

Paradoxes of Sustainable Development within European Integration

Janusz Grabara¹

Abstract: In these days, more and more attention in being paid to environment and ecology protection. Political, social and economic actions are much better seen, when decisions are taken in harmony with the natural environment. People began to realize the importance of the environment, they began to appreciate the actions of those, who do care about, and condemn those who don't. Sustainable development is defined as "the right to meet the development aspirations of the present generation, without limiting the rights of future generations" (Smith & Rees, 1998, p. 23). So, the current economic development should not affect, adversely, the economic development of future generations. Environment destruction and, the endless and only sometimes, use of scarce natural resources, without any thoughts, by the present generation, may lead to a situation, in which these resources will not be enough for future generations. On the one hand, it can be assumed that it is about a process of development of individual countries and cities, on the other hand, the definition can be seen from the broader business, that definitely makes the synthesis of the needs of the present generation, with the ability to meet the needs of future generations. From my point of view, sustainable development is closely related with the natural resources, and taking care and reasonable use of those, will allow for further development. Not only in a world's scale, but also for every country or company. It will cause a development of new technologies, products, services, and finally, better life conditions for every single human being.

Keywords: sustainable development; European Union; integration; indicators; social life

1. Sustainable Development in a Nutshell

Due to the increased interest in issues of sustainability, it takes a particular significance. It is a multilayered phenomenon, encompassing such research plane as ecology, philosophy, culture, society, politics, technology and economics. The main goal of sustainable development is the introduction of an integrated governance, which pays special attention to corporate merger of environmental sustainability, socio-economic, spatial and institutional and political. This concept is realized by carrying out environmental, socio-economic and spatial category policy, with an emphasis on sustainable development in the political sense as well as in the field of management. (Brzeziński, Grabara & Pietrasieński, 2012)

The principles of sustainable development in the economy, concern including the organic matter, so far unprecedented in the economic history, in the area. This reorientation of the world economy, gives rise to questions concerning the major determinants of determining the possibility of developing the concept of philosophical and practical solutions, applied, for example, by the companies.

_

¹ Professor, PhD, Ing., Faculty of Management, Czestochowa University of Technology, Poland, Address: ul. Dabrowskiego 69, room. no 2,42-201 Czestochowa, Poland, Tel: +48 34 3250 431, fax: +48 34 3254 066, Corresponding author: janusz@grabara.eu.

The main objective of sustainable development is to protect the natural capital as a few important rules. This concept is important to reproduction of renewable resources, the integrity of the natural environment, the greening of the economy and its development-environment cannot be in conflict with the interests of the economy. The last principle refers to the economization or policy in a way that minimizes the social cost. (Grabara & Starostka-Patyk, 2010)

Currently, we are dealing with two concepts of development. The first one is called the development of conventional thinking and is based on a scale of one generation, all actions are taken in order to achieve material success. In this concept, the prerequisite for the development of social and economic development, is a high rate of economic growth. The following issues, that are not covered by simple economics calculation, such as the ecological consequences of industrial expansion are associated with it. Sustainable development based on this concept, focused its attention primarily on environmental threats and then focused on the equally important social issues. In this case, the main assumptions of this approach, is to increase prosperity, seen through the lens of environmental conditions of life. The objective of sustainable development is to increase, not only the level, but also the quality of life. (Grabara, 2013)

Sustainable development refers to the process of human development, in which, resource use aims to meet human needs, and takes place at the same time, ensuring the stability of natural systems and the environment. This is done in such a way, that the requirements can be meet in present and in the future. Sustainable development focuses on both, use the resources of the natural environment in 100 percent on the one hand, and on the other hand, in a rational manner and as little as possible. (Grabara & Bajdor, 2012)

The concept of sustainable development is closely related to the eco-development. Analyzing the concept of sustainable development, it can be seen that sustainable development, in this case, is defined as a balance between wildlife issues, economics and culture. According to this concept, the economic development should not seriously impact on the environment in which man lives and lead to the degradation of the environment. Sustainable development is development which owned heritage environment is maintained in undisturbed state for a period of time, thus allowing future generations to enjoy these gifts of nature

2. Sustainability in Integrated Europe

2.1. Green Jobs on the Rise – but are they Decent Jobs too?

The 'environmental goods and services sector' (EGSS) includes production activities that generate products environmentally friendly. Environmental products have been produced for the purpose of resource management or due to environmental protection. From the years 2002 to 2011, employment in this sector increased by 37 %. In the year 2012, about 4.2 million people were employed in this sector, most of them in environmental protection, which includes prevention, reduction and elimination of pollution and any other environmental degradation. However, growth in resource management activities, has contributed most to the overall increase in employment in this sector. Between the years 2002 and 2011, employment in this area almost doubled.

Many of the changes in the socioeconomic development have been influenced by the financial and economic crises from the year 2008 and the recession that followed it. The slowdown in economic

¹ Labor Market Policy, Eurostat Statistical Books, 2014.

activity not only directly restrained real gross domestic product (GDP) growth, but also led to lower level of investments, higher level of unemployment and to a lesser extent restrained household saving. The employment trend has been also deteriorated, although it stabilized over the last two years. Overall expenditure on research and development remained more resilient, but it lacked the impetus to stay on-course to meet its targets by the year 2020¹. There were also positive developments in: labor productivity increased and energy intensity declined. However, it is too early to interpret these trends as major turnarounds. They might reflect delayed economic adjustments or turbulence rather than actual long-term improvements.

2.2. Salaries in Poland – are we Going to Chase the West or Going Down to East?

"Now the Polish employer does not give as much as Danish or Dutch, but chasing Europe. I think we catch them for 7-9 years. Then catch up with the European average" - Prime Minister Donald Tusk insisted in an interview for "Gazeta Wyborcza" (Molga, 2014). Announcements of the imminent arrival of well-being ruthlessly denies the EU Eurostat. Over the past five years, instead of chasing the EU average wages, venture out from her becoming one of the most poorly paid workers in the European Union.

Eurostat compiled labor costs (in simpler mainly remuneration received by employees per hour) in different European countries. Over the past five years (2008-2013) the EU average jumped from 21.5 to 23.7 euros per hour. In the case of the richer parts of Europe (EU 17) from 25.7 to 28.4 euros. Meanwhile in Poland are constantly 7.2 euros per hour. Since the EU average rose, in Poland are getting lower - Eurostat estimates that about 5 percent².

- This is very bad news. On the other statistics we learn after we're most busy people, though, that increasing productivity. Where the hell is this so earned prosperity? I'm afraid that entrepreneurs are willing to pay less than staff deserve.

5 percent drop it like much, but it shows that instead of catching up with the rich, our wages are falling, as in the European bankrupts: Portugal, Spain and Greece. Except that they are falling off the high horse, still earn more than we do. In the UK, labor costs decreased by immigrants ready to work for less than the native islanders. While in 2008, hourly costs amounted to 35.3% of the EU average, it now amounts to only 32.1%. We are against the Union ever cheaper labor.

2.3. Attractive Means Cheap

One side of the coin is that the low-cost Polish economy is an attractive place to invest foreign investment. On the other hand, big business well versed in our situation and knows how to take advantage of this fact by paying less and demanding government subsidies.

In Poland, creates a cheaper place of employment compared with Western European countries foreign investor usually forms in Poland only cheap jobs. It employs Poles for classes at assembly lines or counters. Professionals and managers working in the central headquarters located outside Polish borders. In this way, the average wage in those countries increases, decreases in Poland - Ryszard Florek says. (Molga, 2014)

¹ Sustainable development in the European Union, Eurostat Statistical Books, 2014.

² Labor Market Policy, Eurostat Statistical Books, 2014.

Another reason is a small number of people producing GDP per all citizens. In Poland, for 38 million people, only 14 million working in the economy, which produces the GDP. What does it mean? It follows that a worker employed in the economy earns three people. - In Germany, the economy employs 40 million people, or half of all citizens. There, one of Germany earns only two. Here too a lot of people working in institutions, offices and organizations, which in addition to being not produce GDP, the additive receive other opportunities - is scored entrepreneur.

It's the least we can blame on others, because some of the causes of stuck in our heads. In Poland, many people work in black, which is not included in the official salary or national average. The more people working legally, the higher the average salary. In countries where the share of the shadow economy is high, wages are lower, e.g. Romania, Bulgaria and Poland. By contrast, in countries where the share of the shadow economy is negligible, wages are higher.

2.4. Measuring 'True' Resource Use

Raw Material Consumption (RMC) provides the most accurate picture on resource use because it 'corrects' imports and exports levels of products with the equivalent amount of domestic extraction of raw materials that are needed to manufacture the respective traded good. In the year 2011, each EU citizen consumed 15.3 tons of raw materials. 46% of them were nonmetallic minerals, 23% were fossil energy resources, 22% biomass and 10% metal ores¹. There has been a significant drop in raw material consumption since the slowdown of the economic crisis due to fewer construction and building activities, leading to a fall in the use of non-metallic minerals such as sand and gravel.

2.5. Despite Emissions Falling, Air Pollution Still Affects European City Dwellers

Air pollution damages human health, can cause minor respiratory irritation or cardiovascular diseases and premature death. It influences the environment though, and strongly affecting quality of life in the EU. Despite significant cuts in emissions of air pollutants over the past decades, particularly matter, ozone and reactive nitrogen substances, it still pose a significant threat. Urban areas, where most the European population live, have been affected most, by poor air quality. In 2011 about 33 % of the urban population in the EU was exposed to PM 10 far above the daily limit value. Between the years 2001 and 2011 the extent of exposure above the limit value varied between 20 % and 44 % without any apparent trend over this period. Exposure to above-limit levels was slightly lower in 2011, at about 14 %. However, the trend, since the year 2001, has been much more volatile, with the top of almost 65 % in the year 2003 and 50 % in the year 2006². It is important to note that O3 concentrations are not only determined by precursor emissions but also by meteorological conditions; episodes of elevated O3 levels occur during periods of warm, sunny weather. About 5 % of the urban population in the EU was exposed to NO2 above the EU annual limit value in 2011. But between the years 2001 and 2011 NO2 exposure showed a decreasing trend.

2.7. Social Exclusion and Deprivation do not Confine to Income Poverty

Based on the index in 2011, Denmark, Germany, Austria and Sweden were the countries with the lowest level of perceived social exclusion. And the highest perceived social exclusion was reported in

¹ Government expenditure on environmental affairs, Eurostat, issue 9/2014.

² Sustainable Use of Natural Resources, Eurostat, http://ec.europa.eu/, access on 20.04.2014.

Cyprus, Bulgaria, the Czech Republic and Greece. Poverty and social exclusion seem to be closely linked to the lowest rank in terms of the objective measure of at risk of poverty and exclusion and vice versa¹. However, there are a number of unusual cases such as the Czech Republic, which, having the second lowest at risk of poverty rate in the EU, still ranks third in terms of high perceived social exclusion.

The economic crisis has influenced many of the indicators in the social inclusion theme. Trends have deteriorated in the short term, in particular after 2009, with an increasing number of people being affected by one or more forms of poverty as covered by the headline indicator 'risk of poverty or social exclusion', namely monetary poverty, severe material deprivation, and low work intensity. The same is true for long-term unemployment. In contrast, trends have been favorable for most of the education indicators, in particular early school leavers and tertiary education. However, trends in adult education, as monitored through participation in lifelong learning, are less encouraging.

2.8. Space is a Finite Resource — but not in all Countries

The biggest space for their inhabitants is offered by Scandinavia and the Baltic countries. With less than 50 inhabitants per km², these countries were much more scarcely populated than the EU as a whole. At the other end of the scale, the island of Malta was the most 'crowded' place to live in the EU, with more than 1 300 people having to share one km². The Netherlands and Belgium followed at some distance, with population densities of 495 and 365 inhabitants per km² respectively. Despite their size, Germany and Italy also show population densities higher than in most other EU countries.

3. Our Planet Is Warming — and Europe Even More

Recordings of the combined global land and marine surface temperature show a clear going up trend. The year 2012 was the ninth warmest year on record, and all years between 2001 and 2012 were among the top of 13 warmest. Warming is stronger over land and thus temperatures have risen more in the northern hemisphere than in the southern part of the world. For Europe, the average temperature in the last decade (2003-2012) was 1.3°C above the pre-industrial level, making it the warmest on record. As a result of this warming, extremes of cold have become less frequent, while the frequency of warm extremes has increased. According to simulations, temperatures in Europe will continue to increase by more than global average during the 21st century.

At first glance, the EU has made substantial progress towards achieving its energy and climate objectives. Greenhouse gas emissions and primary energy demand are constantly approaching the 2020 targets. However, an analysis of the driving forces behind these positive trends, leads to a more cautious assessment. A strong drop in energy consumption and GHG emissions between 2007 and 2011 was caused by low industrial production, transport volumes and energy demand during the economic crisis. A mild winter in 2010/2011 was another reason for further lower energy demand. The most recent reductions are thus at least in parts linked to low economic performance, rather than reflecting a thorough transformation of the EU energy sector (Ślusarczyk, Brzeziński & Kot, 2013, pp. 31-35). By contrast, the fast expansion of renewable energies is a clearly favorable trend, particularly in the electricity sector. (Kot & Ślusarczyk, 2013, pp. 206-212)

_

¹ http://epp.eurostat.ec.europa.eu, access on 20.04.2014.

3.1. New Passenger Cars Are Becoming More and More 'Carbon Efficient'

Carbon dioxide (CO2) emissions of the average car sold in the EU fell by 16.7 % between the years 2007 and 2012, cutting the EU average to 132.2 grams of CO2 per kilometer. This is close to the 130 gram which is a target for the average new car sold in the year 2015. According to the European Environment Agency, based on emission levels recorded in vehicle tests, all major car producers have met their targets for produced cars in 2012. However, most of them will need to sell increasingly efficient vehicles to meet targets in 2015 and beyond. Each producer has a different target, based on the average mass of their fleet, which is gradually phased in, meaning that in the year 2012 only 65% of each manufacturer's vehicles needed to meet the target, increasing to 100 % of cars by the year 2015. By 2020, the average car sold in the EU must not emit more than 95 grams of CO2 per km¹.

Transport volumes as well as energy consumption and greenhouse gas emissions, are all strongly dependent on economic activity. Even now, after the economic and financial crisis, EU economies are still confronted with challenging conditions. This means the evaluation results of the transport indicators should be interpreted very carefully. The economic downturn has led to decreasing all transport volumes, and has also substantially reduced energy consumption and greenhouse gases, as a consequences. These tendencies have lowered the pressure of transport's environmental impacts. Only time will show whether this is a temporary or long-term trend and whether economic recovery will affect transport's performance.

3.2. More than 40 % of the EU is Covered By Woodland

Land cover refers to the bio-physical coverage of land. 41.2 % of the total area of the EU in the year 2012 are forests and other wooded areas, 24,7% are cropland 19,5% are grassland, while built-up and other artificial areas, such as roads and railways, accounted for 4.6 % of the total area. Woodland is the prevailing land cover in northern parts of Europe and for a number of countries, whose typography is dominated by mountains and hilly areas. Woodland covered more than half of the total area in Sweden (75.6 %), Finland (71.8 %), Estonia (60.6 %), Slovenia (60.2 %) and Latvia (55.5 %). At the other end of the scale, forests and other wooded areas were most scarce in the United Kingdom (19.8 %), Denmark (18.3 %), Ireland (13.2 %), the Netherlands (12.6 %) and Malta (5.1 %)².

Despite some improvements, the EU's natural resources are under continuously pressure. Ecosystems and their services, which are the backbone of biodiversity and human well-being and development, are increasingly threatened by land take for urban and infrastructure as well as intensification of agricultural production. Some progress can be observed in marine resources. However it should be interpreted cautiously because a reduction in the size of the EU fishing fleet, has not yet led to a meaningful recovery of fish stocks. Further reforms of and new concepts within agriculture, fish and water policies, as well as in transport and consumption and production, will be needed to put use of natural resources in the EU on a strong sustainable path.

¹ The fall in rail freight transport performance slowed down towards the end of 2009, Eurostat, Issue number 11/2014.

² Land cover and land use diversity indicators, Eurostat, 2012.

3.3. Less Europeans Express Concerns with the Environmental Quality of their Residential Areas

Living conditions and housing quality are important determinants of human well-being. However, housing quality does not only depend on the quality of the dwelling itself, but also on the wider residential area. In particular, problems such as noise, pollution and environmental degradation can have direct negative consequences on the perceived quality of a residential area. In recent years the reported overall exposure of the European population to pollution, grime or other environmental problems has seen a sizeable decline, from 17.6 % in the year 2005 to 14.1 % in the year 2012. The population in different parts of Europe is differently exposed to environmental issues. At one extreme, in 2011 over 40 % of the population in Malta perceived the area, in which they lived, as being affected by pollution, grime or other environmental problems. In contrast, the proportion of residents suffering from these problems was considerably smaller in Ireland (4.0 %), Sweden (6.9 %) and Croatia (7.0 %).

3.4. Greening Taxation as a Means for Jobs Creation and Stimulating Innovation

Environmental taxes can change behavior, encouraging consumers to redirect consumption towards less taxed commodities (Puṣcă, Negruţ, Andronic & Filip, 2011). Not only can this contribute to achieving environmental objectives, it can also help raise revenues. According to literature, environmental taxes also have a less negative effect on GDP compared to other taxes, such as direct taxes (for example income tax) or indirect taxes (for example value added tax). This feature of environmental taxes means countries could use them to support fiscal consolidation or to reduce other taxes. In addition, the incentives from environmental taxes are expected to create both low and highly skilled jobs, for example in the recycling and energy efficiency sectors.

Energy taxes are the major part of environmental taxes, accounting for almost three quarters of environmental taxes in 2011. The implicit tax rate on energy (ITR) is measured as ratio of energy tax revenues to final energy consumption and represents the effective tax burden on energy. In 2000, the ITR in the EU as a whole was EUR 186.8 per tonne of oil equivalent (TOE). Until the onset of the economic crisis the ITR fell to a low of EUR 168.7 per TOE in 2008, only to climb to EUR 183.8 per TOE by 2011. The increase over 2008 to 2011 occurred against the backdrop of strong falls in final energy consumption spurred by the impacts of the economic crisis. Across the EU, the ITR varied considerably in 2011, from more than EUR 300 per TOE in Denmark to less than EUR 50 per TOE in Slovakia².

The trends observed in the good governance theme since 2000 have been mixed. There have been favorable trends as regards new infringement and the transposition deficit of EU law with respect to Single Market rules. In addition, citizens increasingly interact with public authorities over the internet. Some unfavorable trends, however, persist. Voter turnout in national parliamentary elections continues to decline, and a general shift from labor to environmental taxes, as called for in the EU Sustainable Development Strategy and more recently in the Europe 2020 strategy, has not been achieved.

¹ Sustainable development in the European Union, Eurostat Statistical Books, 2014.

² Handbook on quarterly national accounts, Eurostat Statistical Books, 2013.

4. Conclusion - Butttered Cat and Empty Houses Paradoxes

Let me finish the issue of sustainability with two examples of paradoxes, which can be related to sustainability. The first one is the buttered cat paradox, it is a common joke based on the tongue-incheek combination of two adages:

- cats always land on their feet.
- buttered toast always lands buttered side down.

The paradox arises when one considers what would happen if one attached a piece of buttered toast (butter side up) to the back of a cat, then dropped the cat from a large height. Some people jokingly maintain that the experiment will produce an anti-gravity effect. They propose that as the cat falls towards the ground, it will slow down and start to rotate, eventually reaching a steady state of hovering a short distance from the ground while rotating at high speed as both the buttered side of the toast and the cat's feet attempt to land on the ground. In June 2003, Kimberly Miner won a Student Academy Award for her film *Perpetual Motion*. Miner based her film on a paper written by a high-school friend that explored the potential implications of the cat and buttered toast idea.¹

It is estimated that in all EU countries is more than 11 million empty houses, most of which, because of over 3.4 million in Spain, more than 2 million in France and the same in Italy, 1.8 million in Germany and 700,000 in the United UK. Hundreds of thousands of empty houses and flats are also in Greece, Portugal and Ireland and in other EU countries. The number of homeless people in all EU countries in 2013 amounted to 4.1 million. (Gwiazda, 2014)

Much of empty houses and apartments in Spain, Portugal, Greece and Italy are on housing built in recent years by the sea. They were created before the financial crisis (in 2007-2008), and a significant part of which is yet uninhabited. Many of these apartments built quite wealthy people who do not intend to live in them, or even to spend the summer holidays. They were built to the wave of rising property prices to sell them at a profit or possibly rent. However, the bursting price bubble in real estate thwarted the plans of many investors, many of which suffered big losses. Some private developers even decided to demolish part of the set in unfinished houses and apartment buildings, hoping to maintain higher prices of homes built "turnkey". But it did not happen. The prices of houses and apartments in the vast majority of European Union countries declined until the second half of 2013. (Gwiazda, 2014)

It's a pretty bizarre situation in countries where in recent years built a lot of houses and flats, for which there is no effective demand from the people who have the financial resources to buy them or rent, while a growing number of poor people who cannot live under the conditions of non-market or "concessional", using subsidies of local authorities or central part of the new and old vacancy. Some representatives of charitable organizations define the non-use of the existing housing infrastructure "shocking waste" that is difficult to understand not only the homeless people.

Specific scourge of empty houses and apartments there is a good few years in Spain, where at the beginning of the current century construction boom intensified, resulting mainly from the demand for "holiday homes" from the Germans, British and Scandinavians. According to the latest data of the Spanish statistical office at the end of 2013 in Spain was 3.4 million empty houses - which accounted for 14 percent. all the houses in this country². During the past decade, the number of empty houses in

www.wikipedia.org, access on: 14.04.2014.

² Spain: Financial Sector Reform: Final Progress Report, International Monetary fund, 2/2014.

the country increased by 10 percent. According to some estimates, in the last few years, about 500,000 homes in the rough and housing starts and the apartment has been abandoned by developers, which strongly limited their investment activities.

Of course, many of these empty houses that are built on trust have been taken over by Spanish banks because their owners were not able to pay the installments on the loans. According to the representative of the Spanish Association of homeless people Provivienda, Mario Jose Aldanasa, Spain is now "a country of growing from year to year, the number of repossession of houses by banks and the increasing number of evictions, which are more and more people without a home and are more and more homes without people".

5. References

Brzeziński, S.; Grabara, J. & Pietrasieński P. (2012). Concept of Sustainable Development as an Opportunity for Energy Sector in Poland. *Metalurgia International*, Vol. 18 no 11/2012.

Grabara, J. & Bajdor, P. (2012). Implementation of the Solutions Compatible with Sustainable Development Conception and Its Impact of SME Enterprises Economic Condition. *Economic Policy in the European Union Member Countries*". 10th International Scientific Conference. September 19-21, Vendryne, Czech Republic, 2012.

Grabara, J. & Starostka-Patyk, M., (2010). Reverse Logistics Processes in Industrial Waste Management as an Element of Sustainable Development. *ICMEA 2010 - International Workshop on Economics, Management and Marketing*. Alba Iulia, Romania

Grabara, J. (2013). Sustainable Logistics Management. Sibiu: Editura Universitatii "Lucian Blaga" din Sibiu.

Gwiazda, A. (2014). Unia pustych domów/Union of empty houses. Gazeta Finansowa/Financial Newspaper, no. 15.2014.

Kot, S. & Ślusarczyk, B. (2013). Aspects of Logistics in Biomass Supply for Energy Production. *Applied Mechanics*, Vol. 309, pp. 206-212.

Molga, T. (2014). Premier Tusk: za 7-9 lat będziemy zarabiać jak reszta Europy. Eurostat: biedniejecie/Prime Minister Tusk: for 7-9 years, we will make the rest of Europe. Eurostat: the poor. *Gazeta Wyborcza*, 4/2014.

Puşcă, A.; Negrut, V.; Andronic, B. & Filip, A.C. (2011). Evolution of the Mutual Funds from Alpha Bank. *Proceedings of The 10th European Conference on Research Methods for Business and Management Studies (ISSHP/ISI Proceedings)*.

Ślusarczyk, B.; Brzeziński, S. & Kot, S. (2013). Electricity Market Liberalization in Poland and Romania. *Metalurgia International*, Vol. 18 no. 11, 2013, pp. 31-35.

Smith, Charles & Rees, Gareth (1998). Economic Development, 2nd edition. Basingstoke: Macmillan.

(2013). Handbook on quarterly national accounts, Eurostat Statistical Books,

http://epp.eurostat.ec.europa.eu, access on 20.04.2014.

(2014). Labor Market Policy, Eurostat Statistical Books,.

Government expenditure on environmental affairs, Eurostat, issue 9/2014.

(2012). Land cover and land use diversity indicators, Eurostat.

 $(2014). \textit{Spain: Financial Sector Reform: Final Progress Report.} \ International \ Monetary \ fund, \ 2.$

(2014). Sustainable development in the European Union, Eurostat Statistical Books.

Sustainable Use of Natural Resources, Eurostat, http://ec.europa.eu/, access on 20.04.2014.

www.wikipedia.org, access on: 14.04.2014.