Reality of a Sustainable Economy

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Abstract: *Sustainable development addresses the complex concept of quality of life, economically, socially and environmentally, by promoting the idea of balance between economic development, social equity, efficiency and environmental conservation. This article aims to analyze a number of indicators of sustainable development by establishing specific passage to a reasonable and realistic development model generating high added value, interest in knowledge and innovation in order to continuously improve the quality of people's lives and their realities as well as the harmony with the natural environment.*

Keywords: sustainable development, sustainability, economic growth.

JEL classification: Q01; Q56; F43.

1. Introduction

Until recently, the concept of environmental protection was thought to be a concept for which only environmentalists fought. In reality, the environment concerns us all: our environment is reflected in everything what we do: the way we live, how we work, our health and quality of life.

Europe was one of the first areas on Earth who understood the importance of environmental conservation and the role of the environment in an area of economic and social development. The European Community has realized that the environment has been threatened in recent decades by human activities embodied in large-scale pollution of air, water, the use of natural resources such as uncontrolled deforestation, fishing and extermination of species of animals and birds and their habitats. Europe faces this challenge using human knowledge and technology, bringing a higher degree of happiness and standard of living of the people.

An impressive institutional network has been developed in order to deal with environmental problems that have emerged during recent decades. This network was expanded by creating special ministries in most countries, as well as establishing the United Nations Environment Programme and emergence of numerous non-governmental

organizations and the development of regional and world conferences since the Stockholm 1972 and ending with one in Rio de Janeiro in 1992, which analyzes all environmental issues and human development and population and its health status.

Although many of these concerns have emerged after many decades, one can not say that an agreement was settled regarding the scope of the indicators and means of achieving sustainable economic development.

Among the first indicators for measuring sustainable development there are the traditional indicators comparing development to GDP and GNP. But there is a general consensus as these indicators are not sufficient in assessing sustainability and thus a comprehensive set of indicators has been defined that should reflect and track sustainability.

The new set of sustainability indicators should provide a variety of information sources, ranked on several levels: local and regional indicators, sector indicators, resource indicators, output indicators, summary indicators.

At the basis there are the sector indicators that are used to integrate and analyze the economic, environmental and social sector level. They describe the impact of sectoral policy development on the environment, social conditions and economic efficiency and sectoral trends positive or negative effects on environment. Also, in the famework of these indicators there is a generally recognized need to investigate more closely the relationship between economic activity and human energy, in monetary terms as well as from a physical point of view.

Another set of indicators are indicators that describe the resource consumption of capital accumulation in all its three forms (human, social and natural). They provide information about the extent of present consumption affecting future generations. Analysis of this kind are facing evaluation difficulties as many resources have multiple uses, as to both inputs and key ecosystem stability often use value can not be measured in terms of price. The main aim of these indicators for human capital and human resources is diminishing physical consumption per unit of GDP, while in the case of human capital objective is to capitalize..

Current sustainable development is questioned from the point of view of employment, because so far it has led to unemployment, reduced employment opportunities and wasted labor.

The result indicators are divided into three main areas: economic indicators, social indicators and environmental indicators. Selection of the most representative indicators to be taken into account represents a rather difficult task because they have to satisfy both the need not to exclude any of the key issues involved in three major areas, but also not overload with too many elements which would lead to difficulties to draw overall conclusions.

The most relevant result indicators are:[14] economic indicators - represent economic development, acquisition and replacement of capital, which is calculated using the rate of saving, productivity and financial, social indicators - represent employment (unemployment rate, employment rate), education (enrollment rate, the rate of graduation), health (life expectancy) and income (poverty incidence, income available per person); environmental indicators - these are represented by climate change (greenhouse gas emissions and intensity), air (sulfur or nitrogen oxide emissions and their intensity), biodiversity (the share of threatened species), water resources (water resources consumption intensity), forests (current consumption of wood) and the fishing fund (fish production and consumption).

In this set of indicators employment and labor market indicators are not missing. "It is a well known and recognized, frequently cited, truth according to which human resources, human capital is a prerequisite factor and purpose of sustainable development. Properly

[14] The interim report on the OEDC Three Year Project on Sustainable Development, 1999

managed, human capital, given its productive capacities, participatory and innovative is the main factor for adherence and support the transition to a market economy .... Currently in Romania, improving labor market information system is dictated by requirements relating to the preparation of EU accession "[15]

Synthetic indicators provide a summary overview of current achievements in the field of sustainable development, by processing or interpreting information on several levels.

Many of the scientific-methodological concerns have resulted in numerous proposals for indicators, some of which, such as the Human Development Index (HDI) had already entered into domestication.

One can speak here about other summary indicators such as Indicators of Sustainable Economic Welfare. To calculate this indicator household consumption is needed, consumption which is then adjusted according to certain positive and negative influences, coming from the economic, environmental and social factors.. Another important summary indicator is the natural rate of savings (genuine savings) which is the actual proportion of savings from one country to ensure a better future. In this way, the aggregate savings is adjusted for impairments caused by physical capital, natural resources consumption, investments in human capital and the level of damage caused by emissions of greenhouse gases.[16]

The aspects of sustainable development, however, can not be captured by a single indicator, even if it widens the scope of the factors taken into account. Therefore, there will be more and more proposals and theoretical preoccupations will never stop. An important example in this respect is the Human Economic Development Indicator (HEDI), which is calculated based on a number of indicators such as GNP per capita share of the GNP per capita in the country with the highest level; the ratio between admitted degree of pollution considered optimal and actual degree achieved; ratio of the total expenditure per capita with effective environmental protection and the highest expenditure level in this regard.[17]

2. Measuring sustainable development

Of the more than 100 existing indicators, 11 were identified as key indicators. They will determine how the big picture will look like, if the European Union has made some progress in terms of sustainable development objectives and targets defined in the strategy. For an overview, we need to look at the progress of these indicators in various fields of application[18].

- In the field of socio-economic development, the considered indicator was *real GDP growth per capital*.

GDP includes goods and services that markets and products belonging to governments and non-profit institutions. To measure the real rate of GDP growth rates prices are expressed in the corresponding values for the previous year, so the value changes from one year to another to have a certain reference level.

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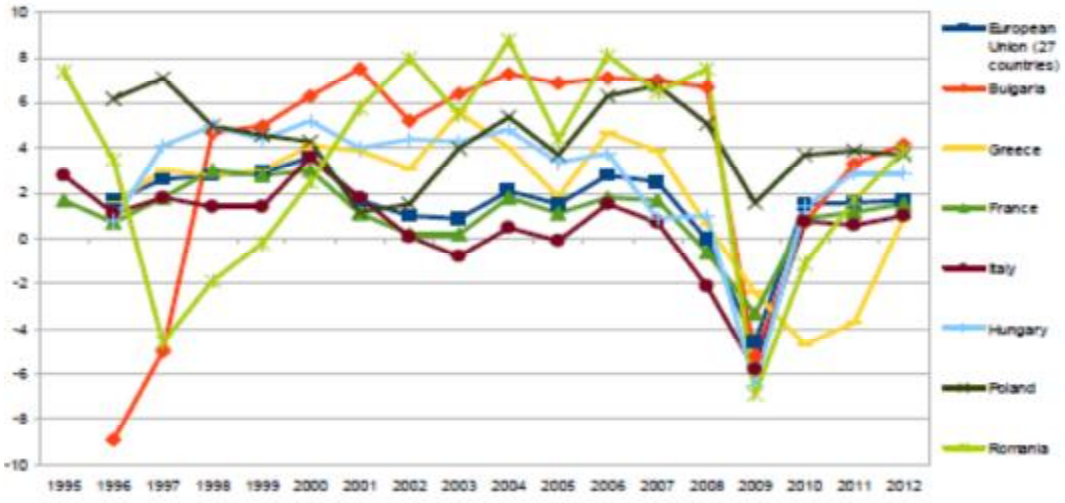
[15] Perț, S., *Un sistem informațional operațional al pieței muncii*, Raporturi de muncă, nr. 7/1998

[16] Expanding the Measure of Wealth. Indicators of Environmentally Sustainable Development, The World Bank, Washington DC

[17] Burghelea, C., *Modelul dezvoltării durabile*, Theoretical and Applied Economics, Bucharest, 2012, pp. 96-107

[18] www.epp.eurostat.ec.europa.eu

Figure no. 1. Real GDP growth per capital



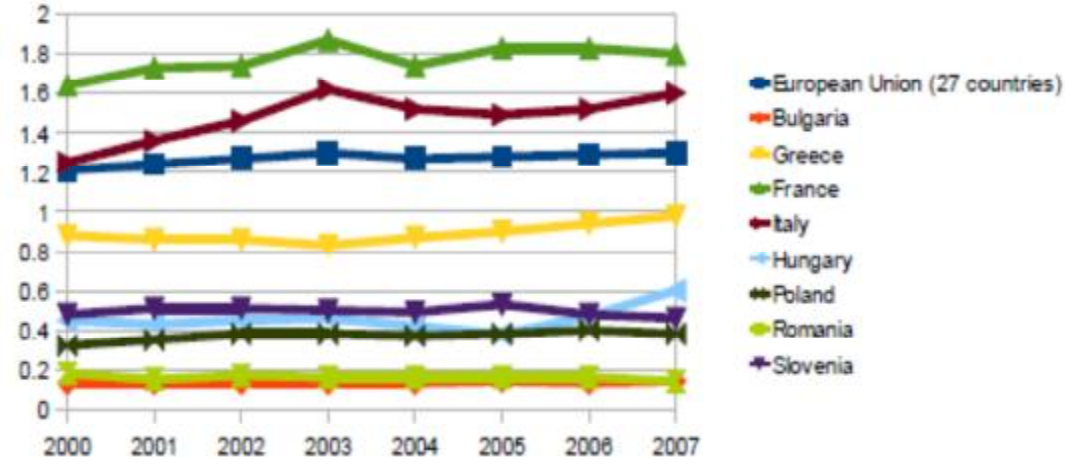
Source: ec.europa.eu/eurostat

As can be seen from Figure 1 Romania has seen a sharp GDP increase from 1996 to 2002, the 2009 economic crisis affecting the stability that this indicator had. Today, Romania is at the same level as Slovenia or the average for the European Union, but was overtaken by countries like Hungary and Poland.

ü In the area of sustainable consumption and production, the indicator that was taken into account is *resource productivity*.

Resource productivity is GDP divided by domestic material consumption (DMC). DMC measures all material goods directly used by an economy. It is defined as the total amount of raw materials extracted from the domestic territory of the economy plus total imports minus total exports. It is important to note that the term "consumption" used in DMC refers to apparent consumption and not to the end consumption. DMC does not include streams related to imports and exports of raw materials and products that originate outside the focal economy.

Figure no. 2. Resource Productivity



Source: ec.europa.eu/eurostat

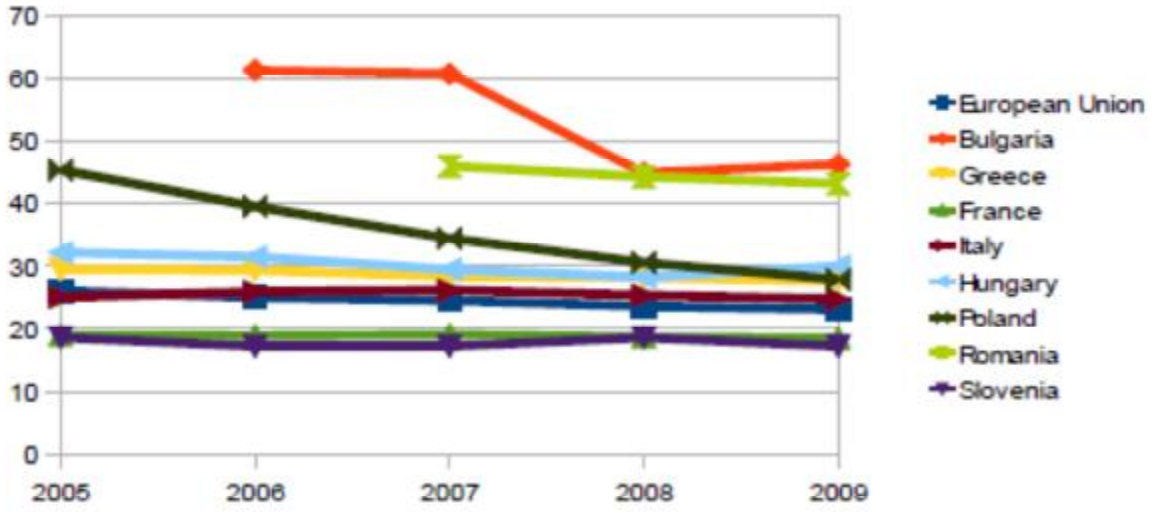
As can be seen from Fig. 2 Romania together with Bulgaria places last in this chapter, first in top hovering countries like France or Italy.

- In field of social inclusion an indicator was considered in order to determine *the population at risk of poverty and exclusion*.

Europe 2020 strategy promotes social inclusion, in particular through the reduction of poverty by trying to remove at least 20 million people at risk of poverty and social exclusion for this reason. This indicator summarizes the number of people who are either at risk of poverty or material deprivation or living in households with very few employed members. The interaction between these indicators is excluded. People at risk of poverty are those who have an income beneath the poverty threshold, which is calculated as 60% of the national average disposable income. The "material deprivation" refers to economic effort, durable goods, housing and the environment in which it lives. Persons in severe material need live in conditions constrained by lack of resources and not affording at least 4 of the following: payment of rent and utilities, house heating, to face unexpected expenses, eat meat, fish or protein every two days, a week of vacation per year, a car, a washing machine, color TV, telephone.

People who live in homes where low labor intensity are people aged 0-59 years who live in homes where adults work less than 20% of their total potential in the last year.

Figure no. 3. Population at risk of poverty and exclusion



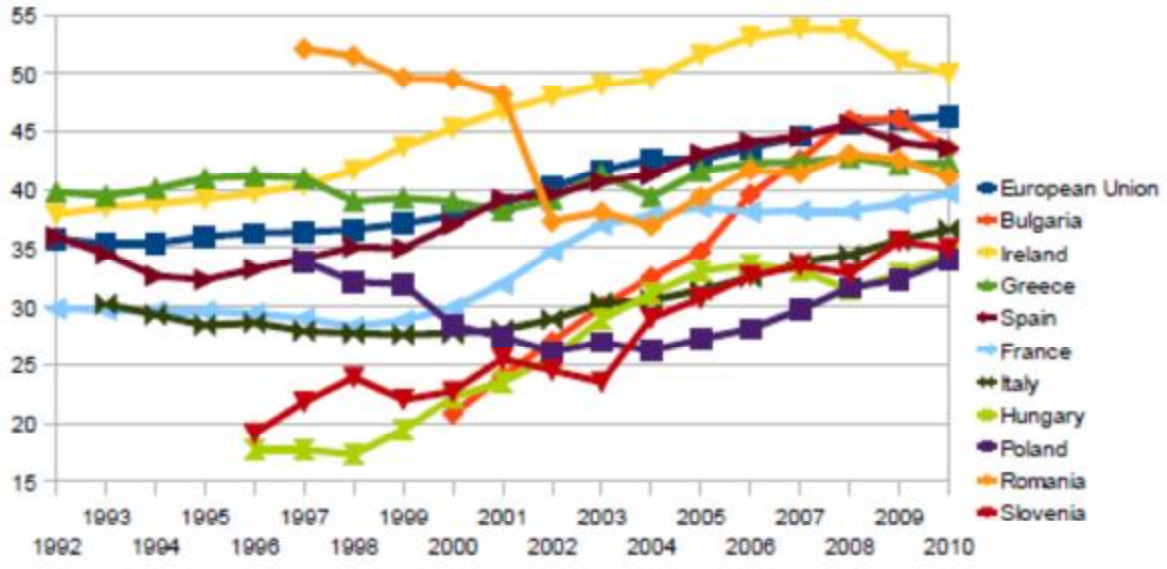
Source: ec.europa.eu/eurostat

From fig. 3 we observe that Romania, along with Bulgaria has the highest risk of poverty of the population, and this percentage is relatively constant from 2007 to 2009. Among the countries with the lowest risk of poverty there are Iceland, Norway and Sweden.

- In the field of demographic change, the indicator *employment rate of older people* was considered.

Employment rate of older persons is calculated by dividing the number of persons aged 55 to 64 by the total population in the same age group. The indicator is based on EU study on manpower. The survey covers the entire population living in private dwellings and exclude people living in hostels or hospitals.

Figure no. 4. Employment rate of older people was considered.



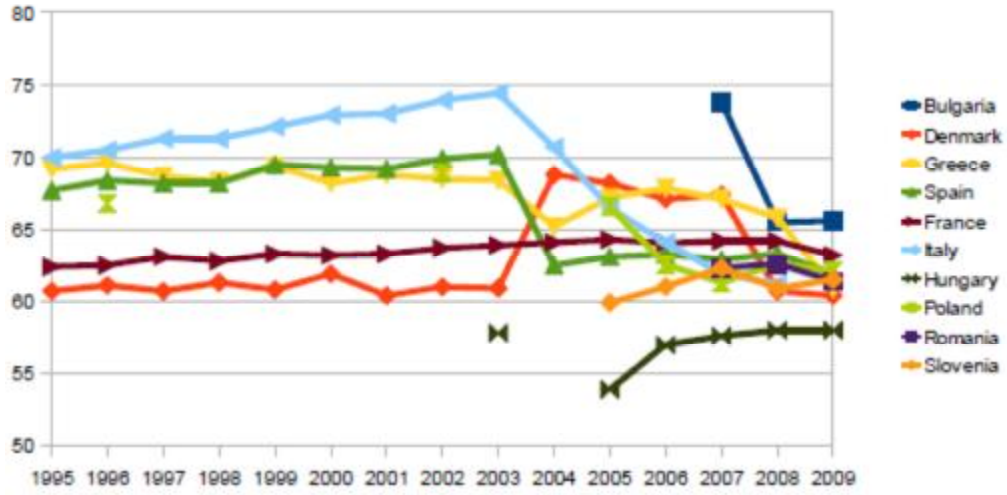
Source: ec.europa.eu/eurostat

Romania reached in 2002 a level of employment rate of people aged between 55 and 64 similar to those in the EU and Spain between 1996 and 2001 after it was higher, comparable to that in Denmark (see fig. 4). Currently, the employment rate of older people is 50% lower than that of Denmark (leader in 2010 with 80%) but 10% higher than that of Turkey which was in 2010 to 29.5 % (the last country in this ranking).

- In the field of public health, *life expectancy* was the chosen indicator.

According to Figure 5, life expectancy in Romania is higher than in countries such as Hungary and Denmark in 2009, with an average of 62.1 years, while leaders in the ranking are Malta (69.7 years) and Sweden (63.5 years) and at the bottom of the table hovering Slovakia (54.2 years) and Portugal (59.4 years).

Figure no. 5. Life Expectancy - women

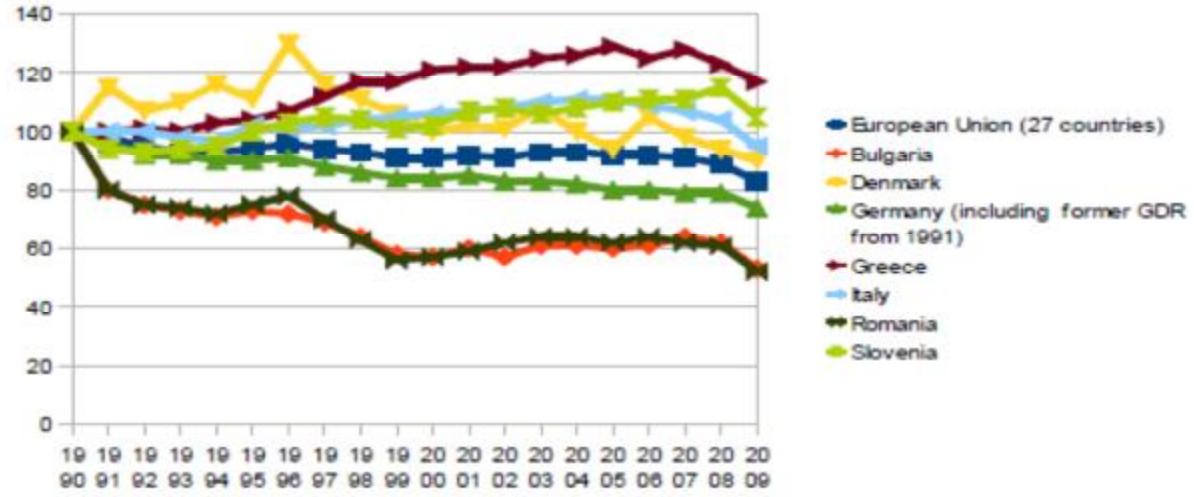


Source: ec.europa.eu/eurostat

- In the field of climate change and energy, indicators that were chosen are: emission of greenhouse gases and the percentage of renewable energy used.

The first indicator shows the total emissions of greenhouse gases, showing total annual greenhouse gas emissions compared to base year 1990. Some greenhouse gases are: carbon dioxide (CO2), methane (CH4), nitrate oxide (N2O) and the so-called F gases (hydrofluorocarbons, perfluorocarbon and sulfate hexafluoride (SF6)). These gases are aggregated into a single unit called the Global Warming Potential gases (global warming potential - GWP). Emissions of greenhouse gases are expressed in units of CO2 equivalent. This indicator does not include emissions related to farming, emissions from international aviation and maritime transport. Excepting Malta and Cyprus, all EU Member States have individual limits set by the Kyoto Protocol. EU decided by Council Decision 2002/358/EC to decrease rates of emissions of greenhouse gases by 8% by 2014.

Figure no. 6. Indicators of greenhouse gases emission and the percentage of renewable energy used



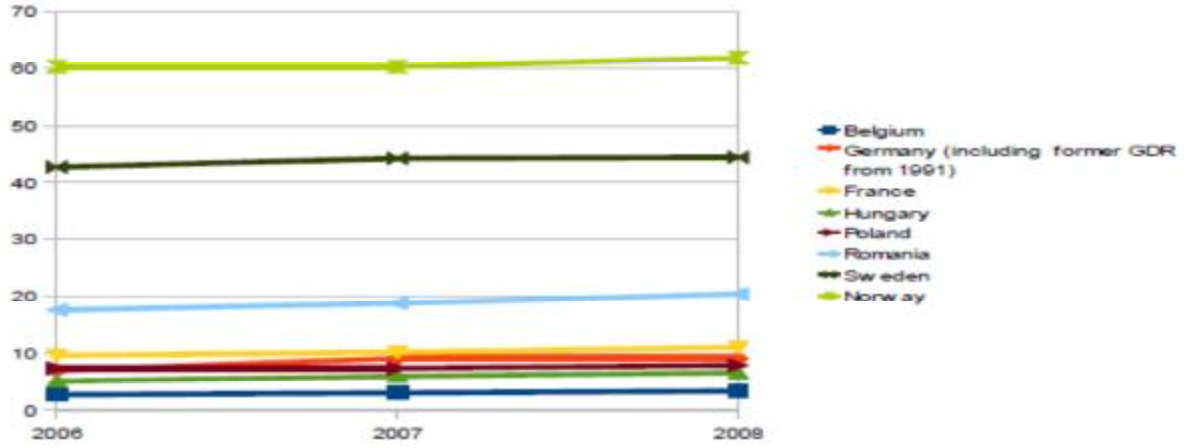
Source: ec.europa.eu/eurostat

Romania is among the least polluting countries, together with Lithuania and Latvia. Turkey and Portugal are on the front positions, exceeding by more than 100% the emission of greenhouse gases in our country (see fig. 6).

The second indicator is calculated based on energy statistics covered by the Energy Statistics Regulation. This indicator can be considered as an estimate of the indicator described in Directive 2009/28/EC as the statistical system is not fully developed for specific renewable energy technologies. For now, the contribution of these technologies is marginal.

According to Figure 7, Romania is in the top half countries using renewable energy, while Norway, Sweden and Finland are on top and last rank Malta, UK and the Netherlands.

Figure no. 7. Use of renewable energy



Source: ec.europa.eu/eurostat

In the field of sustainable transport, *energy allocated to transport relative to GDP* was the chosen indicator.

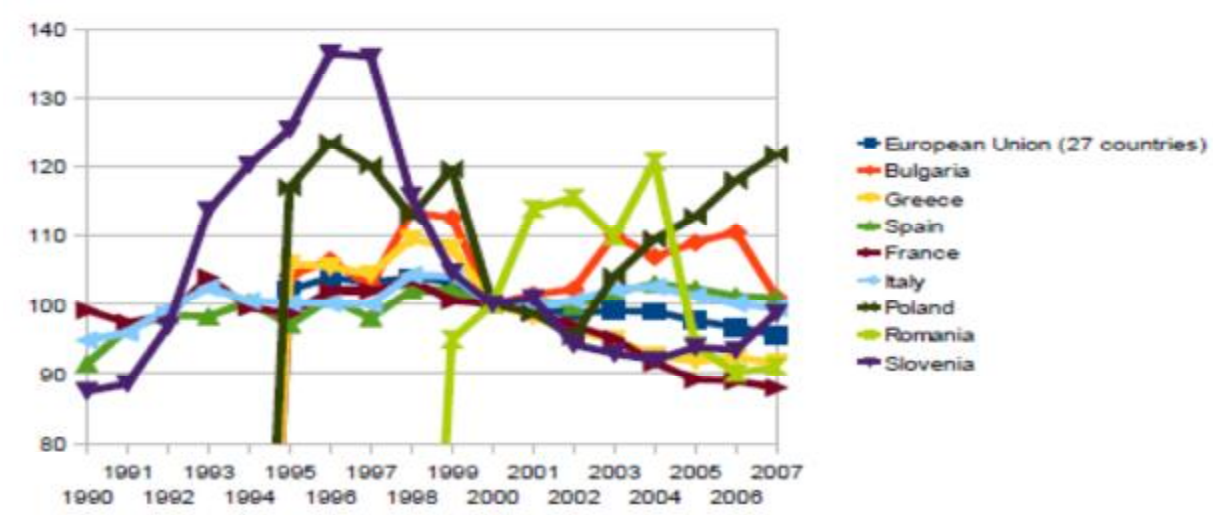
Acest indicator este definit ca raportul dintre consumul de energie alocat transporturilor şi PIB. Energia consumată de către toate tipurile de transporturi (pe şosele, căi ferate, căi navigabile şi aviaţie) este luată în calcul, inclusiv transportul comercial, public sau individual, cu excepţia transportului maritim.

În România acest indicator a avut o scădere semnificativă în anul 2005, în anul 2006 menţinându-şi trendul descrescător iar în 2007 înregistrând o uşoră creştere. În 2007 se situa undeva la coada clasamentului, alături de UK, Suedia sau Elveţia. Pe primele locuri se situează Polonia, Austria sau Ungaria (vezi figura nr. 8).

This indicator is defined as the ratio of energy consumption to GDP allocated to transport. Energy consumed by all modes of transport (road, rail, waterways and aviation) is taken into account, including commercial transport, public or private, except shipping.

In Romania this indicator had a significant decrease in 2005, in 2006 it maintained its downtrend and in 2007 recorded a slight growth. In 2007, this indicator ranked Romania somewhere in the bottom, along with the UK, Sweden or Switzerland. The first places are occupied by Poland, Austria and Hungary (see figure 8).

Figure no. 8. Energy allocated to transport relative to GDP



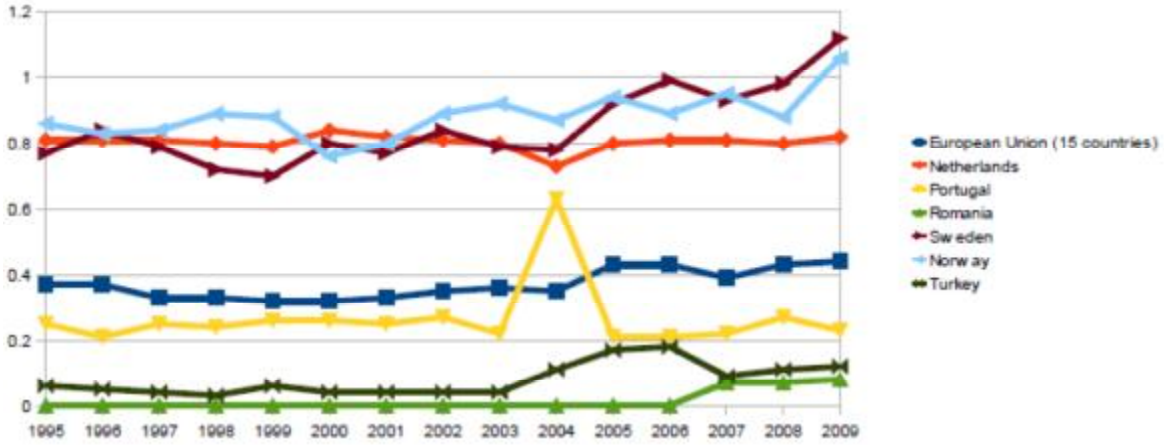
Source: ec.europa.eu/eurostat

- Indicators of natural resources are the *number of ornithological resources* and the *extent of fishing outside biological limits.*
  However, data for this indicator to Romania were not included in the statistics.

- The chosen indicator for assesing global partnerships is *Official Development Assistance- ODA.*

ODA represents the number of loans that are taken by the official sector to promote economic development and welfare in countries receiving loans. Payments and release of funds are allocated for the purchase of goods and services. Payments record the actual international transfer of funds, goods or services valued at the cost of the donor (see fig. 9).

Figure no. 9. Official Development Assistance



Source: ec.europa.eu/eurostat

In this respect, Sweden, Luxembourg and Norway are the top spots. Romania ranks last, with Bulgaria, Latvia and Poland. But Romania is less than 150% behind the leading countries.

3. Conclusions

Sustainable development in our country is seen as an adaptation of society and the economy to major problems humanity currently faces: climate change, water crisis, drought,

desertification, waste, population growth, poverty, migration, etc. To eliminate their repercussions for human development there is a need to ensure initiation and support concrete actions, summarized in specific and measurable objectives, subject to national strategies for sustainable development.[19]

A prerequisite for achieving sustainable development is the implementation of an appropriate mix of macroeconomic policies, which ensure sustainability of material and energy used for growth.

For Romania, where many may ask themselves whether there is sustainable development, the answer would be very simple: there are viable solutions to reach the level of developed countries. Romania must enter quickly the track of economic growth, a sustainable growth based on performance management in all sectors of economic and social activity. Thus we are left to reach as quickly as possible the national strategy objectives in areas such as education, health, investment in research and development, rural development and administrative capacity.

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