

## Energy Efficiency Trends

### Overview

ODEX is the index used in the ODYSSEE-MURE project to measure the energy efficiency progress of the main sectors (industry, transport, households) and for the whole economy (all final consumers). The use of ODEX indicators in Romania has enabled the quantitative illustration of the energy efficiency policies.

As a result of all sectoral evolutions a global decrease in the ODEX indicator has been registered. By choosing 2000 as the basic year (100 %) the value of the Global ODEX indicator was 84 % in 2011. A value of ODEX equal to 84% means that the energy efficiency gained 16%.

During 2000-2011, final energy consumption increased with 2% and GDP with 47%. The evolution of ODEX was better than the European average (10%). Household and Industry sectors have contributed to this significant improvement.

### Industry

The manufacturing industry has also had a favourable evolution. In comparison with the year 2000 (100 %) the ODEX indicator calculated as an index on three consecutive years decreased to 79 % in 2011. This means that energy efficiency gained 21%. Also chemicals had a favourable evolution. It decreased with 42%.

### Households

The household sector has registered the most favourable evolution from the point of view of energy efficiency. By choosing 2000 as the basic year (100 %) the value of the ODEX indicator for this sector was only 72 % in 2011. This means that energy efficiency gained 28%. Specific electricity increased with 47% and space heating with 32%.

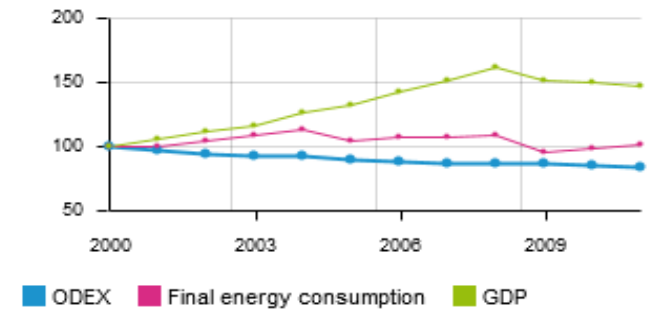
These evolutions in the household sector were influenced by two divergent factors

- Initiation of political and technical measures for increasing energy efficiency (labelling of household appliances, thermal insulation of houses);
- Increase in the comfort level of population (introduction of air conditioning, increase in household appliances ownership).

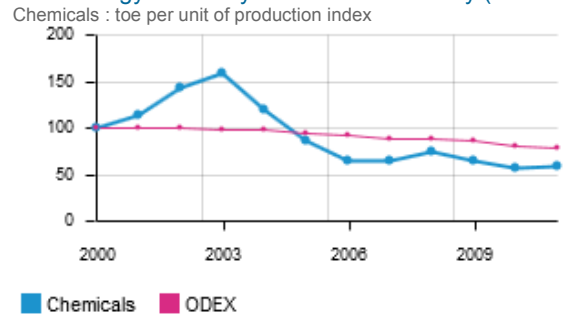
### Transport

The transport sector is in a less favourable situation from the point of view of energy efficiency. In comparison with the basic year 2000 (100 %), in 2011 the ODEX indicator value was 101 %, after being 108% in 2005. The descending trend registered in the last years is, nevertheless, promising. Since 2005 energy efficiency index had a decreasing trend, implying energy efficiency improvements (reaching around 11%). Previously, the energy efficiency index had been increasing between 2000 and 2003: such a trend was driven by a very high increase in activity (on the background of economic re-launching) that led to utilization of inefficient means of transport. The adopted measures led to performance improvement after 2003.

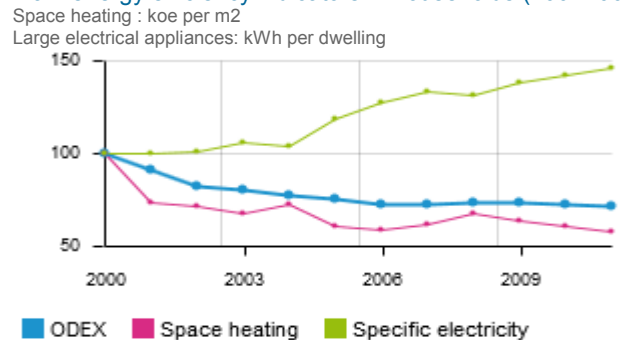
Energy cons., GDP and energy efficiency index (100=2000)



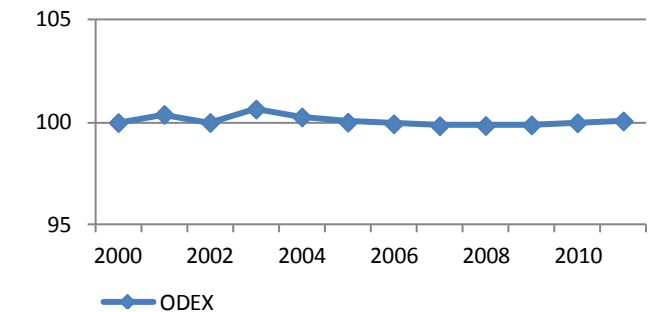
Main energy efficiency indicators in industry (100=2000)



Main energy efficiency indicators in households (100=2000)



Main energy efficiency indicators in transport (100=2000)



## Energy Efficiency Policy

### Institutional and energy efficiency targets:

In August 2014 entered into force the Law no. 121/2014 on energy efficiency. The Law transposes the European Union regulations set out under Directive 2012/27/EC regarding energy efficiency, into national legislation. The main purpose of this law is to establish a coherent legislative framework for the development and application of the national energy efficiency policy in order to achieve the national target for increasing energy efficiency.

The established measures for energy efficiency apply to: primary resources, production, distribution, supply, transmission and final consumption.

Law no.121/2014 on energy efficiency established, within ANRE, the Energy Efficiency Department. The Department is responsible with transposing the provisions of the law into secondary legislation.

Other institutions involved in the field of energy efficiency are the Ministry of Energy, Ministry of Economy, Trade and Tourism that implements government policy in the energy sector, including energy efficiency and renewable resources; the Ministry of Regional Development and Public Administration for the housing sector, the Ministry of Environment, Water and Forests, the Ministry of Internal Affairs, for local government, the Ministry of Transport, for the transport sector. These institutions are cooperating with ANRE. In 2014, Romania developed the third National Energy Efficiency Action Plan, according to the provisions of the Directive 2012/27/EC. Romania's national indicative energy efficiency target for 2020 is to save 10 million toe of primary energy, which represents a reduction of 19% in the volume of primary energy consumption (53 million toe) forecasted in the Primes 2007 model for the realistic scenario. Achieving this target implies that in 2020 primary energy consumption will be 43 million toe, while total energy consumption will be 30 million toe. The measures provided by the NEEAP III represented the basis for establishing 11 national EE Programs, grouped into **5 sectors**.

### Main energy efficiency policy measures and their impacts

Sector	Main objectives and measures	Impacts / Total savings (Mtoe) 2014-2020
<b>Cross-sectoral</b>	National Investment Plan	0,424
<b>Industry</b>	Energy Efficiency in industry framed in EU-ETS	0,98
	The promotion of CHP's	0,24
	Energy Audit and Energy Management	0,35
<b>Buildings</b>	Thermal rehabilitation of governmental buildings	0,023
	Thermal rehabilitation of residential buildings financed by bank loans with government guarantee	0,9
<b>Transport</b>	Program to stimulate the national car park renewal for legal entities and liberal professions	0,294
	Modernization of urban public transport	0,167
	Alternative Mobility	0,445
<b>Public services</b>	Thermal rehabilitation of buildings (offices, commercial buildings)	0,209
<b>Tertiary</b>	Promoting the development of energy service companies – ESCOs	0,641