European Union Key Energy Figures

Current Trends and EU 2030 Objectives Assessment

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EU Key Energy Indicators
Current Trends and EU 2030 Objectives Assessment

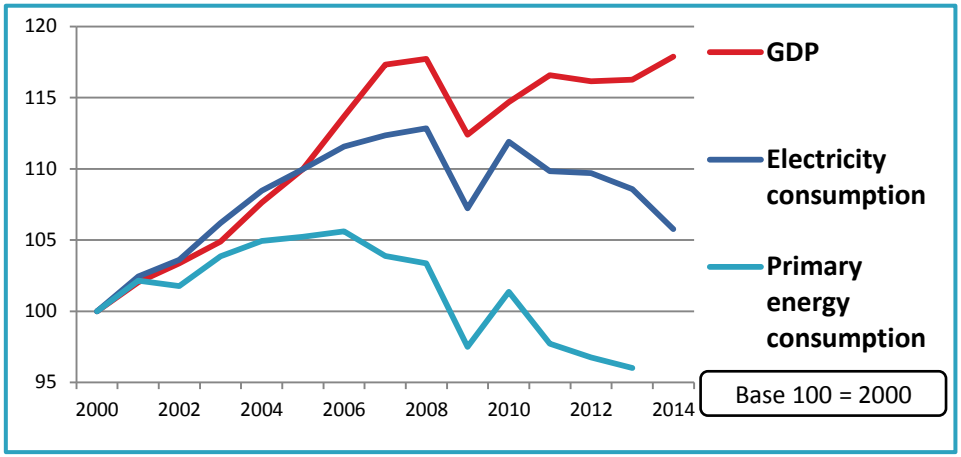
- Key Energy Indicators are shaken with fluctuant economic and political conditions
- Nevertheless medium and long term trends depend mostly on market fundamentals and structural decisions / policies

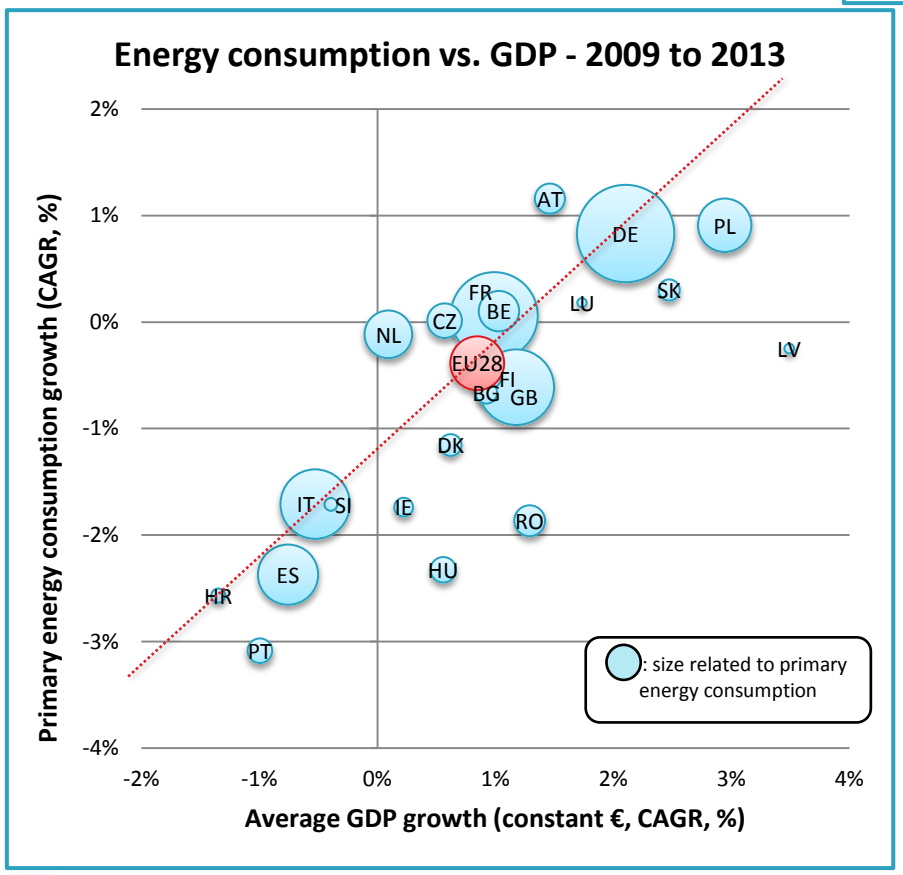
CO_2 emissions, Power Mix, Renewables, Energy Efficiency… :

✓ Where do we stand early 2015 ?

✓ How can we assess EU 2020 trends and 2030 objectives ?

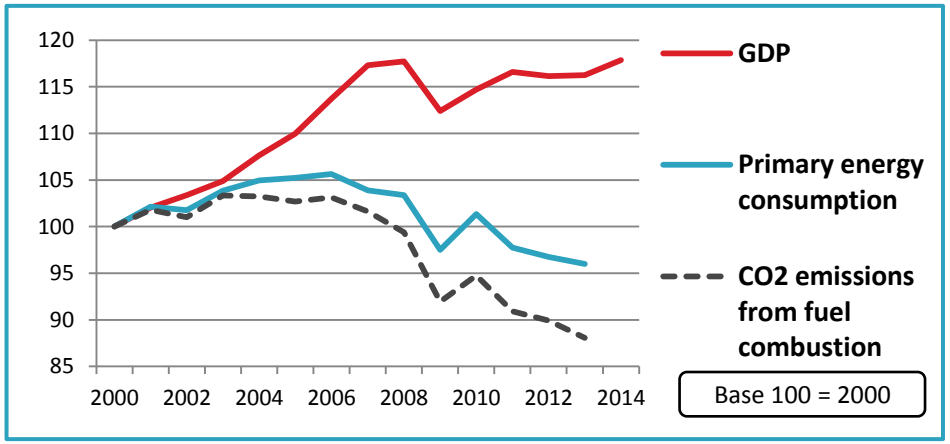
Energy consumption is declining in the EU

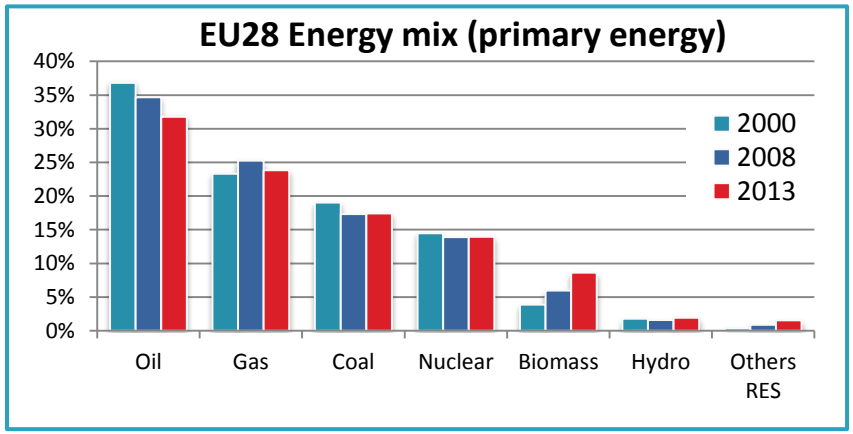


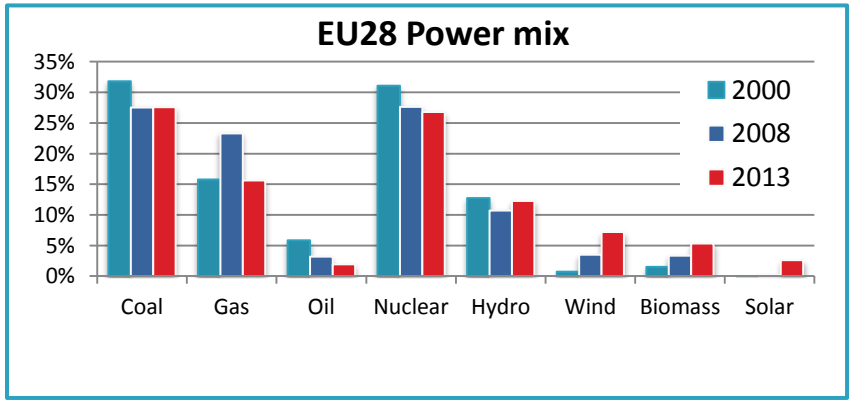


- Primary Energy consumption reducing for almost 10 years
  - Reduced GDP growth
  - Energy Intensity decrease thanks to Energy Efficiency improvement (1.5pt / y)
- Electricity consumption now also decreasing (4 years)
  - No more substitution
- Differences depending on the countries

CO_2 emissions continue to decrease slowly







- Directly linked with energy consumption trends
- Limited Carbon Intensity decrease with substitutions :
  - Electricity & Biomass ↗
  - Oil ↘
  - Power mix:

    RES ↗ Gas ↘ Coal →

2014 events and potential impact

- Ukraine & Russia

→ Stronger focus on energy supply security

  - ➢ Reinforcement of energy independence objective
  - ➢ Actions to reinforce suppliers diversity

- EU 2030 Framework for Energy and Climate Policies

→ Change of trend in the CO_2 emissions reduction objectives

- Oil price strong decrease

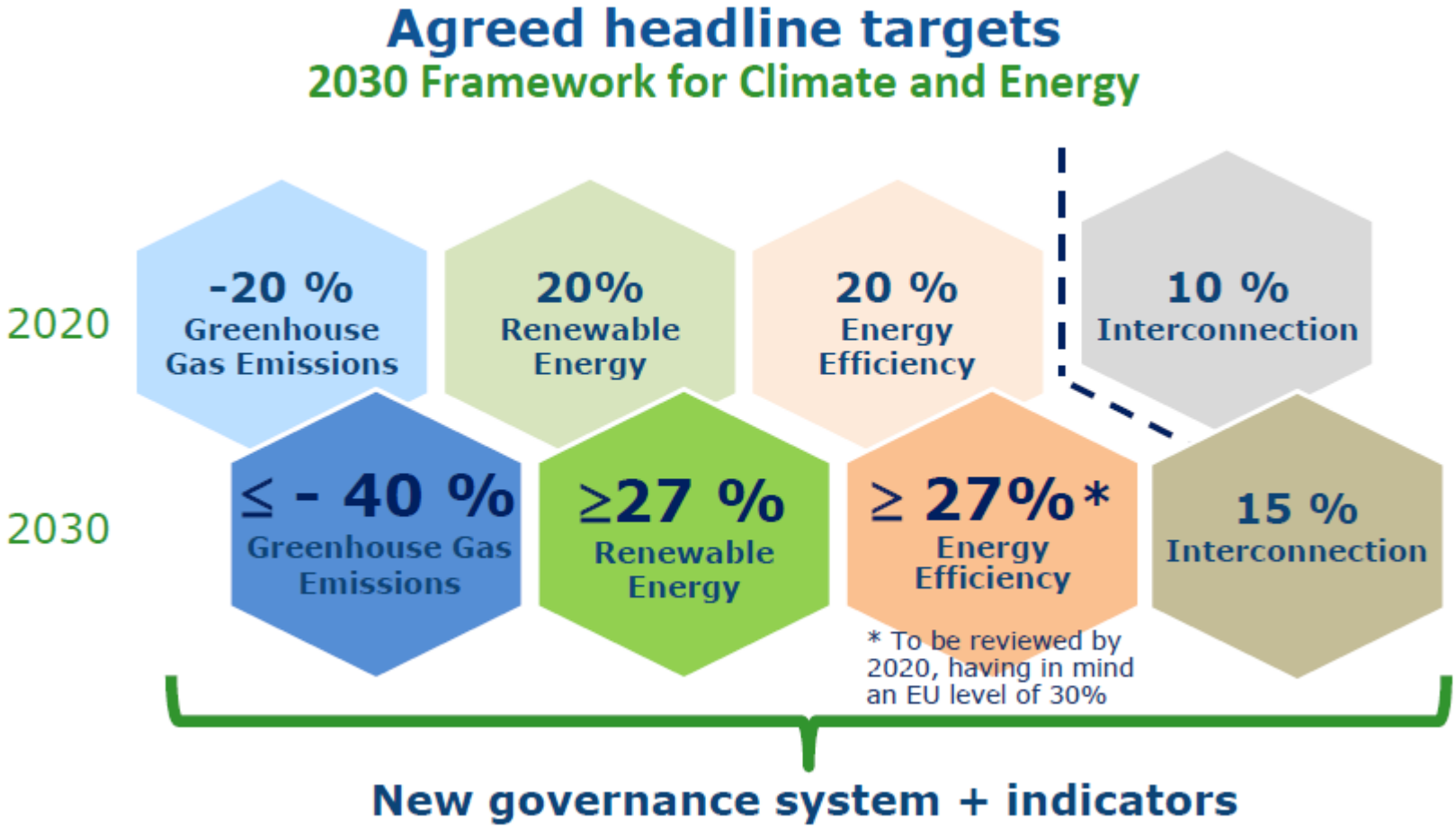
→ Impact on supply structure + shale O&G competitiveness + investments reduction (Oil, LNG…)

→ Impact on country economic policies

EU 2020 3*20 Objectives – Situation end 2014

- EU is on the way to meet its 2020 Climate & Energy targets
  - GHG emissions reductions : -20% vs 1990
  - Share of Renewables : 20% of final energy
  - Energy consumption : -20% vs projection
- These results have been strongly impacted by the sluggish economic growth
  - Carbon intensity reduction < Planned trend
- Some key enablers have not yet been (fully) deployed
  - ETS market
  - Energy Efficiency investments

EU 2030 Climate & Energy Framework



EU 2030 Objectives Assessment
A clear change in the trends

Analysis based on Enerdata scenario

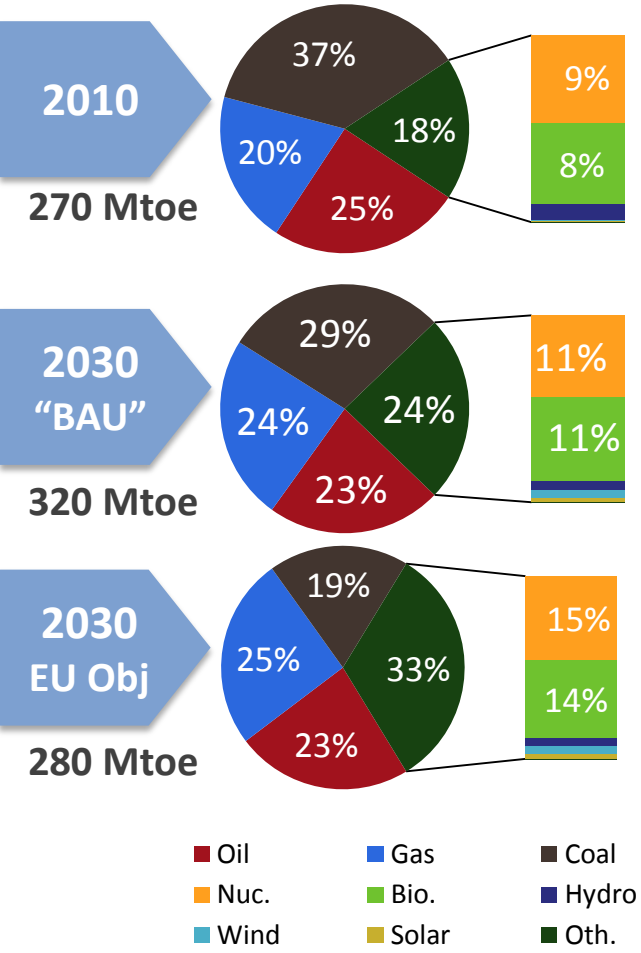
Yearly average evolution	2000-2010	2010-2020	2020-2030
GDP growth (%/year)	**1.5 %**	**1.4 %**	**1.7 %**
Primary Demand (%/year)	**0.2 %**	**-0.5 %**	**-0.4 %**
Energy Intensity (%/year)	**-1.3 %**	**-1.9 %**	**-2.1 %**
New RES power capacities (GW/year)	**18**	**31**	**27**
Carbon Intensity (%/year)	**-2.0 %**	**-2.5 %**	**-3.5 %**

- Analysis of the EU2030 Objectives using POLES model
- Projections based on Enerdata EU2030 scenario

New Member States (13): A shifting energy mix

Analysis based on Enerdata scenario

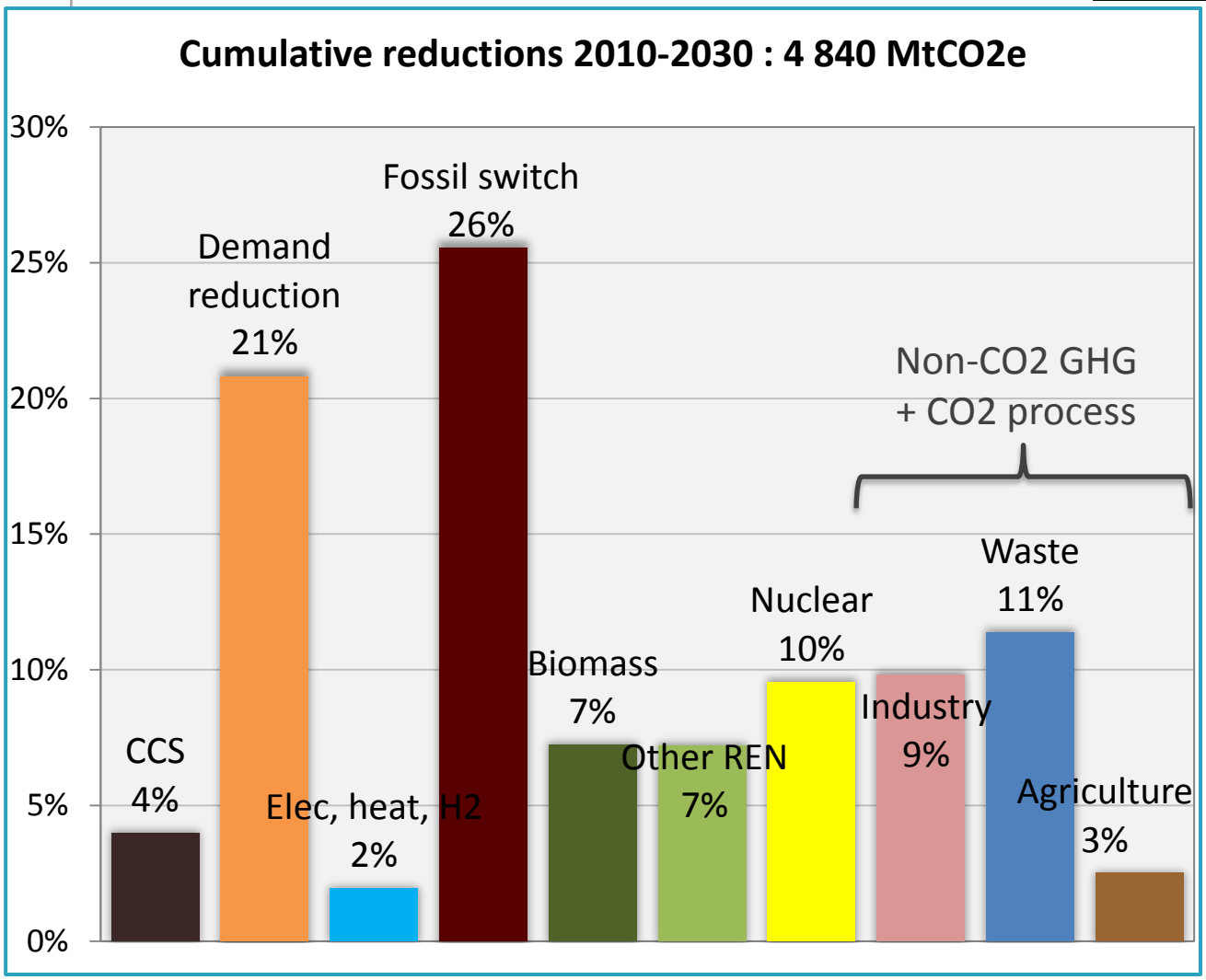
Energy demand, New MS



- Low energy consumption per capita
- Large potential for energy efficiency to cover energy intensity gap with EU-15
- Large development of nuclear and renewables
- Shale gas: even if tapped, would make a low contribution to energy independence
- EU Climate & Energy policies: larger role for gas, but also for nuclear & renewables

GHG Emissions reduction sources in New MS

Analysis based on Enerdata scenario



- New MS would bring 1/3 of EU reductions
- Large role for Energy Efficiency
- Switch Coal → Gas, RES and Nuclear
- Non-CO2 GHG reduction potential

Additional outputs from the EU 2030 analysis

Analysis based on Enerdata scenario

- Fossil fuels remain dominant but decrease
  - Decrease from 75% to 65% of the mix, and drop 20% in volume, by 2030
  - In New MS, ambitious objectives would entail cuts in coal and shifts to gas, renewables and nuclear

- 27% Energy Efficiency objective will require a change in the investment trend

- Carbon value would become a significant factor in investment decisions after 2020
  - ETS sectors: carbon price would reach 80€ / tCO2 by 2030
  - Non-ETS sectors: significant policies & measures and associated investments needed to contain a carbon price to that level

Dziękuję za uwagę

Thank you for your attention !

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