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EUROPEAN STRATEGIC ENERGY TECHNOLOGY PLAN (SET-Plan)

European Commission
DG Energy and Transport
Iñigo SABATER





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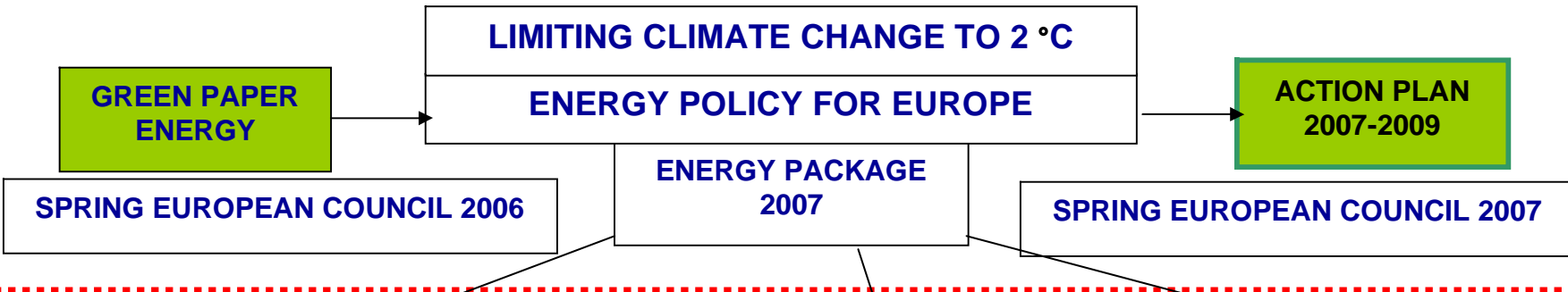
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III. Work for 2007



ENERGY FOR A CHANGING WORLD



SUSTAINABILITY AND LOW-CARBON ECONOMY

RENEWABLE ENERGY ROAD MAP

PROGRESS REPORT BIOFUELS

PROGRESS REPORT RES ELECTRICITY

ENERGY EFFICIENCY ACTION PLAN (19 OCT 2006)

SUSTAINABLE FOSSIL FUEL TECHNOLOGIES

ILLUSTRATIVE NUCLEAR PROGRAMME (PINC)

INTERNAL MARKET

DG COMP SECTOR INQUIRY

REPORT ON FUNCTIONING OF INTERNAL MARKET

PRIORITY INTERCONNECTION PLAN

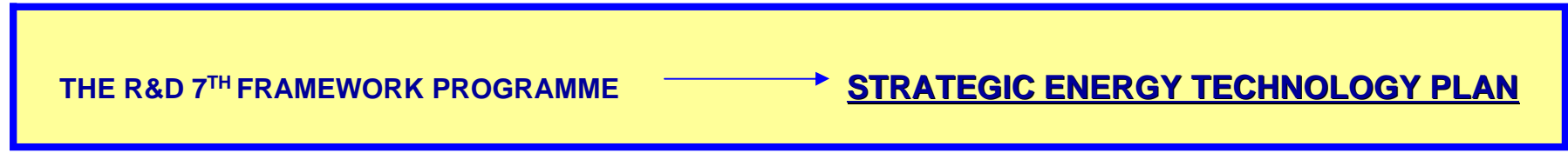
EXTERNAL RELATIONS

JOINT COMMISSION/ HR /COUNCIL JUNE PAPER AND COM PAPER OCT 2006

NEGOTIATION MANDATE FOR NEW AGREEMENT WITH RUSSIA

DIALOGUE WITH PRODUCERS: OPEC-NORWAY-GCC-ALGERIA-CASPIAN BASIN (BAKU PROCESS)

DIALOGUE WITH CONSUMERS: CHINA, US, INDIA, JAPAN





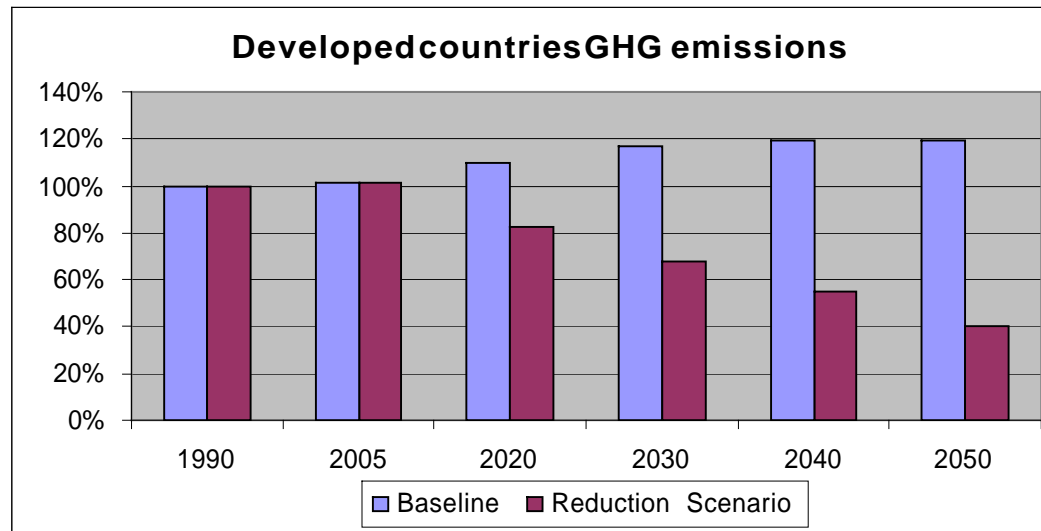
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LIMITING GLOBAL CLIMATE CHANGE TO 2°C



- ***A unilateral EU independent*** commitment of at least 20% GHG emission reduction by 2020, compared to 1990 levels
- ***Developed countries & EU:*** 30% GHG emission reduction target by 2020, compared to 1990 levels, 60-80% by 2050





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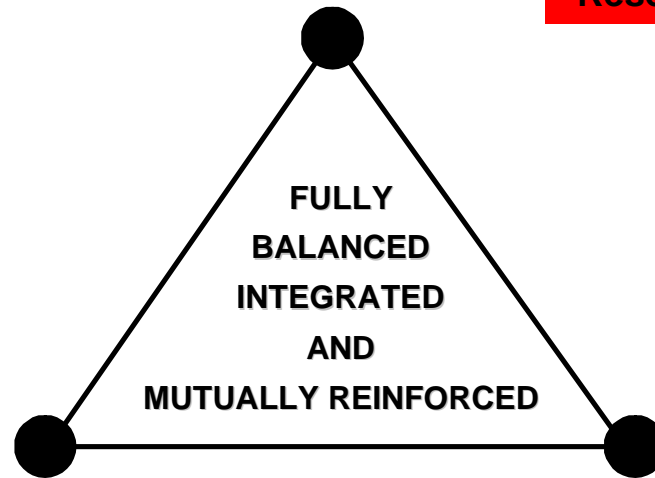
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THE THREE CHALLENGES



Competitiveness "LISBON"

- Internal Market
- Interconnections (Trans-European networks)
- European electricity and gas network
- Research and innovation



Sustainable Development "KYOTO"

- Renewable energy
- Energy efficiency
- Nuclear
- Research and innovation
- Emission trading

Security of supply „MOSCOW“

- International Dialogue
- European stock management (oil/gas)
- Refining capacity and energy storage
- Diversification





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2. SUSTAINABLE DEVELOPMENT

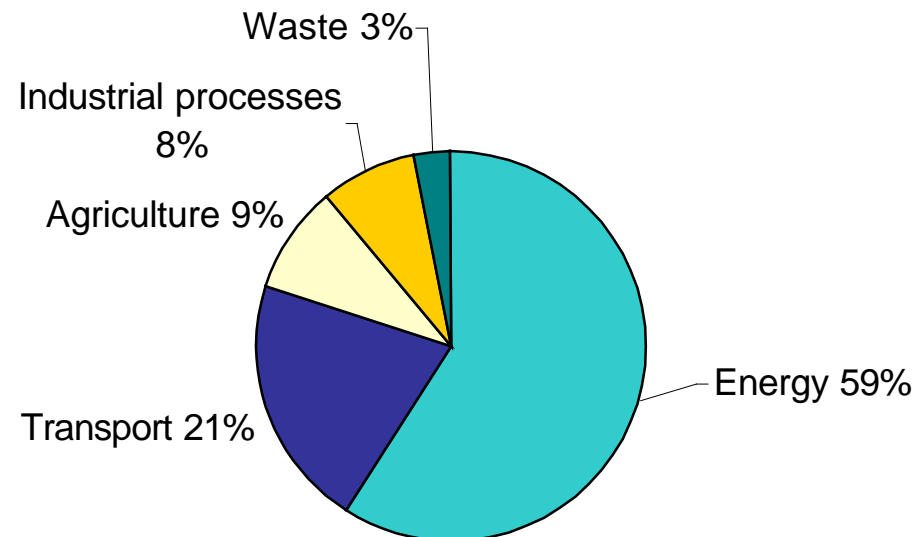


(1/2)

Energy => 80% of EU-GHG

Energy => 93% of EU CO2 emissions

75% of GHG are CO2 emissions



Source: European Environmental Agency Report 2006





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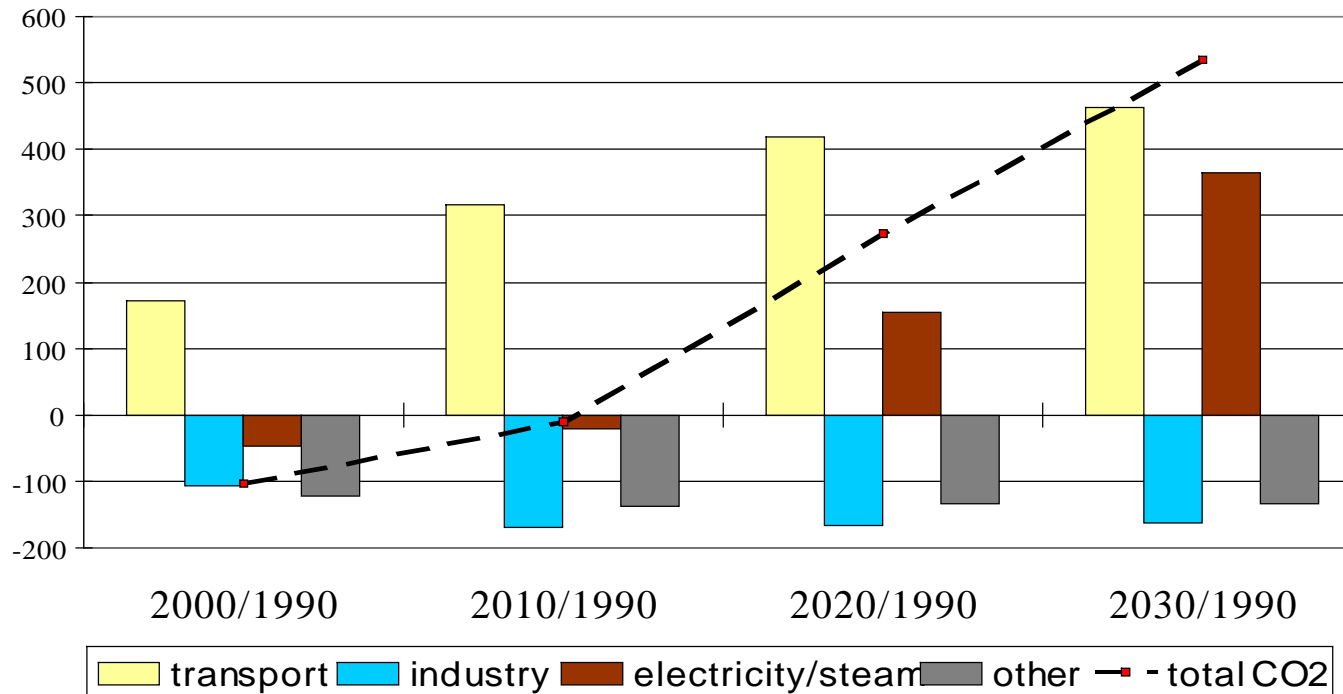


2. SUSTAINABLE DEVELOPMENT

(2/2)

TRENDS IN CO2 EMISSIONS up to 2030

Mt CO2 – relative to 1990 (Baseline)



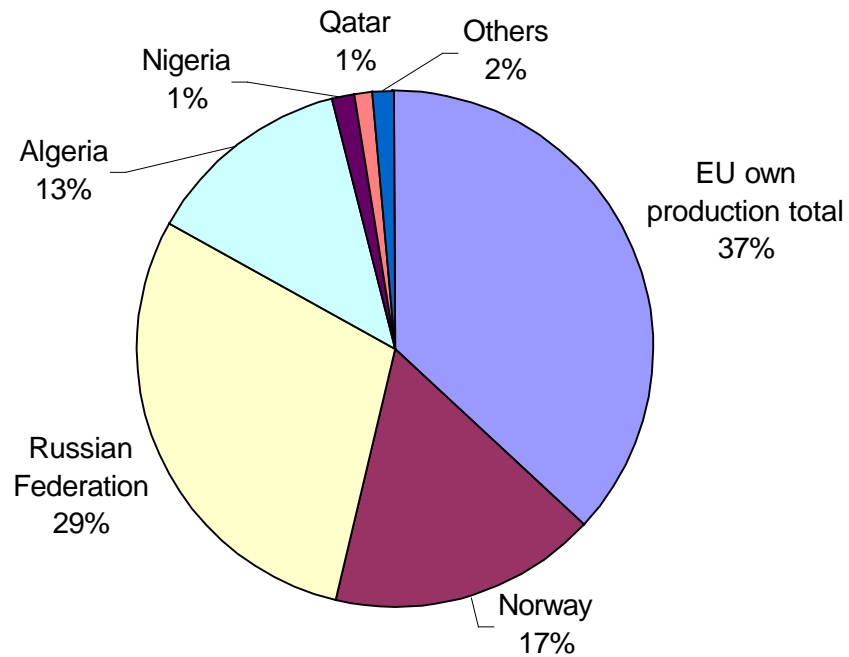


3. SECURITY SUPPLY AT RISK



(1/2)

EU-27 ORIGIN OF GAS (2004)



Sources : European Commission

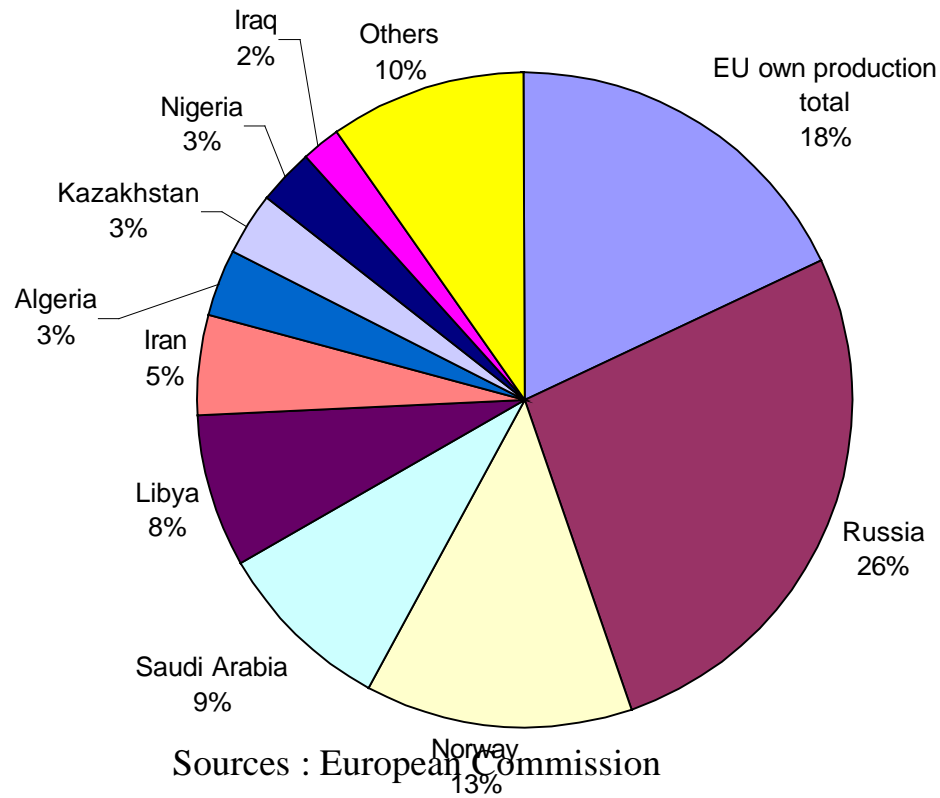


3. SECURITY SUPPLY AT RISK



(2/2)

EU-27 ORIGIN OF OIL (2004)





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II. Towards an European Strategic Energy Technology Plan

- **1. The European Energy Challenge**
- **2. A vision of Europe's energy future**
- **3. The Vital Role of Energy Technology**
- **4. What has been achieved to date**
- **5. The insufficient scale of the current effort**
- **6. Transforming energy technology innovation: a European Strategic Energy Technology Plan (SET-Plan)**
- **7. Process to arrive at the SET-Plan**
- **8. Conclusions**





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5.- The insufficient scale of the current effort

- **'Business as usual' is not an option**
 - ➔ Current trends and their projections show that we are not doing enough, by 2030
 - ◆ CO2 – 5% increase in the EU and 55% globally
 - ◆ SES – from 50% to 65% dependence
- **Structural weaknesses in the energy innovation system**
 - ➔ Long lead times
 - ➔ Locked-in infrastructure investment
 - ➔ Market failure ('Stern Report')
 - ➔ Dominant actors and network connection challenges
 - ➔ Scattered and un-coordinated market incentives (e.g. innovation programmes)
 - ➔ Reduction of Energy research funds (OCDE Report – «halved since the 80's»)
 - ➔ Scattered, fragmented and sub-critical capacities
 - ➔ Strong international competition and weak cooperation





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6.- Transforming energy technology innovation: a European Strategic Energy Technology Plan (SET-Plan) (1/3)

- **The EU must act jointly and urgently**
 - To develop a broad portfolio of technologies
 - Transforming the energy system will take decades, but we need to transform now the innovation system
- **A broad portfolio spreads risk and avoids locking-in**
- **Public policy has many instruments available:**
 - *Technology push*: Research programmes (RSFF, JTI, ERA-NET), Venture capital, EIB, Structural funds, ETP
 - *Demand pull*: Regulations, Pricing (ETS, taxes), Standards, Labelling, Feed-in tariffs, Quotas, Obligations, Green and White Certificates, Public Procurement, Trade agreements
 - *Innovation*: EIT, Intelligent energy programme





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6.- Transforming energy technology innovation: a European Strategic Energy Technology Plan (SET-Plan) (2/3)

- Essence of SET-Plan: matching technologies with instruments and proposing the optimal scale – «*different horses for different courses*»
- Reinforced and more coherent institutional framework
- Starting point: a shared vision
- Ambitious objectives but realistic resources
- Strategic element: selecting technologies for which the EU needs result oriented action
- Result oriented actions: coalitions or partnerships; precise and measurable objectives; risk sharing; leveraging resources (new investment)
- Synergies with international partners





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6.- Transforming energy technology innovation: a European Strategic Energy Technology Plan (SET-Plan) (3/3)

Priorities of such targeted actions could include:

- More **energy efficient** buildings, appliances, equipment, industrial processes and transport systems;
- Developing biofuels, in particular **second generation biofuels**, to become fully competitive alternatives to hydrocarbons;
- Getting large scale **offshore wind** competitive within the short term and paving the way towards a competitive European offshore super-grid;
- Getting **photovoltaic** electricity competitive to harness solar energy;
- Using **fuel cell and hydrogen** technologies to exploit their benefits in decentralised generation and transport;
- **Sustainable coal and gas technologies**, particularly carbon capture and storage;
- The EU should maintain its technological lead in **fourth generation fission nuclear reactors and future fusion technology** to boost the competitiveness, safety and security of nuclear electricity, as well as reduce the level of waste.





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7.- Process to arrive at the SET-Plan

- **Commission to adopt the first SET-Plan by the end of 2007 and put it forward to the 2008 Spring Council**
- **Vision, SWOT of the innovation system, realistic assessment of technology avenues**
- **Two-stage consultation:**
 - Until May 2007 – experts groups
 - Around July 2007 – general public





8.- Conclusions of SET-Plan

- The world has entered a new energy era
- Energy technology has a vital role to play
- Adequate combination of innovation and regulatory measures has produced some results, but 'business as usual' is no longer an option
- MS and industry should at least match the increased budgets of FP7 and IEE
- The European Union must act jointly and urgently
- SET-Plan must stem from a shared and inclusive European vision, involving all relevant actors.
- SET Plan must be ambitious in setting targets, but realistic and pragmatic regarding resources.
- The strategic element of the SET-Plan will be to identify those technologies for which it is essential that the European Union as a whole finds a more powerful way of mobilising resources in ambitious result-oriented actions to accelerate their pathway to the market.





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III. Work in 2007



- **Endorsement of the need for an ambitious and targeted first SET-Plan by the European Council**
- **Possible elements for developing SET-Plan:**
 - A European vision
 - Specific result-oriented actions and generic actions
 - Strengthened and more coherent institutional framework
 - Financing and investing
 - International cooperation
 - Monitoring and review system for SET-Plan
- **Consultation**
 - Public consultation through the web
 - Consultation with experts groups – Hearings with Technology Platforms





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- **Many thank for your attention**

