

Perspectives of energy efficiency in Romania

Towards 2030



Factors impacting energy efficiency

Systemic factors



GDP growth

- The growth has resumed convincingly in the EU 28



Retail prices

- Wholesale prices have been depressed in the last decade
- But retail prices continued in general to grow in EU



Competition

- The more competitive an economy/sector, the more incentives for energy efficiency
- Protectionism may have an adverse effect on energy efficiency in the long term

Technological factors



Digitalization

- 1.4 bn smartphones were shipped in 2015 worldwide (2.1 bn expected by 2021)
- ~ 60% of the EU (44% of RO) people were using internet mobile in 2016



Energy storage

- Li-ion battery prices have decreased by about 5 times between 2010-2016 (to about \$273/kWh, *BNEF*)



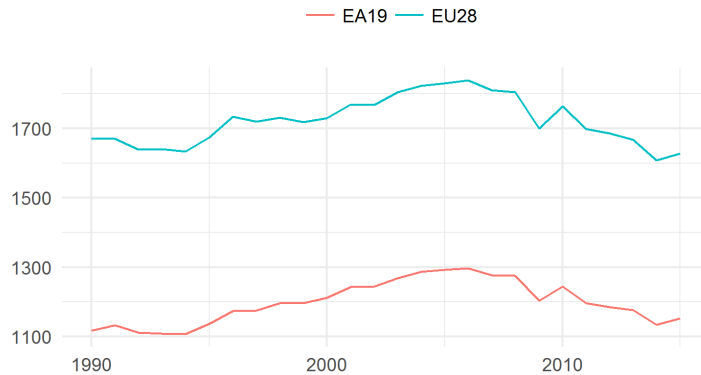
Renewables & prosumers

- About 30% of the consumption of energy in EU is now renewable
- About 7 TWh of electricity* is produced by prosumers in RO (RES + natural gas mostly)

EU trends in energy efficiency

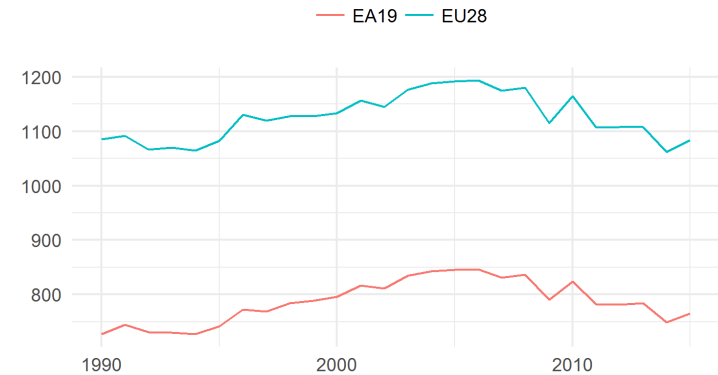
Gross inland energy consumption

Eurostat, Mtoe



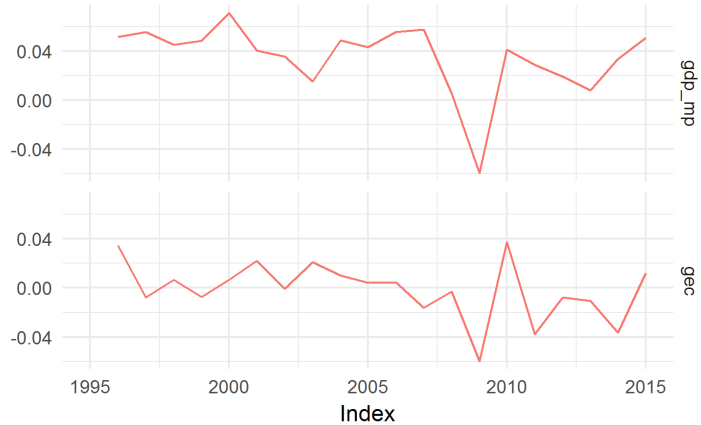
Final energy consumption

Eurostat, Mtoe



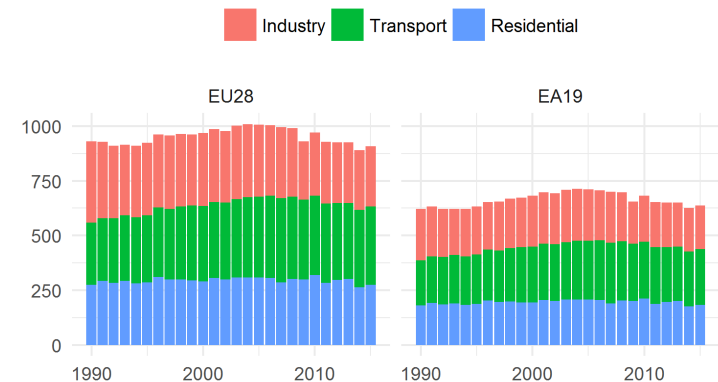
Percentage change of GDP [market prices] and GEC

Eurostat



Energy consumption by main sectors

Eurostat, Mtoe

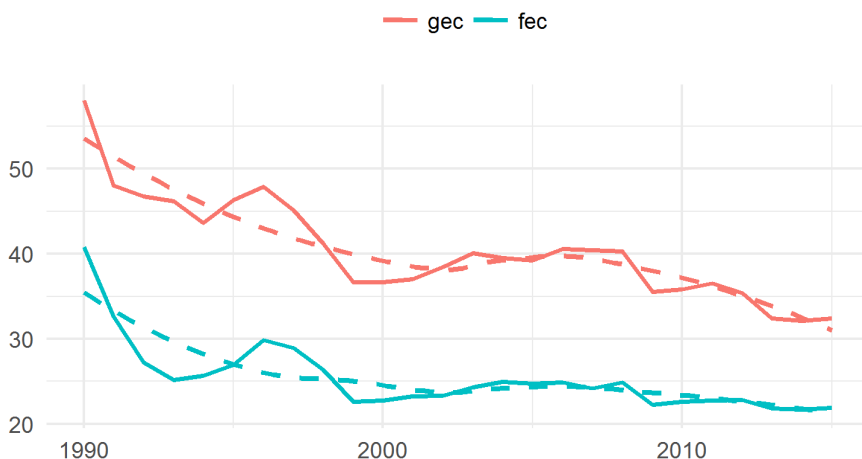


Energy consumption in Romania (total and by sector)

- Gross final consumption of energy continued in the last decade the decreasing trend which started since 1990s (significant impact of power generation sector)
- Final consumption has had a flatter trend, with the transport sector on the rise, partly offsetting the loss of industrial consumption

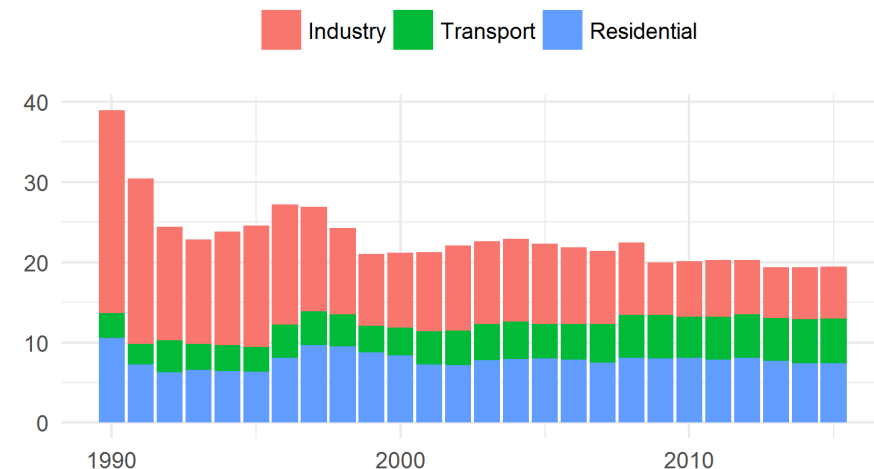
Gross and final energy consumption

Eurostat, Mtoe



Energy consumption by main sectors

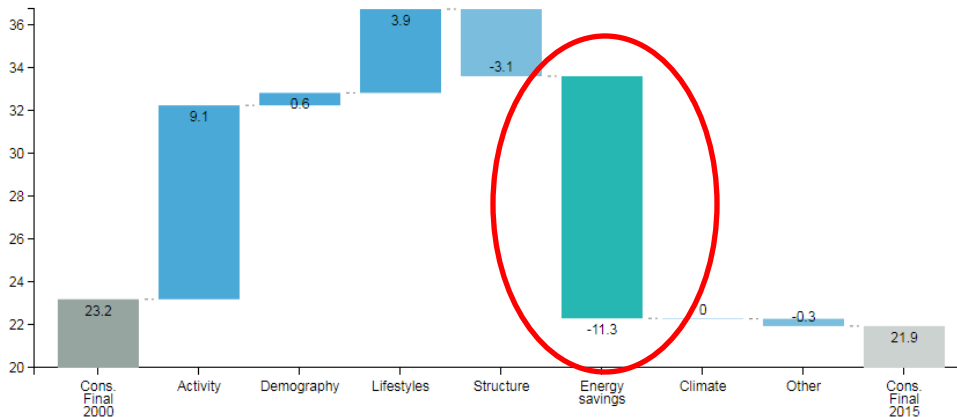
Eurostat, Mtoe



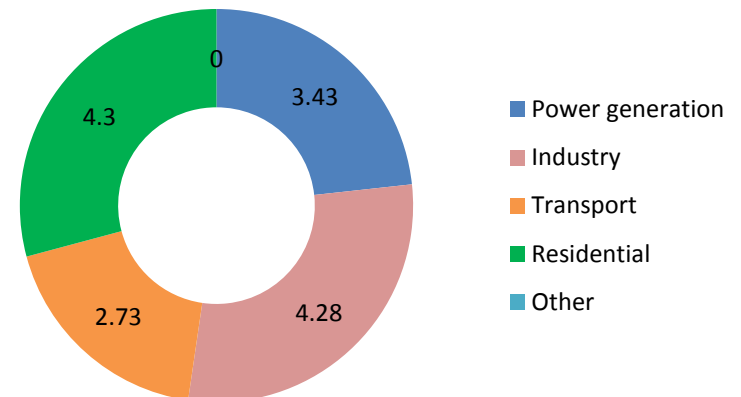
Significant energy savings already achieved as a result of energy efficiency

- Decrease of energy demand incorrectly attributed only to loss of industrial units (large consumers), though this factor certainly played a role
- Significant efficiency gains recorded in the last 15 years in almost all sectors, offsetting the growth of economic activity and development

VARIATION FINAL ENERGY CONSUMPTION - ROMANIA - MTOE (2000-2015)



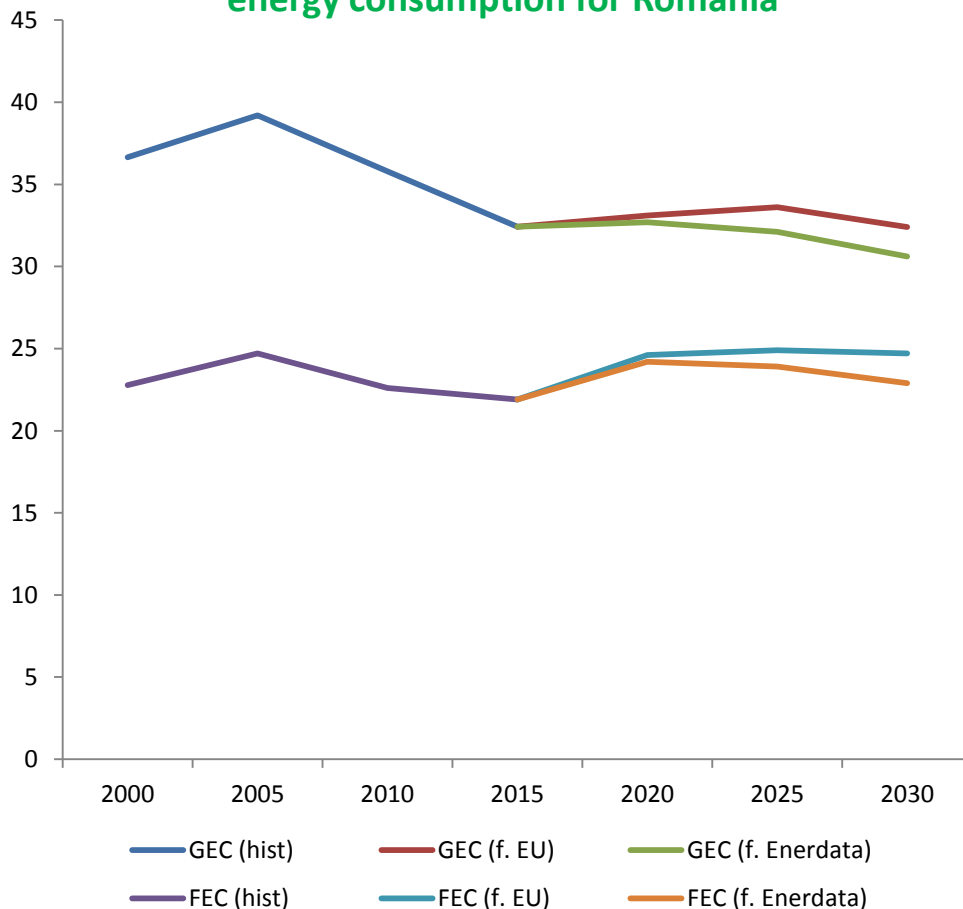
Total energy savings 2000-2015
(power generation + final consumption)



Source: ODYSSEE

Perspectives of energy efficiency

Forecasted evolution of gross (GEC) and final (FEC) energy consumption for Romania



Sources: EC Reference Scenario 2016, Enerdata

- Evolution of energy efficiency is highly dependent on policy implementation:
 - In the long run, economic development will trigger the energy consumption up
 - Role of the thermal power plants & efficiency of energy transformation will also be important
 - Transport and buildings are key area of interventions
 - Incentives for energy efficiencies in retail markets should be streamlined
- Investments in energy efficiency and finance availability are another key parameters

Clean energy package proposals

Key initiatives impacting the energy efficiency sector



Energy Efficiency Directive:

- increase of the EU's energy efficiency target from 27% to 30%
- decrease of the primary energy factor (PEF) from 2.5 to 2

Energy Performance of Buildings

- fully decarbonise national building stocks by 2050 (with milestones for 2030)
- introduction of building automation and control systems as an alternative to physical inspections
- green mobility requirements

Renewable Energy Directive

- increase of RES in heating and cooling by 1% per year between 2020-2030
- third-party access to district heating and cooling when produced from RES or waste
- customers are allowed to disconnect from non-efficient DH&C and produce their own energy locally

Perspectives for energy efficiency

Key intervention areas

- Energy efficiency of buildings
- Power & heat generation sector
- Transport (development of green mobility)
- Energy infrastructure (district heating, electricity distribution)
- Cities (smart technology deployment)

Key hurdles

- Lack of clarity regarding our energy goals for 2030 (energy strategy)
- Intelligent financing is a key aspect
- Household purchasing power still lagging behind peers in Western Europe

With short-to-medium actions we can do a significant change


- Some important legislation is missing (PPP, EPC fiscal treatment)
- The role model of public authorities is still insufficiently exploited (energy efficiency of schools & hospitals should be a priority)
- Role of some legislation should be re-thought (e.g. links between energy audits and implementation of recommended measures; promote the implementation of effective environmental management system in line with international standards)
- The relationship between environment legislation and energy efficiency (clever energy efficiency is a good way to avoid GHG emissions in particular in large cities)


About ARPEE





Our commitments


A faint, light-colored graphic of a city skyline with various buildings is visible in the background of the commitments section.


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Promoting energy efficiency and energy saving on the whole energy chain
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Reducing energy dependence of Romania
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Stating energy efficiency and energy saving as key priorities of Romania's energy and environment strategy
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Energy efficiency- key factor against climate changes and global warming
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Energy efficiency- major contribution to the growth of economic competitiveness, the creation of new jobs, the increase of the energy bills affordability
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Buildings' energy rehabilitation

Our members

