

# The implementation of the Energy Efficiency Directive (art. 7)

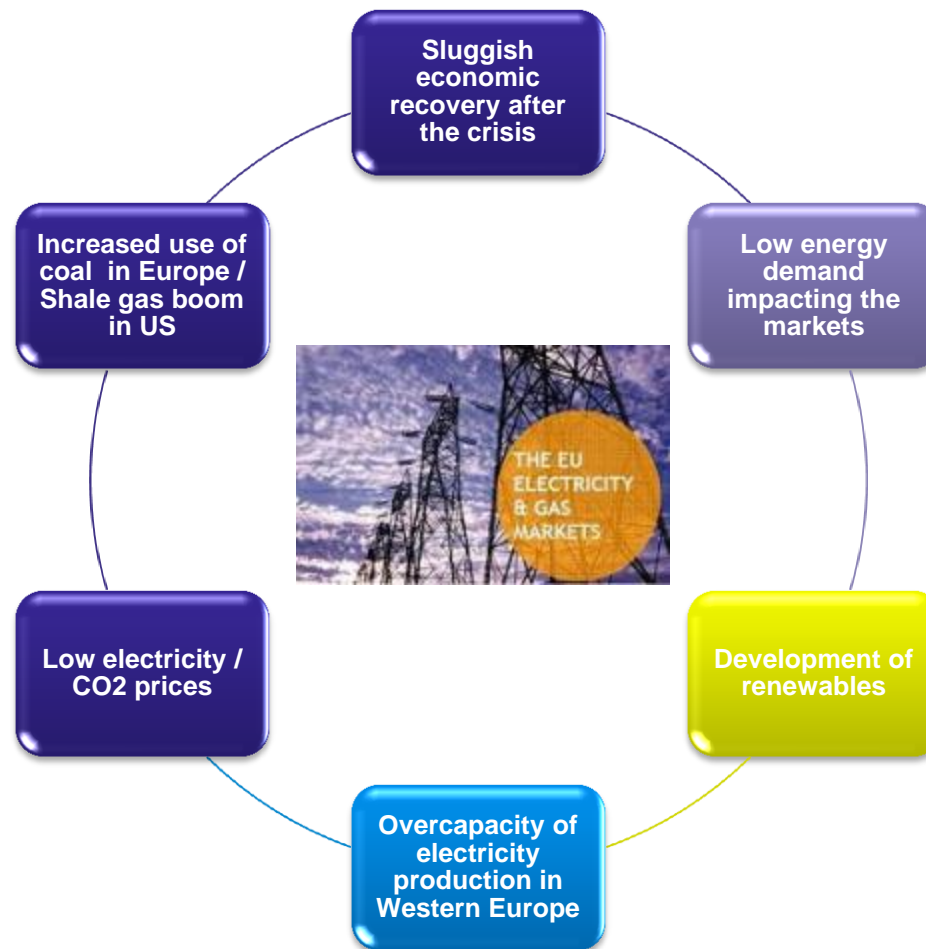
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# The energy context in Europe

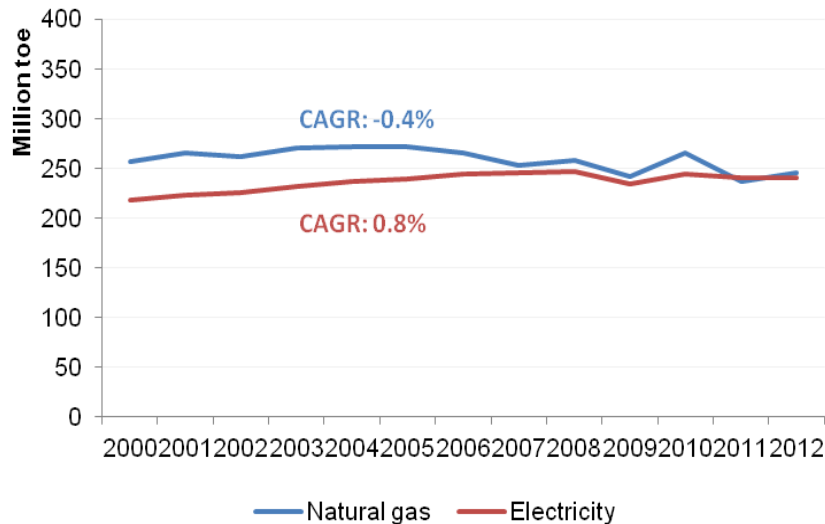
- The European energy markets are slowly recovering after the economic crisis
- The current difficulties faced by utilities in Europe are not only the result of the economy but they also reflect the systemic market changes that occurred since 2000



# Energy context in Europe

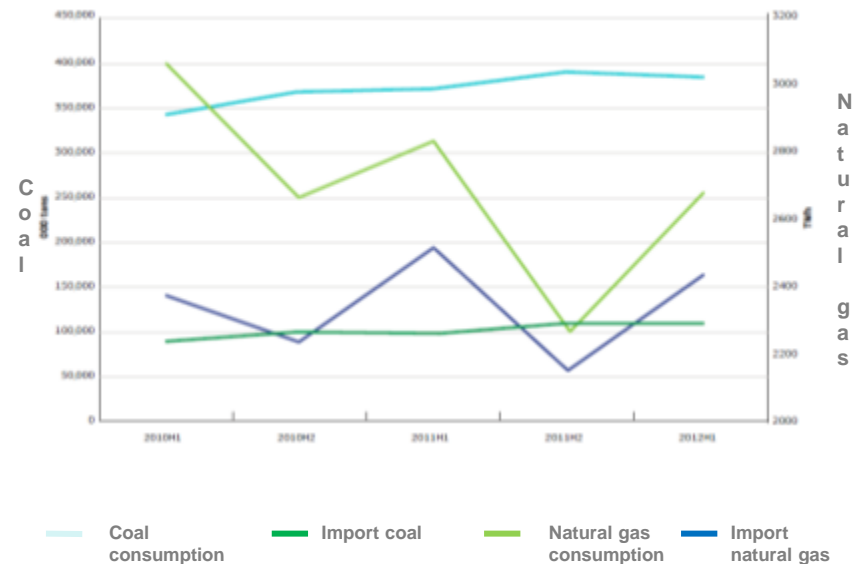
- The consumption trends of electricity and gas in EU are flat or negative since 2000
- In the current context, we observe an increased use of coal in Europe, which is in contradiction with the long-term goals of the Union

Domestic consumption of natural gas and electricity (EU-28)



Source: Eurostat

Coal and natural gas consumption and imports (EU-27, 2010-2012)

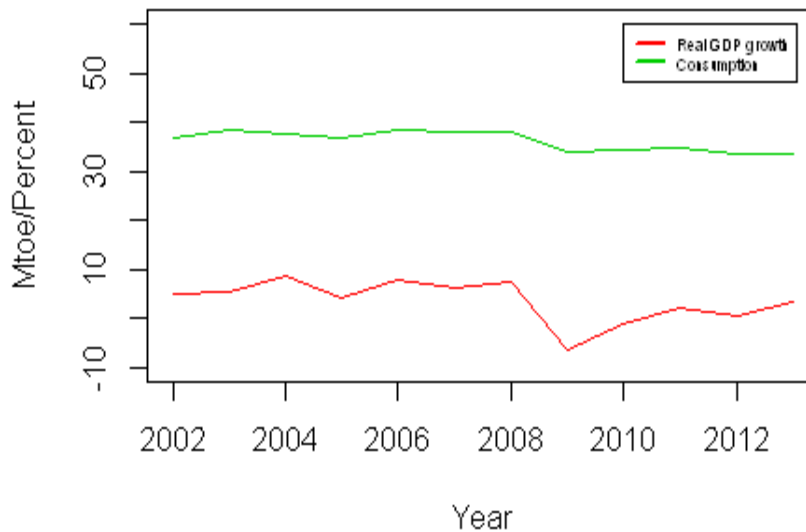


Source: DG Energy

# Energy consumption in Romania

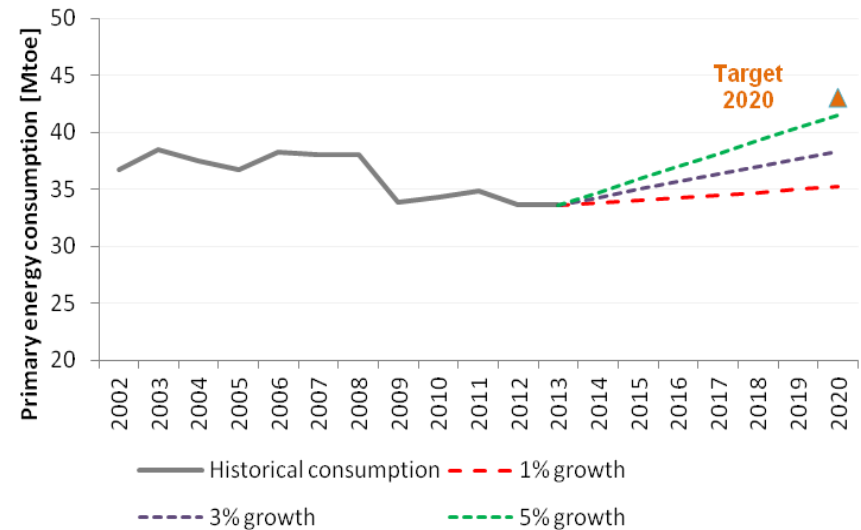
- Relatively strong association between the energy consumption and the real GDP growth rate
- Using time series regression model (on limited data, 2002-2012), the scenarios evolution of the primary energy consumption is below the pathway to the 2020 target, even when assuming strong real GDP growth rates

Primary energy consumption and the real GDP growth



Source: Eurostat

Primary energy consumption scenarios as a function of the real GDP growth rate



Source: Eurostat, own calculations

# The New Energy Efficiency Directive

## Targets

- EU target (2020): maximum 1,474 Mtep (primary) or 1,078 Mtep (final) consumption
- Indicative targets for MS

## Public sector

- Public acquisition obligations for high energy efficiency products
- Annual refurbishments (min. 3% / year) of public buildings > 250 m<sup>2</sup>
- Regular energy efficiency plans and introduction of energy management systems

## Energy sector

- Obligation schemes or alternative measures to decrease the final consumption
- Obligation of individual metering (for some sectors, if economically viable)
- New invoice obligations (frequency, “real” consumption)

## Networks

- Promotion of high efficiency cogeneration
- 10-year plans for heating & cooling sector
- Evaluation of energy savings in electricity and natural gas networks
- Network tariffs to stimulate energy efficiency

## Industry

- Support for SMEs for undertaking energy audits
- Mandatory audits for large companies and introduction of EMS

## Art. 7 of EED

- The art. 7 requests MS to achieve annual new amounts of energy savings at **the final consumers** (1.5% times the average consumption 2010-2012)
- MS may implement obligations schemes (for so-called “obligated parties”) and/or alternative measures to achieve the targeted end-user energy savings
- MS are also allowed to discount several quantities from the target:
  - Quantities used in transportation (art. 7.1)
  - By using a lower end-user energy savings rate
  - Quantities used by the ETS industries
  - Savings from transformation and transport of energy
  - Energy savings achieved after 2008, with effects until 2020

**Max. 25% of  
the end-user  
energy  
savings  
target**

## Implementation of the art. 7: what could Romania do?

### Calculation of the yearly target (1,000 Toe)

No.	Category	2010	2011	2012
1	Final energy consumption	22,739	22,750	22,767
2	Transport	5,107	5,313	5,351
3	Energy consumption - calculation base (1-2)	17,632	17,437	17,416
4	<b>AVERAGE 2010-2012</b>		<b>17,495</b>	

Source: INS

### Distribution of yearly energy savings (1,000 Toe)

Year	Energy savings						Cumulative
2014	262.43						262.43
2015	262.43	262.43					524.85
2016	262.43	262.43	262.43				787.28
2017	262.43	262.43	262.43	262.43			1,049.70
2018	262.43	262.43	262.43	262.43	262.43		1,312.13
2019	262.43	262.43	262.43	262.43	262.43	262.43	1,574.55
2020	262.43	262.43	262.43	262.43	262.43	262.43	1,836.98

### The impact of application of flexibility instruments on the total target

	1,000 Toe
<b>Total target</b>	1,836.98
<i>Alternative pathway</i>	1,574.55
<i>Other allowed flexibilities</i>	196.82
<b>Flexibility [max. 75% of total target]</b>	<b>1,377.73</b>

## The Energy Efficiency Fund: suggestion for functioning

- Romania notified the creation of an Energy Efficiency Fund (an alternative measure)
- It is of utmost importance to put as much of the available EU funds in financing the energy efficiency policies
- The functioning of the Fund ought to be in line with the new Guidelines on state aid for energy and environment





## Appendix

Call:

```
lm(formula = diff(consum) ~ real GDP growth)
```

Residuals:

Min	1Q	Median	3Q	Max
-1.8602	-0.6733	-0.2688	0.9608	1.7167

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-1.06722	0.49795	-2.143	0.0607 .
gdpwr[2:12]	0.22676	0.09023	2.513	0.0331 *

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Residual standard error: 1.286 on 9 degrees of freedom

Multiple R-squared: 0.4124, Adjusted R-squared: 0.3471

F-statistic: 6.315 on 1 and 9 DF, p-value: 0.03315

Shapiro test on residuals: w = 0.942, p-value = 0.5442