



# The 2020 Sustainable Energy Agenda

**Conference on Nordic-Baltic Issues  
Tallinn August 21, 2008**

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# ● Triple challenge

## Competitiveness

- **Internal Market**
- **Interconnections** (Trans-European networks)
- **European electricity and gas network**
- **Research and innovation**
  - Clean coal
  - Carbon sequestration
  - Alternative fuels
  - Energy efficiency
  - Nuclear

## Sustainable Development

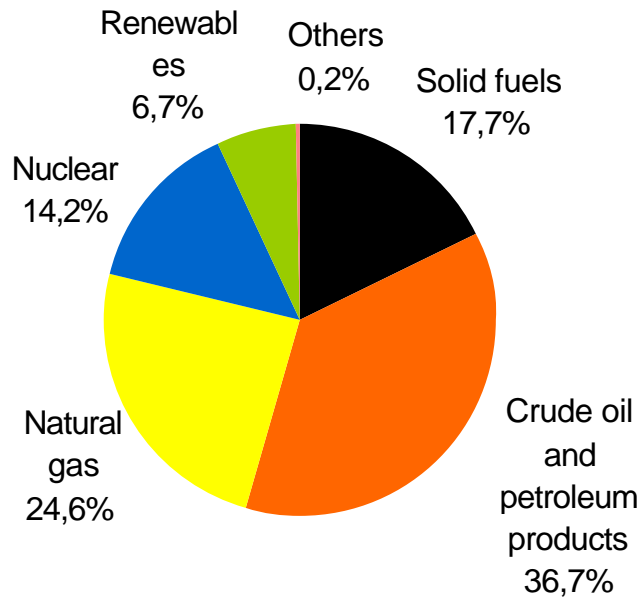
- Renewable energy
- Energy efficiency
- Nuclear
- Research and innovation
- Emission trading

## Security of supply

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

FULLY  
BALANCED  
INTEGRATED  
AND  
MUTUALLY REINFORCED

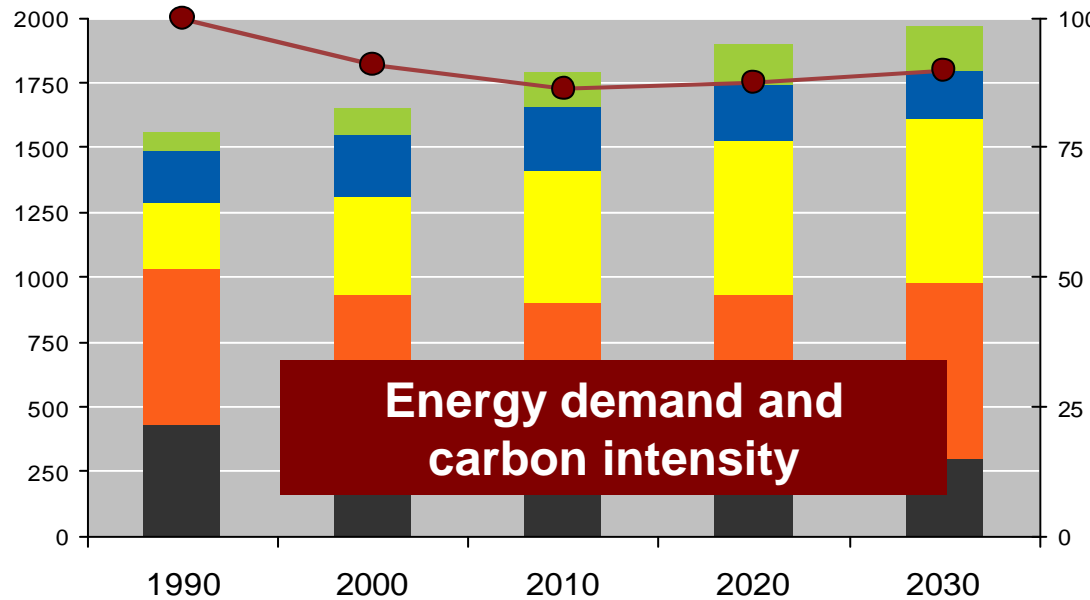
# The EU energy mix: Business as usual is not sustainable



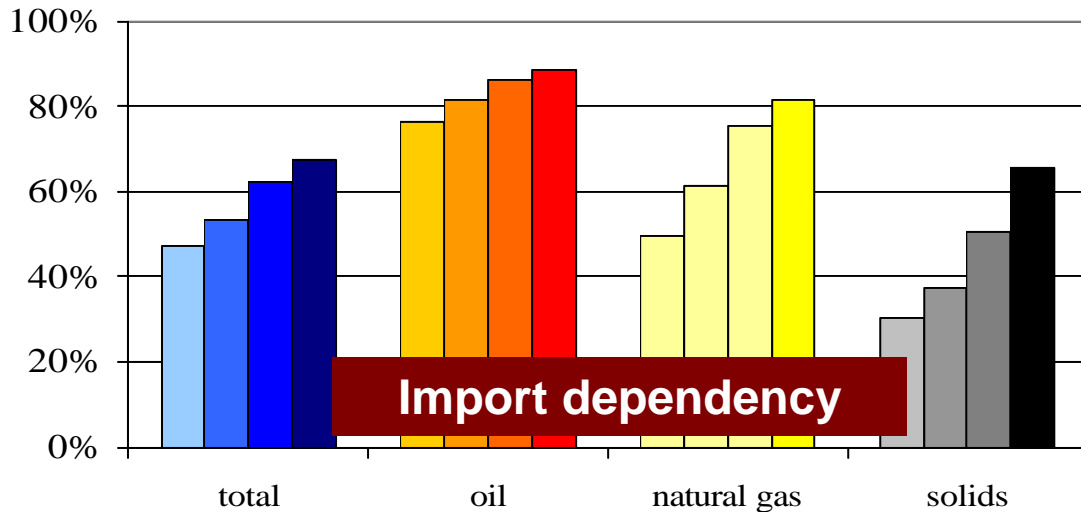
**2005**

**~ 80% fossil fuel**

Source: EUROSTAT



**Energy demand and carbon intensity**



**Import dependency**

Legend: 2000, 2010, 2020, 2030

# ENERGY POLICY FOR EUROPE

## THE KEY DRIVERS 3x20% by 2020

By 2020 -20% **EU GHG**

By 2020 +20% **EFFICIENCY**

By 2020 binding 20% **RENEWABLES** in final energy consumption at EU level

**BIO-FUELS**

Min 10%  
binding

**ELECTRICITY**

MS binding  
choice

**HEATING &  
COOLING**

MS binding  
choice

**NATIONAL TARGETS & ACTION PLANS**

# ● Energy Efficiency

## Energy Efficiency Action Plan: saving 20% energy (adopted on 19 October 2006)

- » Buildings : Review and revision of Buildings Directive
- » New proposals on labelling of household appliances
- » New proposals on lighting / street lighting
- » Implementing measures for eco-design directive

**Structural Funds** and the **EIB/EBRD** loans specifically allocated to support energy efficiency

# ● Internal Energy Market

## 3rd IEM PACKAGE

(19 September 2007)

Aims to address main shortcomings:

- Vertical integration of companies, lack of independence of system operators; market concentration
- Lack of market integration at EU level
  - » Lack of TSO cooperation
  - » Regulatory gap
- Lack of transparency
- Different powers and competences of national regulators

# ● Internal Energy Market

## 3rd IEM PACKAGE

(19 September 2007)

- Ownership unbundling, or under conditions an Independent System Operator (ISO)
- TSO cooperation
- National regulators independence and powers
- Transparency rules
- Priority Interconnection Plan and European Energy Coordinators
  - » Power bridge between LT-PL-DE: Prof Mielczarski
  - » Connection of off-shore wind power in Northern Europe (North sea and Baltic sea: Mr Adamowitsch

# ● Research and Technology

## STRATEGIC ENERGY TECHNOLOGY PLAN

(22 November 2007)

Promotion of technologies to support energy policy and the low-carbon energy economy with 20% 2020 RES target

- Second generation bio-fuels, photovoltaic, large-scale offshore-wind, hydrogen fuel cells,
- Generation IV fission power, fusion energy,
- Energy efficient transports, appliances and industrial systems,
- Sustainable coal and gas: to make plants CCS ready by 2020.

# ● Renewable Energy Sources

## RENEWABLE ENERGY SOURCES DIRECTIVE

(23 January 2008)

- Commission proposes binding
  - **overall 20%** target by 2020 (with national targets per MS, EE: 18% to 25%)  
and
  - 10% minimum binding target for bio-fuels
- Member States set **national targets and action plans** on:
  - » RES in electricity
  - » Heating and cooling
  - » Bio-fuels

# EU Emission Trading Scheme

## IMPROVEMENT and EXTENSION of the ETS (23 January 2008)

- Cost-effective contribution to -20% GHG target for 2020
- Improvement of the EU ETS based on experience
- A clear long-term carbon price

# ● EU Emission Trading Scheme

## IMPROVEMENT and EXTENSION of the ETS (23 January 2008)

- Cover all big industrial emitters:
  - » extension e.g. to chemical sectors and aluminium
- Extension to other GHG:
  - » nitrous oxide (fertilisers), perfluorocarbons (aluminium)
- Leads to new abatement opportunities, lower overall costs, and higher efficiency

# ● Carbon Capture and Storage

## SUPPORTING EARLY DEMONSTRATION (23 January 2008)

- **CCS – to capture CO<sub>2</sub>, transport and store it in geological formations**
- **Needed in longer term if we want to reach 50% GHG reduction globally in 2050**
- **CCS has been demonstrated as functioning, but not yet as an integrated process or at reasonable costs**

# Carbon Capture and Storage

## SUPPORTING EARLY DEMONSTRATION (23 January 2008)

- **Enables CCS by providing legal framework to**
  - » **Manage environmental risk**
  - » **Remove barriers in existing legislation**
- **Provisions for ensuring environmental integrity through the life-cycle of the plant (site selection up to post closure)**
- **CO<sub>2</sub> captured and stored will be considered not emitted under the ETS:**

# International Energy Policy

## Norway, EEA member

EU Norway ongoing dialogue covers:

- gas supply and demand prospects,
  - internal market rules,
  - carbon capture and storage,
  - energy community treaty developments
- 
- Norway participates in many groups and committees through the internal market provisions.

# ● International Energy Policy

## ● ENHANCED COOPERATION WITH KEY ENERGY PRODUCERS, TRANSIT COUNTRIES AND CONSUMERS:

» Through OPEC, GCC, with Central Asia (e.g. MoU Azerbaijan, Kazakhstan), Baku Initiative, Latin America, Caribbean, Africa-Europe Partnership

## ● EU RUSSIA ENERGY DIALOGUE:

» Energy partnership in the framework of the post-PCA agreement

# International Energy Policy

- **ENERGY RELATIONS WITH EU NEIGHBOURS:**
  - » European Neighbourhood Policy, Euromed, Mashrek / Maghreb, Turkey, Energy Community (South-East Europe)
- **NEGOTIATIONS & AGREEMENTS on climate, trade and technology:**
  - » Post-2012 climate regime, World Bank Gas Flaring Reduction Partnership, Extractive Industries Transparency Initiative, Energy Charter, extension of ETS to global partners, energy efficiency agreement.

# ● **Second Strategic Energy Review – Nov. 2008**

- Update on the state of **implementation** of the first Strategic Energy Review
- Focus on **Security of Supply** (of all fuels)
- Green paper on **TEN-E guidelines**
- **Evaluation report of Directive 2004/67/EC on Security of Gas Supply**
- Study on **Gas Storage** in the EU – is there a need for a common approach on **strategic stocks**?
- Communication on **external energy policy**



# THANK YOU FOR YOUR ATTENTION.

All 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)