International Journal of Research in Engineering and Applied Sciences(IJREAS)
Available online at http://euroasiapub.org/journals.php
Vol. 7 Issue 11, November-2017, pp. 22~29
ISSN (O): 2249-3905, ISSN(P): 2349-6525 | Impact Factor: 7.196

The analysis and evaluation of EU policy instruments in climate change for Romania

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Abstract

The environment is a responsibility that we must assume a share. It is internationally recognized European Union's determination regarding measures to protect the environment and promote sustainable development worldwide.

The concept of sustainable development requires the implementation of mechanisms and policies that allow both economic development and conserve the environment while capturing both increased responsibility and economic efficiency in the sense of cost-reducing damage to the environment due to consumption human.

The EU policy in this area has gradually evolved from step implementation of minimum environmental measures, to assume greater environmental problems by solving complex and specific.

The EU has become a global promoter of sustainable development. EU environmental policy is becoming increasingly comprehensive and closely linked to other European Community policies.

In the present paper I will make an analysis and evaluation of EU policy instruments in climate change for Romania.

Keywords: EU policy, Romania, climate change

INTRODUCTION

Concern for the environment appeared on the European agenda in the early 1970s environmental policy of the European Union (EU) was created by the Treaty of the European Community and aims to ensure sustainable environmental measures.

The Treaty of Maastricht, environmental protection is a key priority of the European Union, where it is reported the need to integrate and implement environmental policy in sectoral policies such as agriculture, energy, industry, transport.

The main pillar of the policy is the concept of sustainable development, which is a transversal policy encompassing all other Community policies, highlighting the need to integrate environmental protection requirements in the definition and implementation of all European policies.

First steps towards shaping an environmental policy for the Community were made in 1972, following the United Nations Conference on Environment, held in the same year, and warned "limits development" company. This was the starting point of environmental policy for the current EU Commission in 1973 taking the first steps towards initiating a coherent environmental policy for the European Communities.

Thus, the European Union has created a framework for environmental policy through the 6 programs Environmental Action (WFP) adopted over time In 1973 was established Directorate General of the Commission for Environment (DG Environment) which aims to protect and improve the environment for present and future generations. DG Environment develops

environmental policies and initiates legislation in this area. Environmental policy becomes a complex being linked with other Community policies.

In 1986 is distinguished by adopting the Single European Act (Single European Act) taking effect in 1987, which added a new chapter on environmental protection in the founding Treaty of the European Community.

In 1990 it created the European Environment Agency and the European Information and Observation Network (Eionet). 1992 is a memorable year for the European Union's history, since it was signed the Maastricht Treaty on European Union (TEU), which entered into force in 1993. The Treaty of Amsterdam, signed in 1997 (entered into force in 1999) concept of sustainable development is an important principle and objective of the Community.

However, environmental policy becomes a horizontal policy of the European Union. Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, developed in 1998 is founded, as the title reveals three pillars: access to information, public participation and access to justice.

The Convention is a "cornerstone" for the democratization process of environmental protection. In February 2005, the Kyoto Protocol enters into force.

In 2009, with the Treaty of Lisbon, combating climate change is one of the objectives of the fund at European level. Environmental protection remains a sphere of competence shared between the Union and the Member States.

The Copenhagen agreement on climate change presented in the plenary session of the UN Summit in Copenhagen (COP15) in 2009 reveals a stagnation of international environmental progress. Issues such as climate change and the dangers of global warming over 2 ° C were only "recognized" but not specific limits have been set for reducing greenhouse gas emissions.

In 2010 is marked by two key moments namely the Europe 2020 Strategy and the UN summit in Cancun. Regarding Europe 2020 - A European strategy for smart, sustainable and inclusive growth, its focus on sustainable growth based on environmental protection, protection of bio-Diversity.

ROMANIA AND CLIMATE CHANGE

A In 1992 marks the implementation of the National Strategy for Environmental Protection in 1996 and then updated in 2002.

The strategy consists of two parts and has natural resources, items regarding the economic, environmental factors, environmental principles, priorities and objectives (term short to 2005 medium term until 2010 and long-term until 2013).

In 1995 Romania adopted Environmental Protection Law no. 137 of 12/29/1995. Article 3 of the Environmental Law establishes the basic principles of sustainable development: the precautionary principle in the decision, the principle of preventing environmental risks and the damage, create a framework for the participation of NGOs and people in devising and implementing decisions or aspects of development international collaboration to ensure environmental quality.

The National Waste Management Strategy adopted in 2002 following the transposition of European legislation - the Waste Framework Directive No 75/442 / EEC in Romania Emergency Ordinance 78/2000 on waste, approved by Law 426/2001, as amended by Emergency Ordinance 61/2006, approved by Law 27/2007 and Government Decision 856/2002 on waste management

records and approving the list of garbage. The strategy is developed for the period 2003-2013, approved by Government Decision and shall be reviewed periodically.

The National Strategy on Climate Change (NSCC), approved by Government Decision 645 of July 7, 2005, has the overall objective of ensuring fulfillment of commitments and obligations assumed by Romania at international level and also the development and implementation of goals on adaptation to the impacts climate change, reducing greenhouse gas emissions by greenhouse Romanian economy and use the mechanisms provided for in the protocol on Kyoto .

Romania, ratified by Law 24 of May 6, 1994 United Nations Framework Convention on Climate Change, signed in Rio de Janeiro on 5 June 199264. Its objective is to stabilize concentrations of greenhouse gases at a level that would prevent dangerous interference climatic system. National Action Plan on Climate Change (NAPCC) , approved by Government Decision no. 1877 of December 22, 2005, contains concrete measures for implementing the National Strategy on Climate Change. These two documents were developed for 2005-2007.

The Nature 2000 is a network of protected areas in Europe, benefiting from measures and management plans that allow their maintenance long term. It came at the initiative of the European Union in 1992 and is based on two directives: the Habitats Directive 92/43 / EEC and Birds Directive 79/409 / EEC. Romania transposed these Directives by Emergency Ordinance no. 57 of June 20, 2007 on the regime of natural protected areas, conservation of natural habitats, flora and fauna that guarantees art.

In spite of efforts to maintain the international community heating less than 2 ° C, heating is expected to exceed 3 ° C. This is significantly higher than the pre-industrial level of 0.8 ° C. Eliminating the destructive effects of global warming is now a global priority.

This heating of increasingly intense, largely attributed to rising levels of emissions of greenhouse gas (EGG) emissions caused by human activity will have a significant impact on climate patterns of the planet and pose a serious threat to lives human and economic development and to the planet itself, on which depends the survival of mankind.

This is a dual global challenge: an obligation to reduce greenhouse gas emissions that contribute to global welfare and need to adapt to a changing climate.

The climate change impacts will vary from one region to another, which is determined, among others, geological characteristics of the regions, the uneven distribution of solar heat and interactions between the atmosphere, oceans and land surface.

Some regions are heated more than others, and some have part of more rainfall, while others are subject to more frequent droughts. Because of regional variations, it is necessary to implement a targeted approach to climate impact.

Like all other countries, Romania is not immune to climate change. In Romania, 2007 was the warmest year in the last two decades (with an average temperature of 11.5 ° C), while the lowest average temperature (8.4 ° C) was recorded in 1985.

In 2005 Romania was affected by historic floods, which caused 76 deaths and significant damage to property, and 2007 brought the worst drought in the country in the last 60 years.

The effects of these extreme weather events have affected the country suffered significant economic losses in agriculture, transport, energy supply and water management.

If global warming by 4 ° C, the impacts of climate change will certainly lead to a worsening situation in Romania. Therefore, adaptation to climate change and reducing greenhouse gas greenhouse is a priority for Romania.

It is obvious that the energy sector contributes about 70% of EGG emissions and is undoubtedly a priority sector for reducing emissions. The emissions from the transport sector, although so far only amount to 12% of total output, is in rapid growth - up to 36% in 1990.

This trend will likely continue in the future and therefore this sector should be given increased attention to control EGG emissions. Urban sector is the sector where are located most economic activity and 56% of the population. It is a complex and highly diversified sector, both in terms of mitigation measures and the adaptation.

The agricultural sector remains the dominant traditional Romanian economy in terms of employment land and population. Over 15% of total EGG emissions are due to agriculture; this sector is also vulnerable to country. It is an important area to consider regarding the potential adaptation measures.

The Romania's rich forestry sector is an important carbon sink, whose role in the SC is growing. Romania has the lowest energy consumption per capita in the EU, but one of the highest energy intensities.

The low level of energy consumption was caused by a period of slowdown in GDP and also the closure of many industrial consumers intensive large ineffective, which were the main contributors to the country's economy during the centralized economy. Despite low power consumption, Romania continues to lag behind in terms of energy conservation and energy efficiency, which have made the country one of the highest energy intensities in Europe.

The Government, in cooperation with the European Union and other multilateral agencies working to contribute to the development and integration of mitigation and adaptation policies, plans, programs and national strategies of Romania, which will direct future development towards a green economy, low-carbon is resistant to climate changes.

In Romania, the energy sector is the largest emitter of EGG, being responsible for 70% of total emissions of greenhouse gases (EGG) (excluding UTSUTS). It contributed 70% to overall reduction of EGG emissions since 1989.

Obviously, it gets all the attention in terms of mitigation. Three quarters of the energy sector's EGG emissions from electricity and heat generation and fuel consumption for purposes other than transportation.

Continued reduction of carbon emissions of the energy sector through options for providing electricity and heat emission low carbon and improving conversion efficiency, transmission, distribution and consumption of energy is essential for the program to mitigate climate change Romania.

Continuing to reduce carbon emissions related to the generation of electricity and heat in Romania requires a significant investment in wind and solar energy and support infrastructure as well as energy generation high-efficiency gas-based medium term (until 2020).

In the long term (after 2020), although these options supply will remain important mitigation efforts of Romania will benefit also from an increase in nuclear power generation and the potential opportunities offered by Carbon Capture and Storage (CCS) . Sectors of energy supply and heat have many physical assets obsolete, which will be scrapped or upgraded selectively.

For example, about 80 percent of generation capacity based on fossil fuels is considered inefficient and outdated, and about 60 percent of energy distribution networks need to be upgraded. Investments in rehabilitation of power plants based on fossil fuels over the past 20 years had a low yield because many of these plants remain too costly in terms of operation.

Efficiency gap is most pronounced in residential space heating: the specific heat consumption (kgoe / m2) is 32 percent higher than comparable EU best practices; and two manufacturing industries that are energy users dominant - manufacturing industry chemicals, where energy intensity value added is more than 4 times higher than the EU average (indicating structural problems) and mining and steel manufacturing, where energy intensity per ton steel is 70 percent higher than the EU average.

In Romania, as a percentage of total emissions of greenhouse gases in all sectors, transport sector is 22 percent (figures from 2015).

Although this figure is lower than the EU average of 20.2 percent, it grows faster than this. This steady upward trend since the beginning of this century is particularly noteworthy.

The figures below show increases over time, and their comparison with EU-27. The various modes of transport, road transport is the source of the vast majority of gas emissions greenhouse transport sector, accounting for 93 percent of emissions from domestic transport.

This is a proportion similar to the EU 27 average of 94 percent. Extreme weather events that could be related to climate change were felt in parts of Romania in recent years. These include heavy flooding in 2005, 2006 and 2007 and extend the drought-affected southern and southeastern Romania.

According to the preliminary version of the Romanian Strategy on adaptation to climate change, Romania can expect: an increase in global average temperature; more frequent droughts in summer, especially in the south and southeast; heat waves more frequent and more intense rainfall over short periods of time, causing more frequent floods fast.

The recognition of climate engagements transport, unlike other sectors, broke hard. One reason is that a context switch to low-carbon dioxide appears to be more expensive than in other sectors, representing a real challenge for authorities worldwide. But expanding policy agenda in order to modify behavior completely changes the picture of costs, in particular measures to reduce congestion, local air pollution, safety risks and energy imports.

The policies to guide demand towards modes and technologies with low carbon dioxide emissions should be part of investment programs and projects. Such policies may reduce long-term transport demand by changing economic geography of cities and countries. But this will require better coordination of transport policies, urban policies, environment and health.

Adapting to climate change is a key requirement for the transport sector in Romania in the future. It must become an integral part of all activities related to the transport sector and be integrated into everyday thinking of people working in this sector.

In addition, the use of new design rules (for example, providing better drainage or heat resistant materials) that take into account climate change terms of adapting to climate change must be integrated into tendering procedures in all parts of the transport sector and asset management systems infrastructure plans for emergency preparedness and revised planning cycles and development projects.

Compared with sectors such as construction and transport, urban water supply systems tend to receive little attention in most climate mitigation plans at city or national level.

This lack of attention to the link between water supply systems and climate change is relatively small proportion as the water supply systems and water treatment contribute to the total urban EGG emissions. 125. Romania's hydropower potential is estimated at 36 TWh / year at present total installed hydropower capacity amounting to 6,400 MW.

The electricity generated by hydropower represents 32% of all power produced in Romania and 16% of all electricity used.

The government plans to close / to modernize some of hydroelectric obsolete, producing more emissions and therefore envisages a modest increase hydropower generating capacity. While power generation by hydropower does not require large water consumption, operating rules for hydropower constrain and are constrained to turn water consumption in other sectors.

Therefore the new proposed hydropower will be planned so as to take into account present and future water consumption in all sectors. In basins that are already experiencing water shortages in the dry summers of the production of electricity by hydropower will be affected in the short term, as happened in 1990, which was a dry year.

These constraints can be largely mitigated through careful planning and optimizing system operations and taking into account the predicted impacts of climate change on planning associated operations and the existing hydropower plants.

The rainfall has decreased by about 30 mm per decade in Romania, between 1961 and 2006. Studies in continental Europe predict that average annual precipitation will decrease by 5-20% in southern Europe and the Mediterranean between 2071 -2100 compared to that documented in 1961-1990.

In line with changes in precipitation, river flows annual increase in the north and lowers in the south and it is anticipated that this trend will intensify in the future. It is anticipated also big changes in seasonality; Romania will record lower flows in summer and higher in winter. As a result, it is expected to intensify droughts and water stress, especially during summer. It is expected that flooding will occur more frequently in many river basins, especially in winter and spring, although estimates change the frequency and magnitude of flooding remains uncertain.

Generally, the range of impacts of climate change on Romania include a likely increase in the number of periods of cold weather, heat waves, extreme floods, landslides, water courses, damaging frosts and avalanches.

The forests, like other natural systems are affected by climate change. It is estimated that expected changes in precipitation and temperature Romania will reduce forest health and will increase vulnerability to pests and other biotic factors.

This may in turn degrade forests, reducing their ability to capture carbon and increasing the likelihood that these forests becoming a CO2 source. Conditions less favorable climatic and biotic pressures are expected to diminish and growth trees by about 30%. Diminishing growth will reduce the ability of forests to capture carbon and will have economic ramifications.

The forests are a source of support services, supply, regulatory and cultural. These services provided by ecosystems contribute to the welfare of local residents, national, regional and global levels, including the capture of EGG emissions and mitigation of climate change.

However, forest structure, species and their distribution are affected by climate change. Solving this problem involves the adaptation of forests to prevent their environmental resources and protection of ecosystem services, the company needs to welfare.

he forests help reduce EGG emissions requires industry to manage resources in a sustainable manner (maintaining system health and growth of trees). In Romania, this requires tackling many of the challenges policy and regulatory and technical constraints and access sector. Many of the above measures are important for solving constraints to sustainable forest management in the current context of Romania. Therefore, these measures, if implemented properly, will reduce

greenhouse gas emissions, adaptation and use their forests to adapt to climate change in the programming period.

CONCLUSION

The Romania could become the climate resilient society, which has integrated climate change policies and measures in its strategy for sustainable growth, all sectors must reorient policies towards these objectives.

The measures aimed at both mitigation and adaptation, covering a range of approaches, from policy reform programs on investment, energy efficient multi-modal transport in urban areas, from irrigation to sustainable forest management.

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Biography of Authors (10pt)

The Dragos Ionut Onescu is General Manager at ODAS GLOBAL CONSULTING and President at ODAS Association. He helped the company to grow from humble beginnings into a solid, durable enterprise.

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Mr. Onescu graduated with a Bachelor of Science degree in International Affairs and three Masters Programs in Economic Governance & Public Sector of Michigan University and Babes-Bolyai University and European Affairs & Project Management at Babes-Bolyai University.

His interest in the field of diplomacy drew to realize a double PhD between the University of Strasbourg, France and Babes-Bolyai University from Cluj-Napoca, Romania.

His inspirational quote is from Lao Tzu: "A leader is best when people barely know he exists, when his work is done, his aim fulfilled, they will say: we did it ourselves".