

Increasing of the Sustainable Development Role as a Solution to Protect Environment

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Abstract: - The rapid market development and technological advancement of the energy sources sector in recent years has ensured that progress on the nature protection targets is being made and with continued policy support the targets can be achieved. Furthermore, development of sustainable technology can contribute to an overall strategy of reducing dependence on energy imports and contribute to the further modernization of the energy sector. Growing sustainable development of energy can also improve industrial competitiveness and have a positive impact on regional development and employment.

Key-words: - competitiveness, positive impact, legislative measures, long-term investment.

1 Introduction

Countries from European Union are increasingly dependent on fuel and natural gas imports as was highlighted in the Commission's Green paper on Security of Energy Supply (2000). The European Union imports 50% of its energy needs. Around 2030, this figure is forecast to rise to 70% with an increasing share for fossil fuels. This situation makes these countries particularly vulnerable economically, politically and with regard to the environment. Additionally the EU has committed itself internationally to reducing greenhouse gas emissions. Renewable sources are available locally, they bring environment benefits and they contribute to employment and the competitiveness of the European industry. Support for renewable energy is needed as long as technologies are still developing and market prices for non-renewable energy do not reflect their full costs to society due to subsidies and external costs.

Under the Directive of EU, member states have set up differentiated targets for the production of renewable electricity and they can choose their preferred support mechanism. The communications from different international conferences assesses the success of the support systems in promoting the consumption of renewable electricity according to

the national indicative targets, including cost effectiveness, cost efficiency, compatibility with the internal market, and the ability to develop different technologies.

Two aspects are important for the development of renewable electricity. Firstly the financial support and secondly the reduction of administrative and grid barriers. Concerning the financial support a range of different systems is currently operational of which the two most important are feed-in tariffs and green certificate systems.

The paper presents the significant world events, regarding the evolution of the sustainable development concept. The sustainable development concept appeared in a moment when the environmental problems were in the foreground of the policy discussions. In that moment, the sustainable development concept had represented more a collocation. The definition of the sustainable development concept, a definition which became the standard definition, was issued in 1987 in the World Commission Report for Environment and Development, "*Our common future*", known as the Brundtland Report. This concept used in the Brundtland Report was the answer to the question: "*can be maintain the economic growth without harming the environment?*"

It also presents the main purposes and objectives, which were debated at the United Nations Conference from Rio de Janeiro, regarding the environment and development and Agenda 21.

During the last 25 years the world has become aware of the environmental problems its development is causing. Significantly, some of these problems are now affecting the entire Earth. Air pollution from energy production, transportation and the consumption of natural resources and production of waste is reducing air quality in many areas, and causing acid rain, global warming and ozone depletion. Governments began to recognise that the level of environmental degradation current practices of economic development were having could not be sustained without significant impacts upon future generations.

2 The concept of sustainable development

The sustainable development concept appeared in a moment when the environment problems were in the foreground of the policy discussions. In that moment, the sustainable development notion represents more a simple collocation for the support attractions than an impulse for propelling the changes from the environment area. The sustainable development offered the substitution of the strain model from the '70s at the moment when the idea that the environment and the economic development are potential compatible or they are complementary objectives externalized.

The concept can orient in a wrong way lots of statesmen because the pure complementarity of the objectives is illusory. This wrong trend represents a great danger. The sustainable development like a political object can become inefficient because it's using the concept of development.

In a document elaborated by the World Bank, there are approximately 60 definitions of the sustainable development concept. In 1987, once with the publishing of the World Commission Report for Environment and Development, "*Our common future*" (known as the Brundtland Report), the concept become the center of the debates regarding the environment and development. In this report the definition of the concept, which is then established as the standard definition, has been drawn. Thus, *the sustainable development is the development, which meets the needs of the present without compromising*

the ability of the future generations to meet their own needs. For that think to happen the world economy has to accelerate the economic growth in the context of ability by the environment restrictions.

The Brundtland Report recognized that economic development taking place today could no longer compromise the development needs of future generations. The Report was primarily concerned with securing a global equity, redistributing resources toward poorer nations whilst encouraging their economic maintenance are simultaneously possible and that each country is capable of achieving its full economic potential whilst at the same time enhancing its resource base. The report also recognized that achieving the equity and sustainable growth would require technological and social change.

The report highlighted three fundamental components to sustainable development: environment should be conserved and resource base enhanced, by gradually changing the ways in which we develop and use technologies. Developing nations must be allowed to meet their basic needs of employment, food, energy, water and sanitation. If this is to be done in a sustainable manner, then there is a definite need for a sustainable level of population. Economic growth should be revived and developing nations should be allowed a growth of equal quality to the developed nations.

In the report seven economic and social objectives necessary for achievement of a sustainable development are defined:

- the guarantee of the economic growth with the natural resources maintenance;
- the guarantee of the basic needs of employment, food, energy, health, water and sanitation;
- the guarantee of a new quality of the economic development processes;
- the guarantee of a controlled population growth;
- the guarantee of the resource reserve maintenances and increases;
- the guarantee of the technological reshapes and the under control of the possible risks maintenance;
- the guarantee of a collaboration.

This concept of sustainable development aimed to encourage people to reflect on the harm economic development was having on both the environment and on society.

Five years on from the Brundtland Report, the UN General Assembly asked for a report on progress made towards sustainable development and held the Rio Earth Summit. Taking place over 12 days in June 1992 in Rio de Janeiro, Brazil, the Earth Summit was the largest environmental conference ever held, attracting over 30,000 people including more than 100 heads of states. The objectives of the conference were to build upon the hopes and achievements of the Brundtland Report, in order to respond to pressing global environmental problems and to agree major treaties on biodiversity, climate change and forest management. Out of the Earth Summit came Agenda 21, a blueprint for sustainability in the 21st century. Agenda 21 is a commitment to sustainable development, which was agreed by many of the world's governments. Nations that have pledged to take part in Agenda 21 are monitored by the International Commission on Sustainable Development, and are encouraged to promote Agenda 21 at the local and regional levels within their own countries. Agenda 21 addresses the development of societies and economies by focusing on the conservation and preservation of our environments and natural resources.

Agenda 21 is a blueprint on how to make development socially, economically and environmentally sustainable in the 21st century. Governments, non-governmental organisations (NGOs), industry and the general public are all encouraged to become involved. Agenda 21 provides a framework for tackling today's social and environmental problems, including air pollution, deforestation, biodiversity loss, health, overpopulation, poverty, energy consumption, waste production and transport issues.

Agenda 21 requires each country to draw up a national strategy of sustainable development. Following Agenda 21 the UK Strategy bases its vision of sustainable development on social equality, environmental protection, conservation and preservation of natural resource and maintenance of high employment and economic growth. This strategy is implemented through the framework of local government via Local Agenda 21, engaging local communities to become part of the process, and monitored by a series of sustainability indicators.

There are many things we can do to become more sustainable. We can cut down on our use of energy which comes from the burning of non-renewable fossil fuels in power stations, and use what energy

we do need more efficiently. We can recycle some of the waste we generate and try to limit the amount we produce in the first place. And we can consider adopting more environmentally friendly forms of transport, such as walking and cycling or public transport. At the same time, Governments and industries can investigate cleaner ways of generating electricity, using renewable energy resources like wind power, solar power, hydroelectric power, biofuels, geothermal energy, tidal power and wave power.

The development involves change leading to improvement and progress. The economic development represents the growth of the general level (standard) of the society's flowering in time. The economic growth represents the increase process of the economy's capacities to produce goods and services.

The economic development is defined by the achievement of a set of social targets. Because these targets are changing in time, the economic development is a process. A society which is in an economic development process undergoes three types of changes:

- a progress of usefulnesses manifested through the satisfaction of the demands or the achievement of the persons flowering in the society;
- a progress in the education and instruction area and the general level of the life quality, including health;
- selfrespect.

The economic development concept is vaster than the economic growth concept. The distinction between the two terms (economic development and economic growth) is important because they do not have the same signification. The economic growth contributes to development by supplying supplementary goods and services, but represents just a part of the development. On the other hand, terms of sustainable development and sustainable growth are connected.

The sustainable development offers the best understanding of the functions which are fulfilled by the natural or arranged environment. These functions are:

- direct contributions to the life quality;
- indirect contributions to the economic activity through the input of the raw materials and energy;
- contributions to the supporting of the life's systems.

Conclusion

In conclusion, the concept of sustainable development aimed to encourage people to reflect on the harm economic development was having on both the environment and society.

The sustainable development makes us think to the future when we use natural resources because if we do not take care of our environment, maybe the child today will not have any environment tomorrow.

In relation to the specific fields of sustainable development and environment protection it is advisable to develop projects to promote competitiveness and environment strategies forward studies on the basis of shared analyses, regular monitoring of the development of the markets and energy trends including for the preparation of future legislative measures of for review of existing legislation. Also the projects will be in the direction to promote of sustainable energy systems and equipment in order to accelerate their penetration of the market and stimulate investment to facilitate the transition from the demonstration to the marketing of more efficient technologies that implement the clean development of information, education and training structures.

One of the main concerns with national support schemes is any stop-and-go nature of a system. Any instability in the system creates high investment risks, normally taking the form of higher costs for consumers. Thus, the system needs to be regarded as stable and reliable by the market participants in the long run in order to reduce the perceived risks. Reducing investment risk and increasing liquidity is an important issue, notably in the green certificate market. The design of a support mechanism must minimise unnecessary market risk. Increased liquidity could improve the option of long term contracts and will give a clear market place.

The administrative requirements for access support schemes should be authorisation, the establishment of pre-planning mechanisms and lighter procedures are concrete proposals to European countries in addition to the full implementation of the renewable directives.

Some support schemes tend to support only the strongest of the renewable technologies in terms of cost competitiveness. For instance, offshore wind energy would usually not be developed if it came under the same financial framework as onshore wind power. Such schemes could therefore be complemented with other support instruments, in order to diversify the technological development. A

good overall support policy for renewable electricity should preferably cover different renewable technologies. A substantial part of the public benefits pursued by policies supporting renewables relate to employment and social policies, rural development while other national policy goals should be respected and duly taken into account.

The progress of renewable electricity generation is being offset by excessive growth in electricity consumption and must be avoided. Only a combination of RES-E support measures with electricity end-use efficiency measures will bring European countries further in its energy policy goals.

References:

- [1] M. Manoliu, C. Ionescu - *Sustainable development and environment protection*, 1998.
- [2] Bates L., Hunt S., Khennas S., Sastrawinata N. - *Expanding Energy Access in Developing Countries: The Role of Mechanical Power*, Warwickshire: Practical Action Publishing Ltd., 2014.
- [3] Carrasco J., Pain A., - *Mechanical Water Use. Sustainable Sanitation and Water Management*, 2013.
<http://www.sswm.info/category/implementation-tools/water-use/hardware/water-energy/mechanical-uses>.
- [4] *** *Our common future*. Report of the World Commission on Environment and Development. Oxford University Press, Oxford, 1987.
- [5] Tennis, M. W., and M.C. Brower – *Powering the Midwest: Wind Energy*. Wind Power'93 Proceedings July 12-16, 1993.
- [6] Bone, D., - *Wind energy on the Southern California Edison System*. Proceedings of the UWIG technical Workshop, Minneapolis, August 14, 1996.
- [7] *** *Action 21, Declaration de Rio sur l'environnement et le development, Declaration de principes relatifs aux forêts*, Conference des Nations Unies sur l'environnement et le development. Nations Unies, New York, 1993.