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# TOWARDS A EUROPEAN ENERGY COMMUNITY

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## Energy is at the origin of European integration

- ECSC (1951-2002)
  - Internal market, security of supply, affordable access to coal
  - High authority: supranational with powers over resources, regulation, loans, quotas, minimum and maximum prices, control, etc.
- Euratom (1957)
  - Common market – free competition, R&D, safety, industrial cooperation, Supply Agency
- Other European Treaties
  - National sovereignty over the energy mix, energy supply, and fiscal issues
  - Common rules for internal market, environment, competition law, etc.

## But very few achievements for decades

- First initiatives (1960-1986)
  - Oil shocks : EU directives following IEA mechanisms
  - Many Communications 1973, 1981, 1986, 1988, etc.
- First (1986-1998) and second (2003) legislative packages for liberalisation of gas and electricity markets
  - Progressive liberalisation by segments (production, transport and distribution)
  - Progressive eligibility of consumers
  - New objective: 07/2004 for industrial consumers and 2007 for all consumers
- Critical assessment
  - Slow Liberalisation and poor integration
  - national sovereignty over main issues (energy mix, supply, infrastructures, etc.) with huge heterogeneity between EU member states
  - Limited means : budget, enforcement, foreign policy, etc.

## Major changes since 2005 (1/2)

- Hampton Court Summit
  - Growing awareness of climate change - Stern Report
  - Security of supply : crisis between Russia and Ukraine and growing dependency over Russian gas supply
  - higher energy prices and high volatility
- A new energy policy for Europe
  - European Commission Green paper – 2006
  - Sectoral inquiry (2005-2007)
- European Energy and Climate package
  - 3 objectives: 3X20 in 2020
  - 3 pillars : competitiveness, security of supply and sustainable development

## Major changes since 2005 (2/2)

- Lisbon Treaty
  - New legal basis but no major change in terms of competences
- Third energy package (2009)
  - TPA, unbundling, ACER & ENTSO-E/G, consumer protection
- Energy strategy for 2011-2020
- EU Summit on the future of EU energy policy – 4th February 2011
- EU Road Map 2050
  - New green industrial revolution : moving towards a low carbon society
  - Transformation of EU energy system (93-99 % emissions reduction)
  - What energy mix ?

## Current context – high uncertainty

- Climate change
  - EU is moving without waiting for others - EU competitiveness at stake
  - New green industrial revolution : moving towards a low carbon society
  - Transformation of energy systems across Europe
- Economic constraints
  - Major euro crisis which limits the capacity to invest in this sector
  - Energy poverty
- Before and after Fukushima
- Uncertainties over all energy resources : shale gas, CCS, ITER, RNW
- Increased international competition for fossil fuels

**EU-27 GROSS INLAND  
CONSUMPTION (in %) (2007)**

Oil: 36,4 %

Natural gas : 23,9 %

Coal : 18,3 %

Nuclear : 13,4 %

Renewables : 7,8 %

**EU-27 GROSS INLAND  
CONSUMPTION (in %) (2030)**

Oil: 30 %

Natural gas : 25 %

Coal : 15 %

Nuclear : 15 %

Renewables : 15 %



## EU-27, POWER GENERATION BY FUEL (in %) (in 2010)

Nuclear : 28 %

Coal : 26,9 %

Natural gas : 23,9 %

Renewables : 19,2 %

Oil : 3,3 %

## EU-27, POWER GENERATION BY FUEL (in %) (in 2030)

Renewables : 32,1 %

Nuclear : 25,9 %

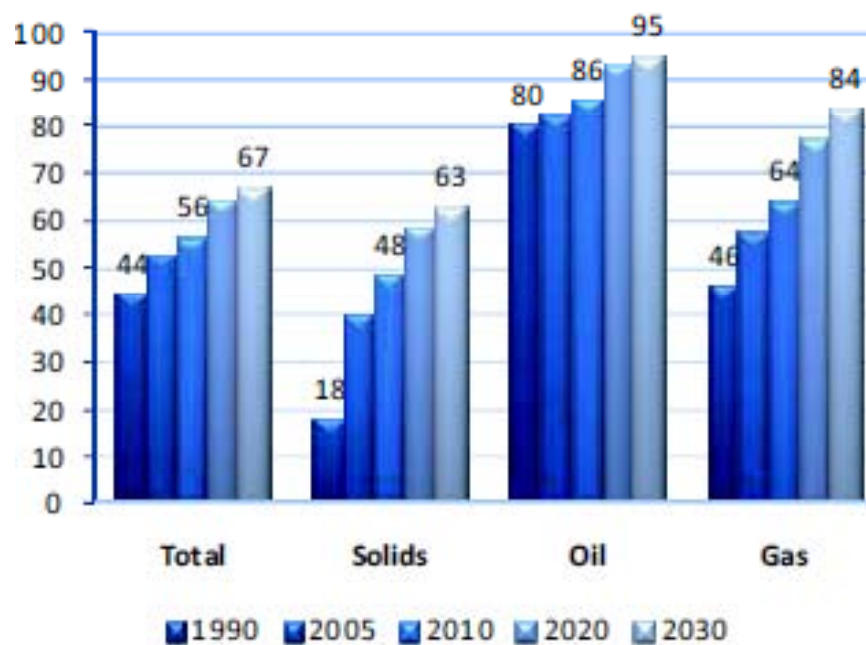
Coal : 22,2 %

Natural gas : 18,7 %

No Oil anymore



## EU Import dependency



Source: DG TREN, Trends to 2030 - European Energy and Transport, 2007

## EU imports by sources

Crude Oil Imports into the EU-27 (in Mio tonnes)

ORIGIN	2000	2001	2002	2003	2004	2005	2006	SHARE 2006 (%)
Russia	112.4	136.8	154.7	170.8	188.9	188.0	189.0	33.5
Norway	115.9	108.1	103.1	106.4	108.6	97.5	89.1	15.8
Libya	45.5	43.8	39.2	45.9	50.0	50.6	53.2	9.4
Saudi Arabia	65.1	57.5	53.1	61.5	64.5	60.7	50.9	9.0
Iran	35.5	31.4	25.9	34.7	35.9	35.4	36.4	6.4
Other Middle East	54.7	48.3	43.2	27.8	28.5	30.0	32.1	5.7
Kazakhstan	9.9	9.1	13.4	15.9	22.2	26.4	26.8	4.8
Nigeria	22.4	25.7	18.4	23.2	14.9	18.6	20.2	3.6
Other Origin	54.3	54.3	64.2	56.5	56.1	66.1	66.9	11.8
<b>Total Imports</b>	<b>515.8</b>	<b>514.9</b>	<b>515.3</b>	<b>542.9</b>	<b>569.5</b>	<b>573.3</b>	<b>564.6</b>	<b>100.0</b>
In Million barrels	3 765	3 759	3 761	3 963	4 158	4 185	4 121	

Source: DG TREN, EU energy and transport in figures,  
Statistical Pocketbook, 2009

Gas Imports into the EU-27 (in TJ, terajoules)

ORIGIN	2000	2001	2002	2003	2004	2005	2006	SHARE 2006 (%)
Russia	4 530 709	4 421 515	4 554 744	4 895 252	4 951 044	4 952 879	4 927 552	42.0
Norway	1 985 231	2 136 379	2 601 569	2 699 473	2 801 723	2 671 779	2 844 269	24.2
Algeria	2 203 075	1 957 181	2 132 477	2 158 803	2 042 137	2 256 826	2 134 886	18.2
Nigeria	172 020	216 120	217 882	335 029	410 260	436 319	560 986	4.8
Libya	33 442	33 216	25 536	30 390	47 809	209 499	321 562	2.7
Egypt						202 419	317 420	2.7
Qatar	12 443	27 463	87 952	80 414	160 170	195 713	245 158	2.1
Trinidad and Tobago	36 334	24 498	19 120	1 365		29 673	154 244	1.3
Other Origin	112 810	199 256	125 425	100 023	313 245	409 387	223 232	1.9
<b>Total Imports</b>	<b>9 095 064</b>	<b>9 015 628</b>	<b>9 764 705</b>	<b>10 301 649</b>	<b>10 726 388</b>	<b>11 364 894</b>	<b>11 729 305</b>	<b>100</b>
In Mio Cubic meters	340 610	238 509	258 326	272 530	283 767	300 648	310 299	

Notes: Gross calorific value of 1 million cubic meter of Natural Gas can vary between  
37.5 and 42.5 terajoule.



## Three main objectives – Three pillars

- EU competitiveness – the market
- Sustainable development
- Security of supply



## 1st Objective : Competitiveness - the market

- Internal Market & liberalisation
- Affordable and stable prices for consumers
- Regional initiatives
- To be achieved by 2014 BUT how ?
- EU 2050 : need for further integration



## 2<sup>nd</sup> Objective: Sustainable development

- Fight against climate change
  - EU ETS
  - carbon taxation
- Renewable energy
  - Binding and on track
  - No cooperation + issue of subsidies, feed-in-tariffs
- Energy efficiency
  - Non binding – not on track
  - EU versus subsidiarity
- 2030-2050: binding targets, need to double RES capacity, energy efficiency



## 3rd Objective : security of supply

- Internal EU mechanisms for crisis prevention and management
- Diversification of sources and transit routes – the Southern Corridor
- External representation - one voice
- Extension of EU internal market
- Other EU external policies : ENP, trade, development, diplomacy
- EU Solidarity
- External dimension of EU internal market
- 2030-2050: reliable partners and potential supply from RES



## Horizontal Objective : Infrastructures & networks

- Various functions
  - Connecting markets
  - Trade platform
  - Connecting intermittent renewable sources
  - Smart grids
  - Solidarity
- Eu framework
  - Projects of European Interests
  - Ten Years development plan
  - European Economic Recovery plan
  - Connecting Europe facility
- 2030-2050 : double capacity, massive investments, smart grid,



## Conclusion

- EU energy policy is making progress but too slow / too fast ?
- Need for further coordination on main national energy choices
- Cooperation is the missing link (R&D, infra, etc.)
- Insufficient means : budget, fiscal, compliance, coherence, etc.
- Issue of governance : local, national, regional, European levels
  - public acceptability
  - Decentralised power generation
  - Local integrated solutions for energy efficiency



## Energy Road Map 2050 is a crucial test

- What is the key driver : climate, prices, availability, safety?
- EU level playing field : between market driven transition (key driver) and top down policy process – new ECSC platform ?
- Stable and predictable framework but flexibility at the same time
- Transparency and diversification of the model used for projections
- Intermediate targets, regular monitoring of commitments and technological proof points
- Massive investments needed: new financial tools
- Social impact : further assessment in positive and negative terms