



# **UNECE Energy Week Geneva**

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## **‘Investing in Energy Security’ Committee on Sustainable Energy and related Meetings**

**Wednesday 28 November 2007**

### **Special Session: ‘Investing in and Financing the Hydrocarbon Sector to Enhance Global Energy Security’**

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## Investing in and Financing the Hydrocarbon Sector to Enhance Global Energy Security

### Outline:

- | **The EU's energy challenges**
- | **An Energy Policy for Europe**
- | **The EU Internal Market**
- | **The development of indigenous resources**
- | **Technological Developments**
- | **The EU's External Energy Policy**



## The EU's energy challenges (1)

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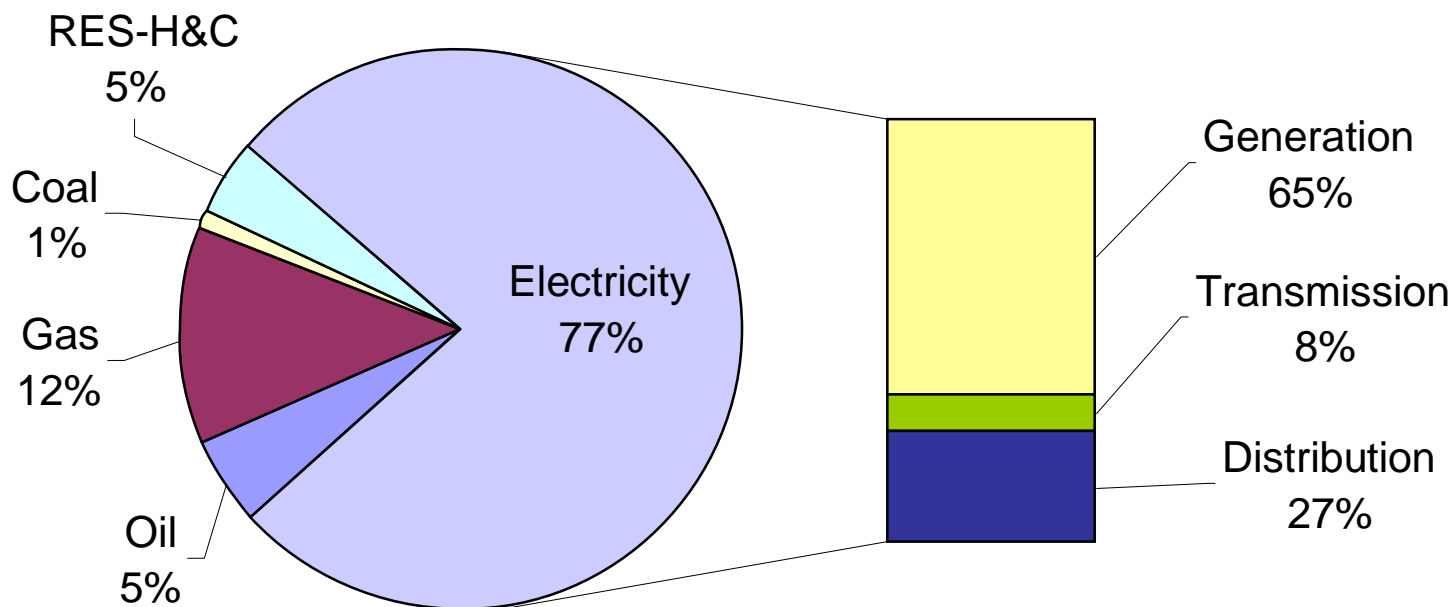
- | **Increasing demand, notably for electricity (1.5-2% p.a.)**
- | **Declining indigenous production of oil, gas and coal**
- | **Increasing imports, mainly from Norway, Russia, Algeria and the Middle East**
- | **Major investment needs**
- | **Climate challenge**



# The EU's energy challenges (2)

## Energy investment needs

**EU-27 INVESTMENT NEEDS up to 2030: €1.79 trillion**

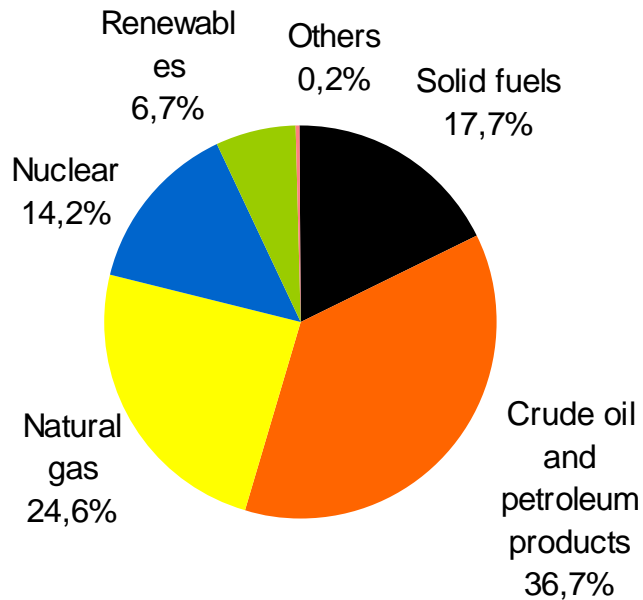


Source:EUROSTAT



# The EU's energy challenges (3)

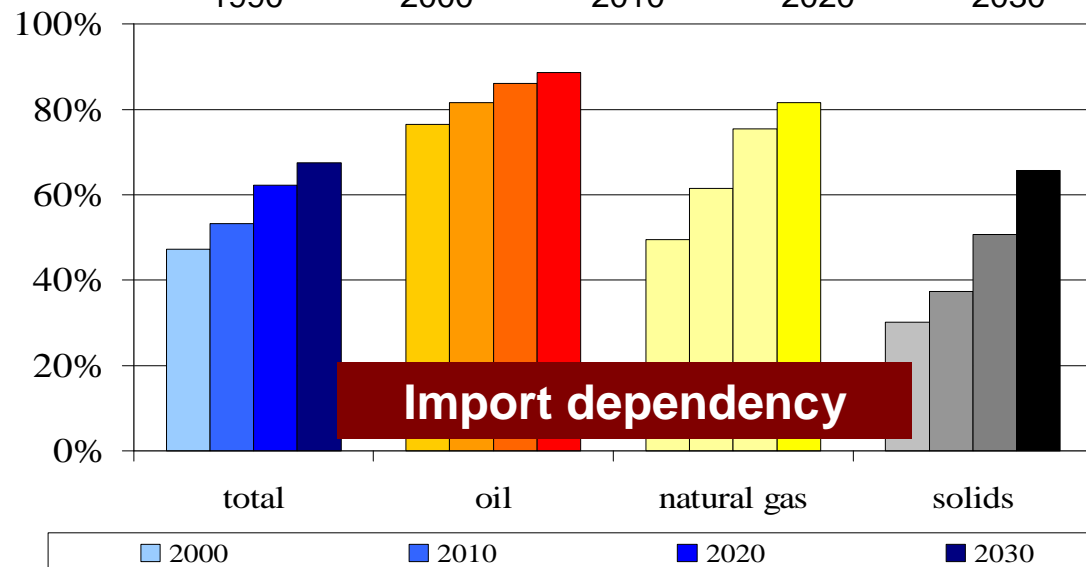
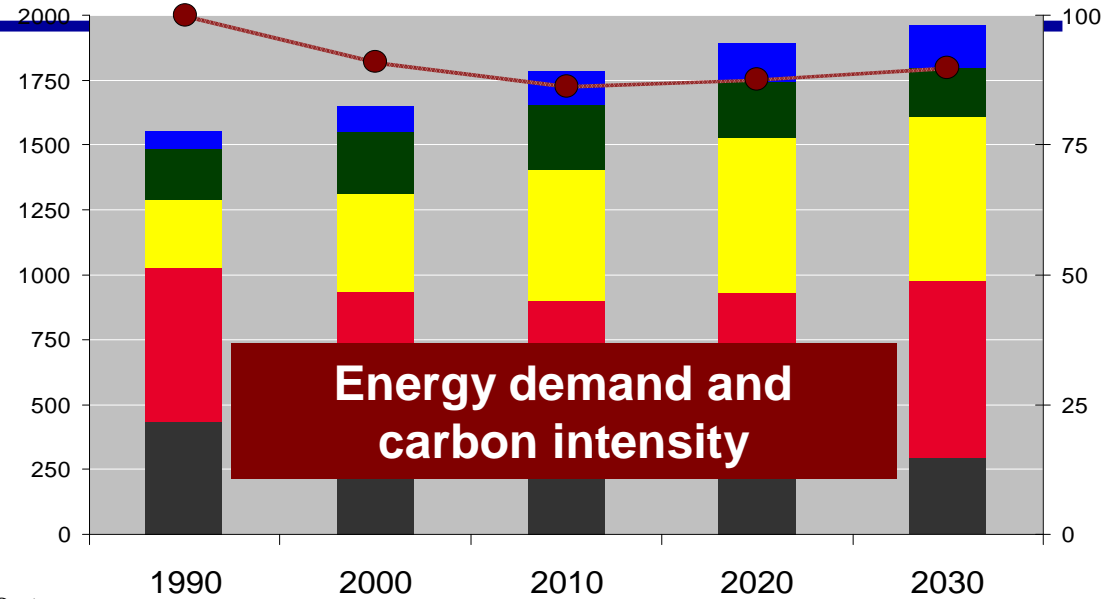
**Business as usual is not sustainable**



**2005**

**~ 80% fossil fuel**

Source: EUROSTAT





# An Energy Policy for Europe

## The key drivers 3x20% by 2020

20% by 2020 reduction in EU GHG emissions compared to 1990

20% by 2020 reduction in energy consumption compared to baseline projection - EFFICIENCY

20% by 2020 - binding – contribution of RENEWABLES to EU energy consumption

**BIO-FUELS**

Min 10% binding

**E-ELECTRICITY**

MS binding choice

**HEATING & COOLING**

MS binding choice

**NATIONAL TARGETS and ACTION PLANS**



# Creation of an attractive open internal market

## The features:

- | **500 million consumers having the choice of changing electricity or gas supplier (since 1/07/2007)**
- | **Liquid, predictable and stable market**
- | **Common regulatory framework**
- | **Level playing field**
- | **Clear role for each energy player: supplier, carrier, regulator, consumer**

## The aim:

- | **To integrate 27 national markets into one single market accessible to all players in order to ensure competitive, secure and sustainable energy supply**



## Creation of a European grid (1)

- | Updating of Trans-European Energy Networks guidelines defining priority axes for electricity and gas including connections from the main supplying regions (2006)**
- | Need to develop strong and dense interconnections in all directions (East-West, West-East, North-South, South-North)**
- | Need to complete a European grid supporting the internal market and accommodating renewable energies**





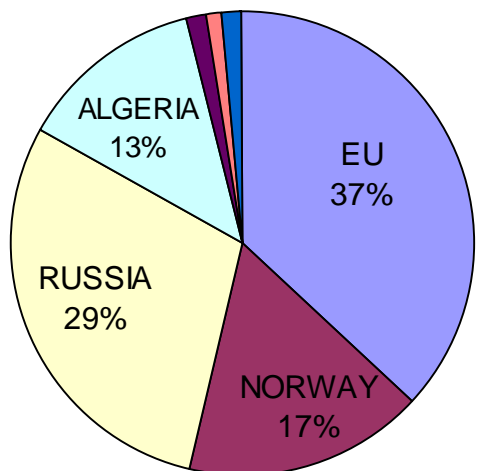
## Creation of a European grid (2)

- | **Fundamental importance of diversification of routes, sources and suppliers**
  - Eg LNG terminals, Southern Corridor
- | **Possible revision of TEN-E guidelines to include oil pipelines and CO2 infrastructure (Commission proposal by 2008)**
- | **Recent appointment of European Coordinators on difficult cross border projects e.g. Nabucco (NG3 Gas corridor)**

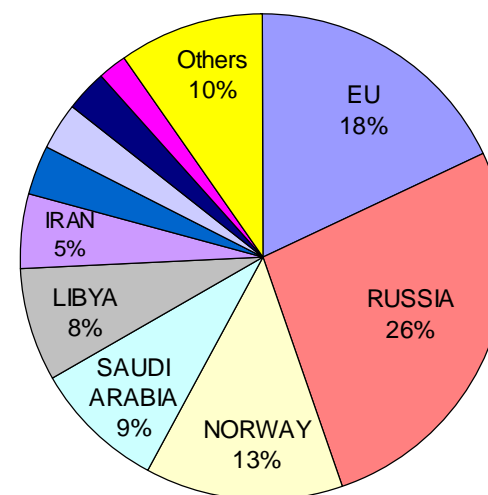


# Ensuring the development of indigenous resources (1)

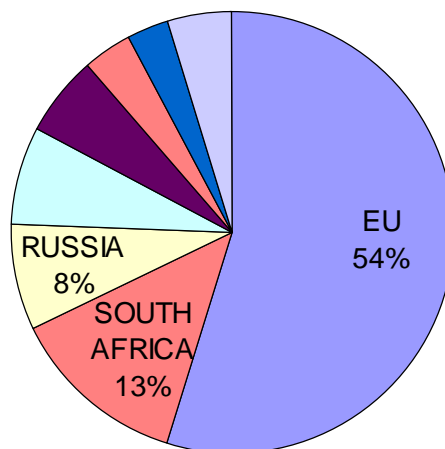
### EU-27 ORIGIN OF GAS



### EU-27 ORIGIN OF OIL



### EU-27 ORIGIN OF COAL



Source: European Commission, EUROSTAT



## Ensuring the development of indigenous resources (2)

- | **Importance of the Directive 94/22 on the conditions for granting and using authorisations for the prospection, exploration and production of hydrocarbons**
- | **Current high oil prices are a strong incentive to explore expensive EU resources**
- | **A comprehensive renewables policy is fundamental**
  - **hydro, geothermal, tidal, photovoltaic, wind onshore and offshore, solar**



## Case Study: Indigenous hydrocarbon production in the North Sea (3)

- **The North Sea developments were possible thanks to:**
  - Stable legislation and tax regimes
  - Open, transparent and well functioning markets
  - Remarkable advances in technology
- **Total R&D expenditure was ca. € 15 billion EU supported with ca. €1,5 billion**
- **Costs were significantly reduced and recovery factors increased (ie 39% in 1990 to 49% in 2005)**



## Technological Developments

- | **Increase in EU funds to support technologies relevant to policy objectives**
  - €2.4 billion for non nuclear energy (2007-2013) but not for oil and gas.
  
- | **Major focus on Carbon Capture and Storage (CCS)**
  - support for 10-12 demonstration plants up to 2015 to demonstrate technical and commercial feasibility by 2020
  
- | **Strategic Energy Technology Plan** - adopted on 22 November 2007



## External Energy Policy (1)

- | **Development of a common external policy: *'single voice'***
- | **Negotiation of a post-Kyoto agreement (starting in Bali Dec 2007)**
- | **Developing multilateral agreements to create the right trade and investment conditions in the field of energy**
  - **WTO, Energy Charter Treaty**
- | **Promotion of an International Platform on Energy Efficiency with G20 and IEA**



## External Energy Policy (2)

### Dialogues with producer, transit and consumer countries

#### With producer countries:

Aim - development of mutual understanding on the evolution of supply and demand and on subjects of mutual interest (energy policy, renewables, energy efficiency)

Ø **Norway**, part of the **European Economic Area**

Ø **Russia**: EU-Russia dialogue, working groups on market developments, scenarios and forecasts, energy efficiency

Ø **OPEC**: joint studies on refining and financial markets, energy policies

Ø **Gulf Cooperation Council**: energy experts group, FTA?



## External Energy Policy (3)

### *Dialogues with producer, transit and consumer countries*

#### **With producer countries:**

- Ø **Baku Process:** Black and Caspian Sea dialogue
  - Ø **Azerbaijan, Kazakhstan, Turkmenistan:** Memoranda of Understanding concluded or to come
- Ø **Euro-Med:** Euromed energy markets, Euromed ministers to endorse priority projects of common interest to be implemented in 2008-2013
  - Ø **Algeria:** Strategic Energy Partnership under development
  - Ø **Egypt:** develop energy relations at both technical and political level
- Ø **Africa:** Energy Partnership (Dec 2007)





## External Energy Policy (3)

### *Dialogues with producer, transit and consumer countries*

- | **With transit countries** - Energy Community Treaty, Turkey, Ukraine, Belarus (at technical level), Moldova
- | **With consumer countries** –US, China, India, Canada, Japan, Brazil, Argentina, ASEAN, Mercosur
- | **Development of a partnership on Carbon Capture and Storage** – Norway, US, China, India, South Africa, Canada
- | **International Initiatives** – IEA, JODI, IEF, Participation in the Global Gas Flaring Reduction Partnership of the World Bank and the Extractive Industry Transparency Initiative



## Concluding Remarks

### **Energy security is a common challenge which needs to be addressed through**

- Ø Increased energy efficiency
- Ø Transition to diversified, lower-carbon energy mix including renewables
- Ø An efficient infrastructure network
- Ø Open, competitive markets
- Ø Dialogues between all players in the energy game (suppliers, transit countries, consumers)
- Ø Multilateral agreements
- Ø Full transparency concerning reserves

**in order to achieve working interdependence**



## **Investing in and Financing the Hydrocarbon Sector to Enhance Global Energy Security**

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**Thank you for your attention**

**Documents on the climate and energy package are available on:**

**[http://ec.europa.eu/energy/energy\\_policy/index\\_en.htm](http://ec.europa.eu/energy/energy_policy/index_en.htm)**