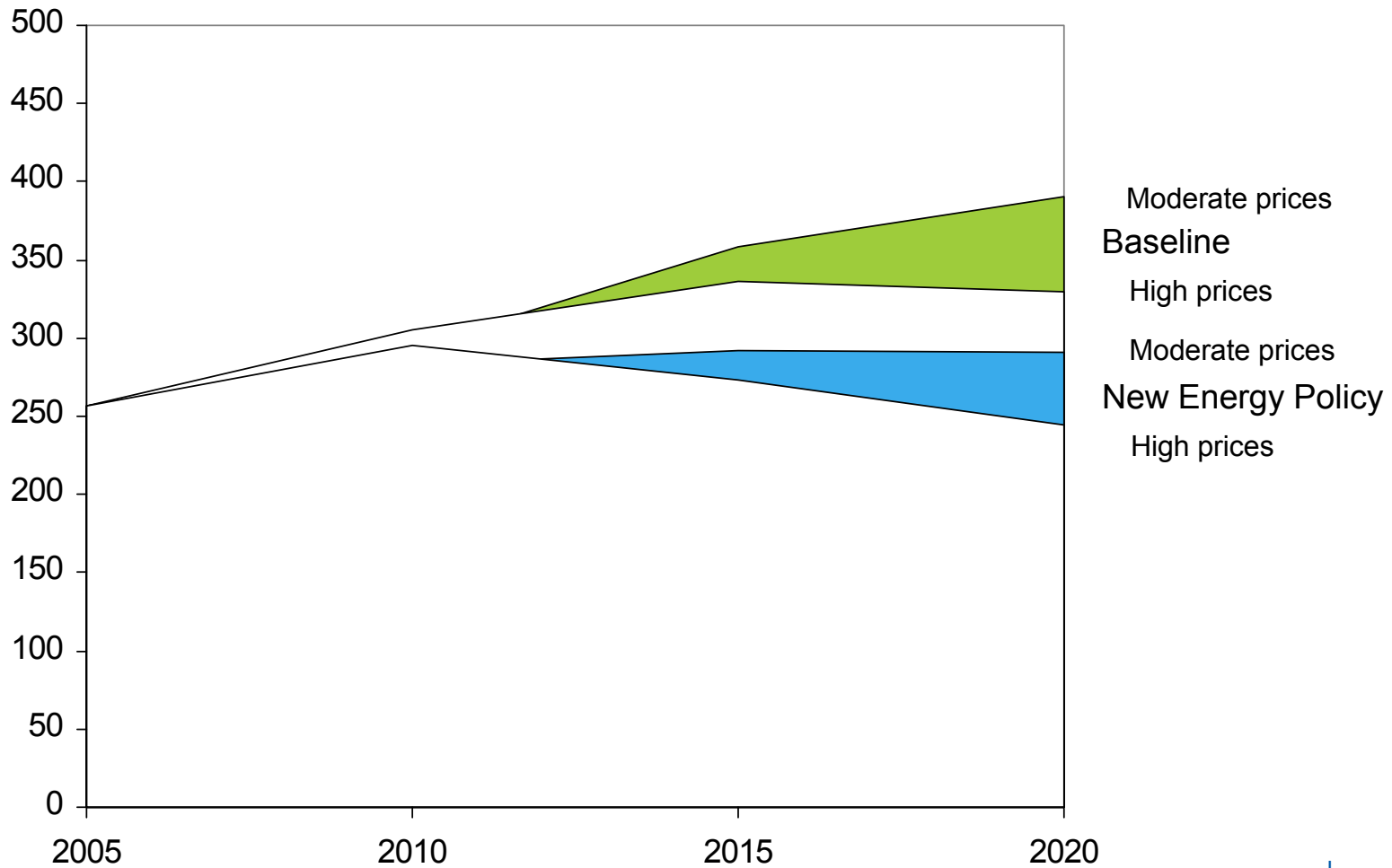
20% energy consumption to be saved, compared to baseline projections – throughout economy



Implications of 20-20-20 by 2020 – EU energy mix (primary, Mtoe)



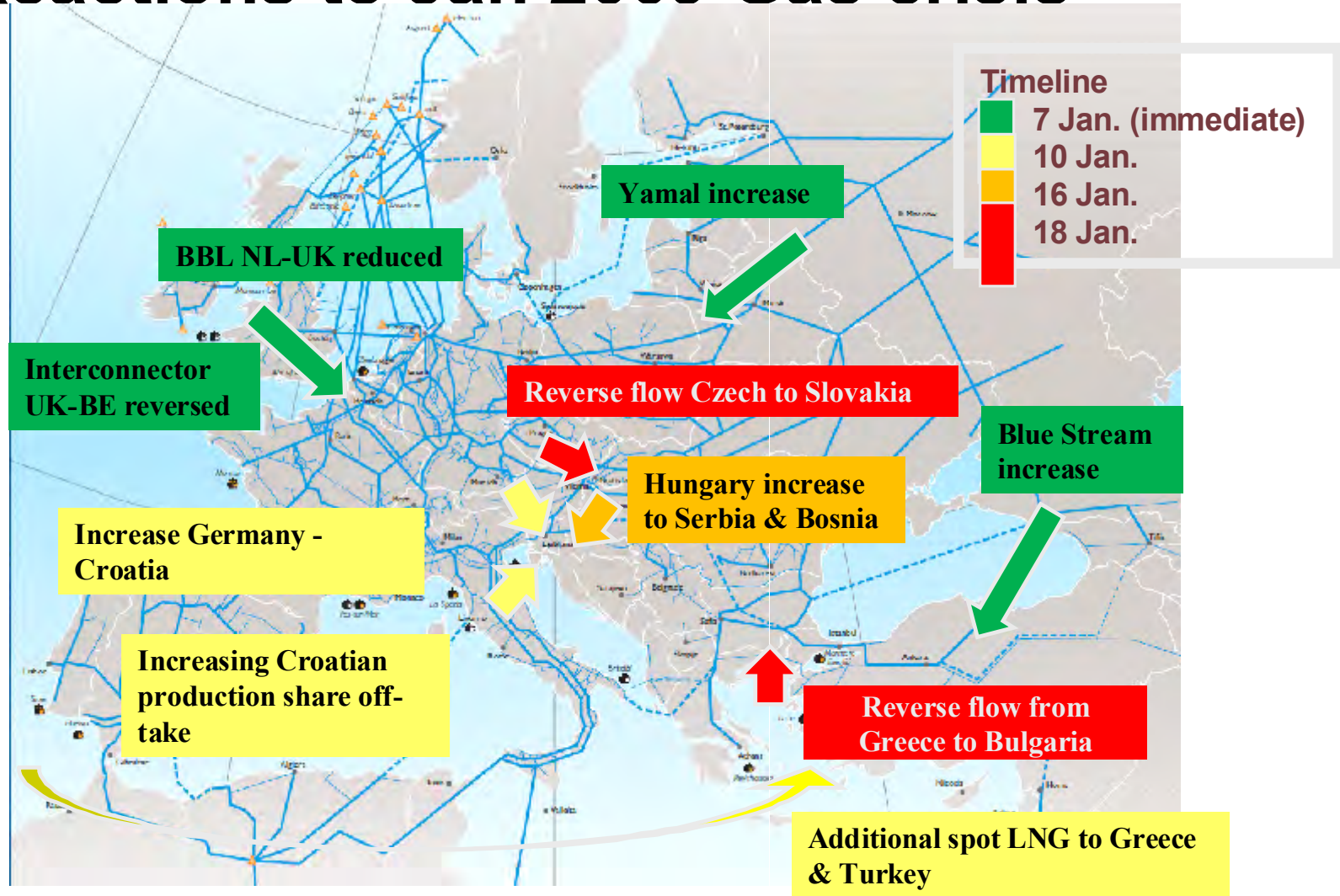
Implications of 20-20-20 by 2020 – EU gas imports (net, Mtoe)



● Climate protection and energy security can go together

- New energy policy will lead in long run to a more diversified energy mix
- In short and medium term, fossil fuel imports likely to still be high (EU production decreases faster than EU demand)
- A well-functioning internal energy market with good infrastructures allowing diversity of energy mix and supplies and demand response is the best guarantee of energy security
- Strong EU voice in external relations needed

Reactions to Jan 2009 Gas crisis



2nd Strategic Energy Review:

EU ENERGY SECURITY AND SOLIDARITY ACTION PLAN

Infrastructures

*Development of
internal energy market*

Crisis prevention and response mechanisms

New impetus on energy efficiency

Best use of own energy and
technology resources

Energy policy roadmap to 2050

External relations

● Infrastructures:

- **Crucial in enabling** market development, innovation, diverse supplies, demand response
- **Internal energy market 3rd package** – clearer roles and incentives for investments in infrastructures
- **European dimension** increasingly important – cross-border trade, long-distance transport of diverse sources (eg offshore wind, solar, gas)



- **Energy security priorities:** Baltic Interconnection Plan, Southern gas corridor, Liquefied natural gas, Mediterranean energy ring, North-South interconnections within Central and South-East Europe, North Sea offshore grid
- Widely-shared benefits - public good - funding

North Sea offshore grid

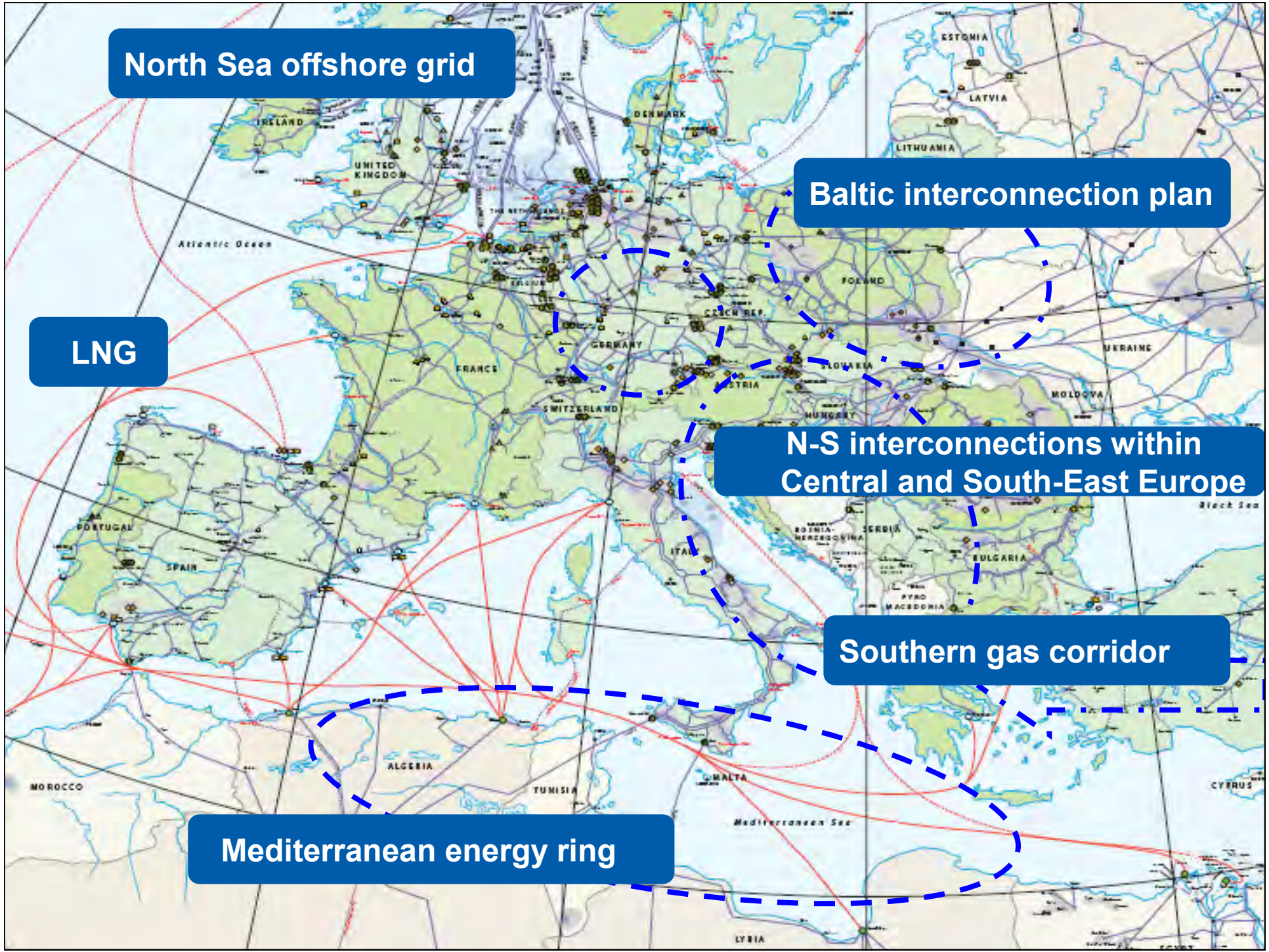
Baltic interconnection plan

LNG

N-S interconnections within Central and South-East Europe

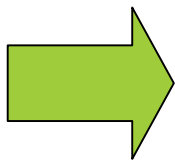
Southern gas corridor

Mediterranean energy ring



- Crisis prevention and response mechanisms – lessons from the January 2009 gas crisis

- **Internal gas market response**, limited by infrastructures, delays in establishing technical and commercial arrangements, inadequate data transparency – need standards
- **Emergency plans of MS** – not in all MS, some incoherencies, little coordination
- **Community action** – Gas Coordination Group, monitoring mission, single voice



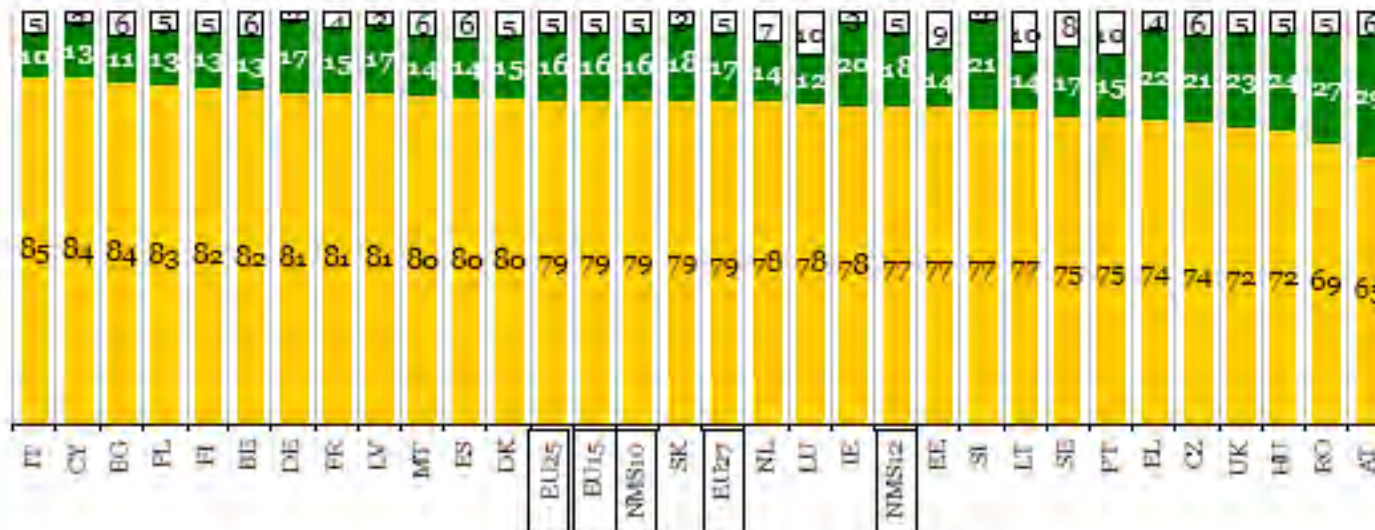
Accelerated revision of gas SoS Directive



In case of sudden shortage of gas or oil

Flash Eurobarometer 206a – The Gallup Organization, Hungary

- DK/NA
- the affected Member State has to rely on its own reserves only, or
- the affected Member State should be able to rely on the reserves of other EU Member States as well



Q12. In case there is a sudden shortage of gas or oil in an EU Member State, what would you personally favour?
 %, Base: all respondents, by country



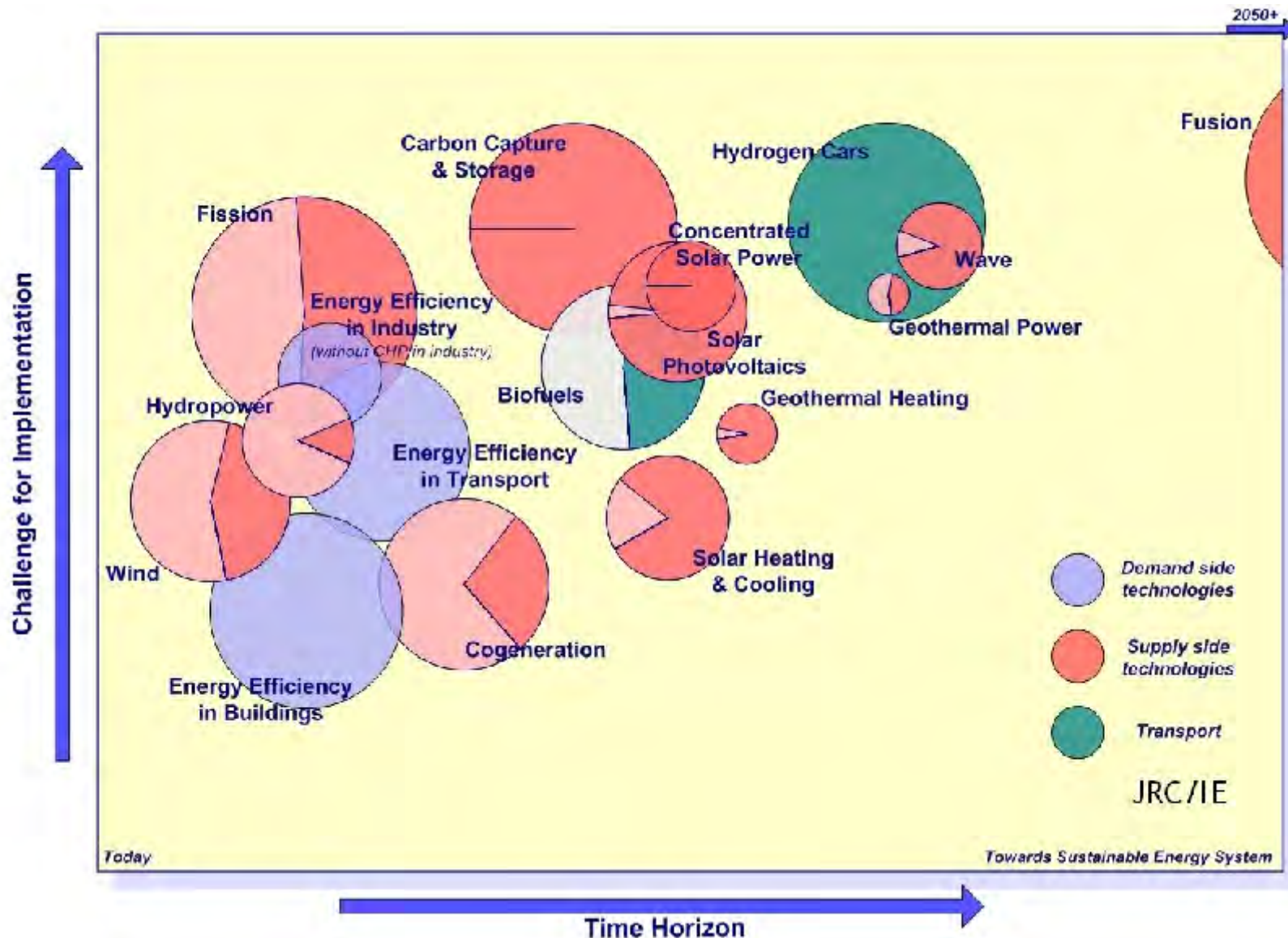
● Energy efficiency – new impetus

- throughout the energy system, in transport, buildings, products, industry, power generation and networks ..
- need mass market take-up of energy efficient solutions – information, incentives, organisations ..
- cities and citizens – covenant of mayors – smart cities
- international cooperation – very big potential

● Energy, technology resources – best use

- Renewables
- Carbon price
- Coal - long-term use requires highly-efficient plants and CCS
- Low Carbon Technologies - SET Plan
- Community framework for nuclear safety
- Offshore wind, CCS - European Recovery Plan support

Strategic Energy Technology Plan



● External energy relations:

- Global cooperation on climate, energy efficiency, nuclear safety – **crucial for all - Copenhagen**
- Growing global energy interdependence - all can gain from cooperation and predictable, robust legal frameworks – G20 in Pittsburgh
- Neighbours - European Economic Area, Energy Community, European Neighbourhood Policy, Eastern Partnership
- Stronger external relations through single EU message

● Developing energy policy to take us beyond 2020 to 2050:

- 2020 agenda set out **first steps** in transition to high-efficiency, low-carbon energy systems
- Infrastructure developments, structural changes, technological shifts require choices and **action today**
- **Global climate agreement** of fundamental importance – Copenhagen 2009
- **Roadmap** towards a 2050 Energy Policy to be prepared

Securing our Energy Future



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http://ec.europa.eu/energy/strategies/2008/2008_11_ser2_en.htm