



European Union Key Energy Figures

Current Trends and EU 2030 Objectives Assessment

Karpacz Energy Forum, January 2015

Pascal CHARRIAU, CEO

EU Key Energy Indicators

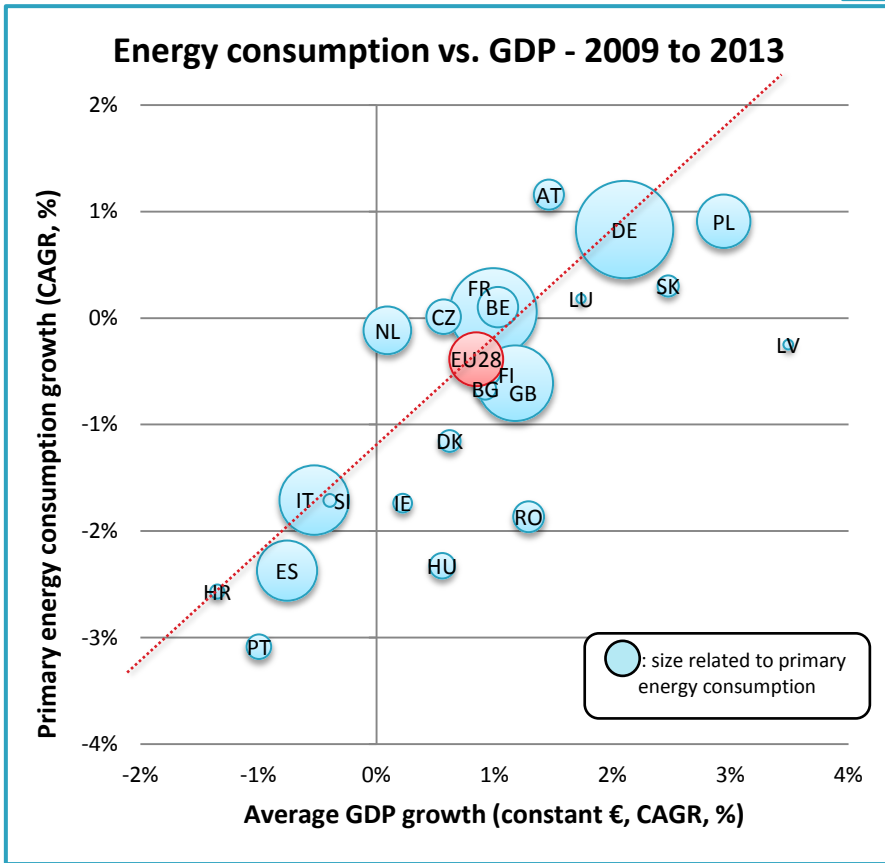
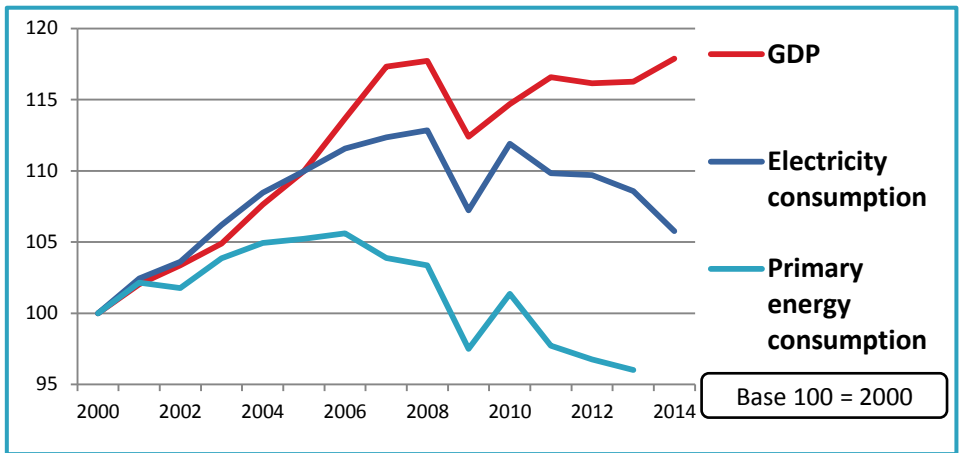
Current Trends and EU 2030 Objectives Assessment

- 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

CO₂ emissions, Power Mix, Renewables, Energy Efficiency... :

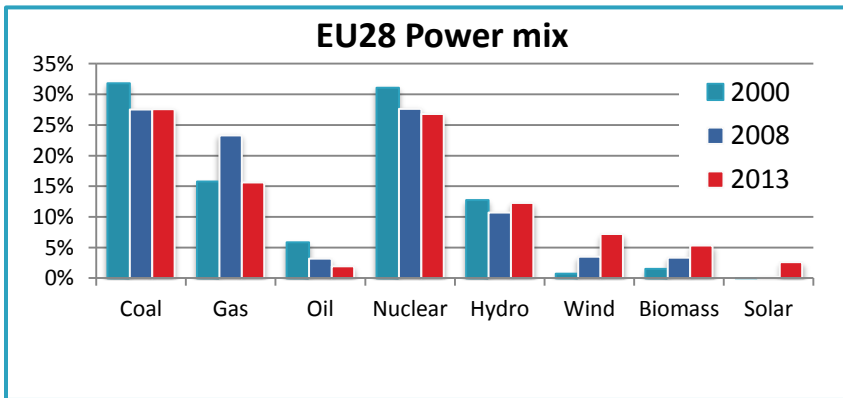
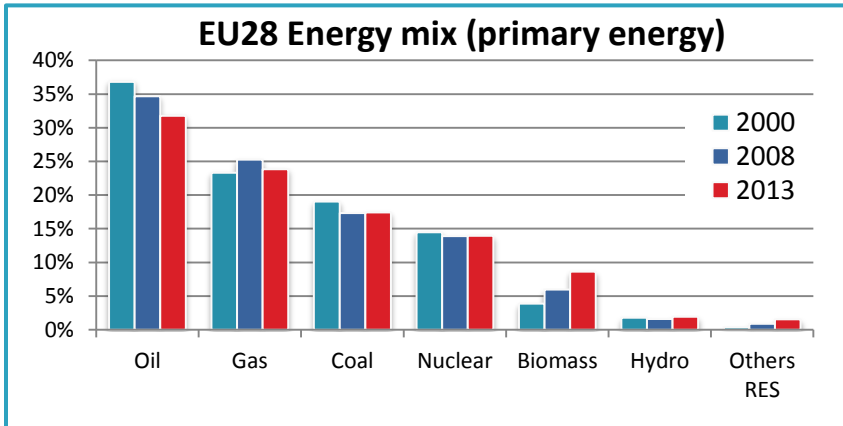
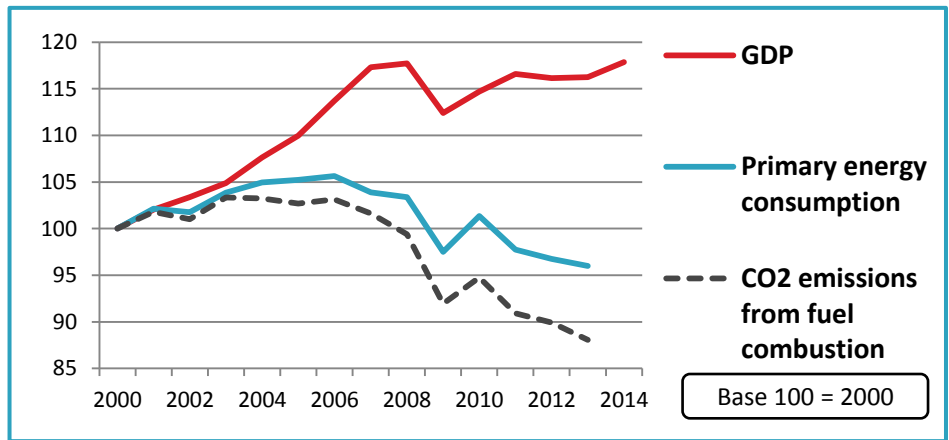
- ✓ Where do we stand early 2015 ?
- ✓ How can we assess EU 2020 trends and 2030 objectives ?

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

CO₂ 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 CO₂ emissions reduction objectives

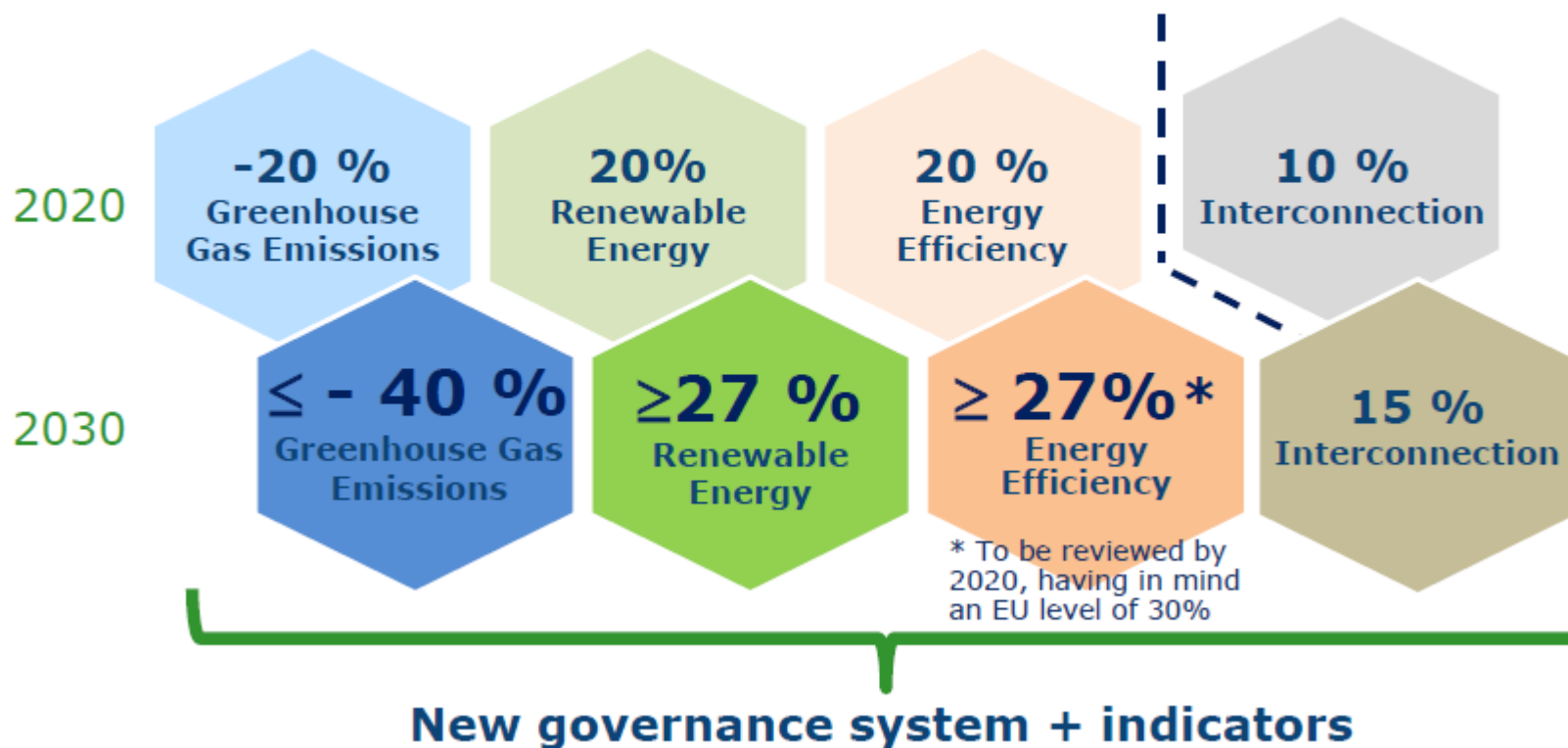
- Oil price strong decrease
 - Impact on supply structure + shale O&G competitiveness + investments reduction (Oil, LNG...)
 - Impact on country economic policies

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

Agreed headline targets 2030 Framework for Climate and Energy



EU 2030 Objectives Assessment

A clear change in the trends

Analysis based on Enerdata scenario

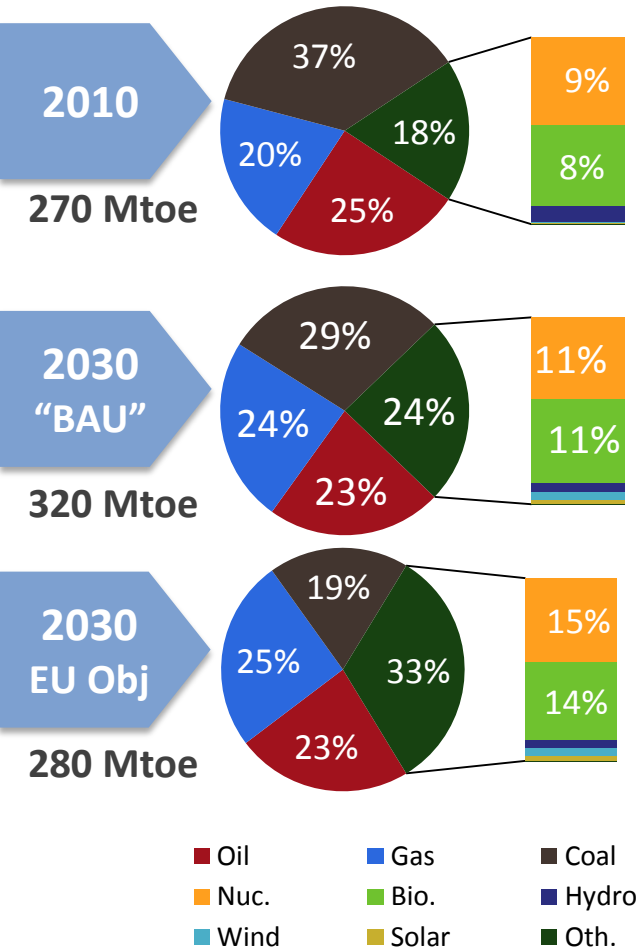
Yearly average evolution	2000-2010	2010-2020	2020-2030
GDP growth (%/year)	1.5 %	1.4 %	1.7 %
Primary Demand (%/year)	0.2 %	-0.5 %	-0.4 %
Energy Intensity (%/year)	-1.3 %	-1.9 %	-2.1 %
New RES power capacities (GW/year)	18	31	27
Carbon Intensity (%/year)	-2.0 %	-2.5 %	-3.5 %

- 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

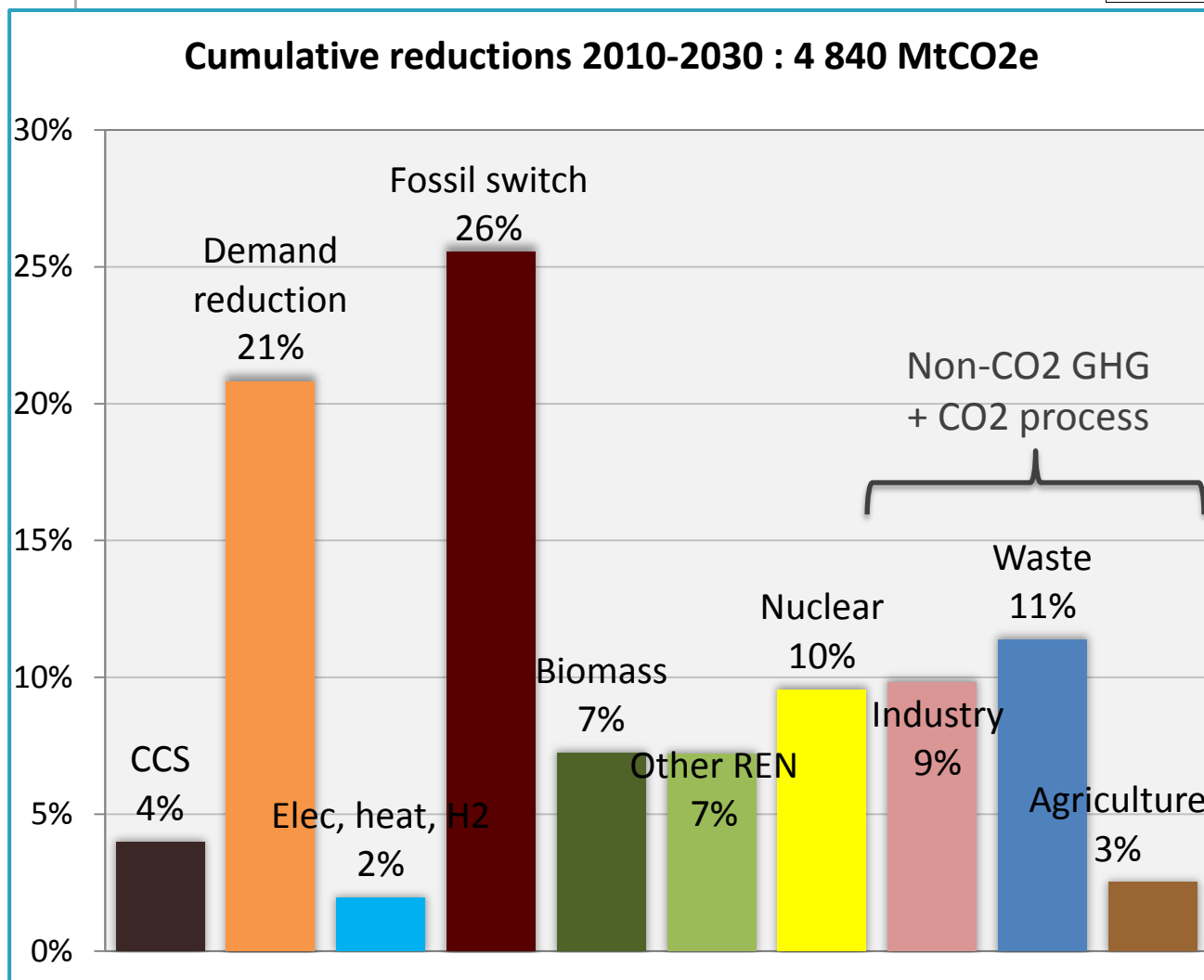
Energy demand, New MS



- 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 !



Enerdata

global energy intelligence

www.enerdata.net

Contact:

Pascal CHARRIAU

pascal.charriau@enerdata.net