



## EUROPEAN UNION FINANCING OF THE CLIMATE CHANGE MITIGATION ACTIVITY

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### Abstract

The following paper aims at analyzing the financing by the European Union of the climate change limitation and mitigation activities. The general objectives of the activities directed towards reducing and combating climate change, analyzed on the two directions of action, namely the mitigation of the phenomenon, and the adaptation to climate change, are exposed. The financing action by the EU in order to combat climate change at the international level, both the fast start financing, and medium and long term financing, together with the Union's objectives, the sources of financing and the transparency of the decisions implementation are also presented.

### Key words:

Climate change, greenhouse gases (GHG), finance, emissions, policies

### JEL Codes:

Q40, Q42, Q48, Q32, Q38, Q51, Q54, Q57

### 1. Introduction

Climate change represents one of the biggest challenges that humanity is facing in the 21st century, making it one of the major threats in terms of social, economic and environmental issues. This phenomenon will affect the basic elements of human life on the Planet: access to water resources, food production, health and the environment. The European Union, through its institutions, pay a great attention to combating this phenomenon, contributing in this sense with important sums.

### 2. The objectives of limiting and combating of climate change

Many human activities, specially the burning of fossil fuels and deforestation to create farmland, are causing rising levels of carbon dioxide and other gases which retain heat in the atmosphere. The accumulation of these greenhouse gases intensifies the natural greenhouse effect, which leads to increasing the temperature on the Earth and development of climate changes.

The objective of the European and Global strategies in this area is aimed primarily for the creating of the conducive framework to reducing of the climate change, and secondly to adapt to the impacts caused by the phenomenon.

#### 2.1. Reducing the phenomenon of climate change

Reducing the climate change phenomenon can be achieved by two strands of action, namely the reduction of greenhouse gases emissions, and increasing the quantities of carbon dioxide removed by sinks, through the limitation of the deforestation and through afforestation.

#### 2.1.1. Reducing emissions of greenhouse gases

The proposed measures for reducing greenhouse gases emissions are the most diverse. Among them are the following:

a. *Reducing the consumption of fossil fuels for energy production* is an important method to protect the environment and improve the health status of the population – a major requirement in the context of the sustainable development strategy of the society – being known the association of the greenhouse effect with climate change.

b. *The promotion of renewable energy sources.* Among the renewable energy sources are included the following sources: wind, solar, geothermal, hydroelectric, biomass, which are alternatives to fossil fuels, contributing to reducing greenhouse gases emissions and energy supply diversification.

c. *Development and promotion of technologies with low or zero emissions.* The EU action programme for environmental technology covers a wide spectrum of actions to promote eco-innovation and adopt environmental technologies. This program promotes research and development, mobilises funds, and improves market conditions.

d. *Limitation/prohibition of the usage of nitrogenous fertilizers and the use of animal droppings, coupled with the manner in which the application is made on the field.* The chemical fertilizers are widely used for fertilizing the land with different seasonal or perennial crops. The chemical fertilizers, that can generate GHG emissions as a result of use, are those that contain nitrogen, an indispensable element of plant evolution.

*e. Measures to reduce emissions from the depositing of household and assimilated waste (the generation of carbon dioxide and methane).* In its resolution from 24 February 1997, the Council stressed the importance of the rules related to the use of waste, the need for appropriate emission standards for incineration plants and the need to provide surveillance measures for the existing installations.

*f. Carbon capture and storage (CCS).* The main directions of action on capturing and storing carbon dioxide refers to imposing the obligation of integrating CCS in all new electric plants based on coal and the modernization of existing electrical installations and to impose the obligation of integrating CCS in all new electrical installations based on coal and natural gas and in the case of upgrading existing facilities.

*g. Measures to increase energy efficiency.* Increasing energy efficiency has the effect of reducing greenhouse gases emissions. The initiatives at European level include the requirement that all countries develop plans to reduce energy consumption.

#### 2.1.2. *Increasing the quantities of carbon dioxide removed by sinks, through the limitation of the deforestation and afforestation*

One of the most appropriate measures for reducing climate change would be the intensification of the reforestation process. This measure would not only help the balance of the forest ecosystems, but it would also reduce the soil erosion, would prevent landslides and floods and, at the same time, it would encourage tourism. The forests should be populated with species of trees less vulnerable. It is necessary that the tree species would be resistant to climate change and to new types of pests.

In addition, Directive 2003/87/EC, indicates that some of the amounts obtained as a result of the auction of quotas, shall be used for measures to avoid deforestation and to increase reforestation in developing countries which have ratified the Framework Convention on climate change, as well as to transfer technology and facilitate adaptation to the adverse effects of climate change in these countries.

#### 2.2. *The adequate adaptation to climate change*

Adaptation represents an action through which the society learns to respond to the danger caused by climate change. Among the measures to facilitate adaptation are included:

*a. Transfer of clean technology.* Analyzing the need for adaptation to climate change, there must be taken into account the prospects which are offered by the scientific and technological future, generated by new discoveries and by establishing an efficient technology transfer, based mainly on clean technology.

*b. The adequate water management.* The most important element of the European Union's Water initiative is dedicated to Eastern Europe, the Caucasus and Central Asia. Since 2002, when the initiative was launched, all countries in the region have made significant progress in improving the management of water resources within their territory, in adoption of reforms, and in improving the legislation.

*c. Decreasing the effects caused by extreme weather conditions.* Among the effects caused by climate change are included the extreme weather events. Some examples would be hurricanes, heat waves, droughts, desertification, spontaneous fires or floods. Because of this problem, among the measures for adaptation to climate change are those of diminishing the effects which are a result of these weather phenomena.

*d. The adaptation of crops to climate change.* To cope with the forecasted climate change, farmers have to consider measures aimed at changing the system of crop rotation, in order to use the available water supply as efficiently as possible, the adjustment of the timing of artificial insemination, in accordance with the conditions of temperature and precipitation, or the usage of the varieties suited to new weather conditions (resistant to drought and heat).

*e. The population adaptation and change of mentality (adaptation to heat and emergency situations).* For the implementation of adaptation measures to climate change, society as a whole together with public authorities, companies and NGOs should ensure an appropriate level of knowledge on climate change, and also on the expected effects of climate change.

*f. The estimation of costs for climate change for each sector of activity.* The factors involved need to investigate and evaluate the consequences of climate change. The costs relating to the implementation of measures at sectorial level shall be determined on the basis of an economic analysis taking into account the conclusions of the research in the field of climate change, of the economic and social studies, and of the development priorities.

### 3. **The financing activity to combat climate change by the EU**

The strategy for climate change represents an element embedded in the EU's development strategy. Significant financial resources will be needed to help developing countries cope with climate change, both to reduce GHG emissions and to adapt, the EU being the most important contributor for those countries, in financing the activity to combat climate change.

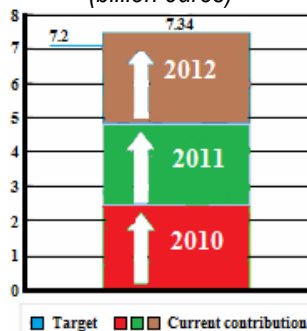
#### 3.1. *Fast start financing*

Fast start financing supports immediate action of the developing countries, in order to strengthen their

resistance against the consequences of climate change, and for the purpose of reducing GHG emissions, including those emissions caused by deforestations.

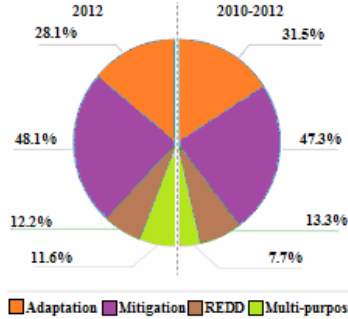
The European Union has undertaken to allocate 7.2 billion euros to developing countries in the period 2010-2012, in order to support this activity. Despite the difficult economic situation and the budgetary constraints, the EU and Member States have honored the promise and have even exceeded this commitment, providing 7.34 billion euros.

Figure no. 1: EU's fast start contribution (billion euros)



Source: European Commission, 2013

Figure no. 2: Allocation of EU fast start funding (%)



Source: European Commission, 2013

The fast start financing of the EU supports countries in developing the implementation of immediate actions to cope with climate change, and also to prepare actions in medium and long term. The included activities are those related to the development of the technology transfer capacity. The fast start financing helps developing countries to:

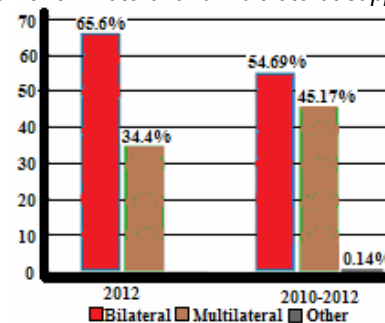
- Improving of protection measures against extreme weather phenomena and other adverse effects of climate change through the promotion of national adaptation plans, as well as by financing the activity of scientific research and analysis into the decision-making process;

- Developing in a sustainable way and with a low carbon level, including through supporting projects based on low carbon in energy and transport, and of projects to increasing energy efficiency;
- Ensuring the forests protection in the context of economic development. The actions are known as REDD+ (reducing emissions from deforestation and forest degradation).

Fast-start financing of the EU was divided between these priorities. Throughout the 2010-2012 period, a rate of 31.5% of the funding was directed to actions aiming adaptation, or to increasing the resistance of developing countries to climate phenomena, 29.4% to the limitation and investments in low- carbon emission technologies and 8.3% to REDD+. The remained 7.7% do not have a precise destination, since many programs and activities funded through this mechanism have multiple purposes and may contribute to the more general objectives.

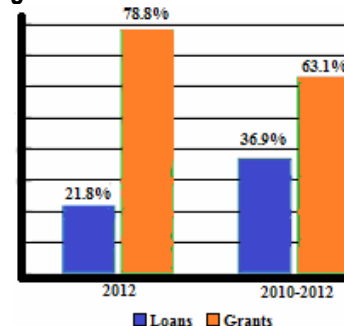
In order to ensure a prompt and efficient financing, the majority of the funds are allocated through specific delivery channels. Initiatives and instruments are used for bilateral and multilateral cooperation.

Figure no. 3: Bilateral and multilateral support (%)



Source: European Commission, 2013

Figure no. 4: Grants and loans (%)



Source: European Commission, 2013

EU grants represent nearly two-thirds of the total contribution of the fast-start financing in the 2010-2012 period and more than three quarters of the total contribution for the year 2012. Grants and loans play an

especially important role for financing the activities related to combating climate change. The mix of grants and loans helps maximize the value of the funds available through the mobilisation of investments and the co-financing from the private sector.

EU climate loans, representing about a third of the Union financing, are offered through highly concessional terms, which include a major grant, of up to 75%. There is a demand for such loans, in particular for the limitation activity. EU loans are in line with the Debt Sustainability Framework, meaning that they cannot be accessed by countries unable to pay them back.

Fast start financing is added to other forms of official development assistance (ODA), assistance in which EU is the most important contributor in the world, offering more than 50% of the global ODA. In addition, the EU is also the largest financial contributor to combating the climate change, through this mechanism.

The European Union aims to ensure that by financing climate change mitigation or other measures related to the climate, does not affect or endanger the fight against poverty and the continued progress towards the achievement of the MDGs (Millennium Development Goals). In fact, all the actions related to the reduction of GHG emissions and adaptation to the impacts of climate change will generally contribute to poverty reduction. Relevant examples are those projects relating to increasing of the resistance to climate change phenomenon or those relating to access to energy sources which are efficient.

The European Commission has provided an additional grant of 155 million euros, over the amounts usually offered as a contribution, to the EU fast start finance in the period 2010-2012, overcoming the initial commitment of 150 million euros.

Nearly half of this sum was used to increase resistance to the consequences of climate change and to the development of technologies with low carbon levels, in the least developed countries and in the countries located on small islands, through the Global Climate Change Alliance (GCCA).

Among the 35 countries and 4 regions that benefited in 2012 of the GCCA's financial support and technical assistance were Burkina Faso, Central African Republic, Papua New Guinea and the Eastern Caribbean.

The rest of the sum offered by the Commission through fast funding had generally supported mitigation actions, and actions for reducing emissions by sinks (forests) in developing countries (REDD+). These plans have beneficial impact on biodiversity protection, on poverty reduction, and also stimulate improving forest

management and the equity in natural resources utilization.

### 3.2. Long-term financing

As mentioned, the European Union is the largest contributor in climate finance through the official development assistance (ODA). During the last years the climate issues became more stringent and consequently they had to be integrated into the development strategies. Since the beginning of the century, EU has gradually and constantly increased the climate financing for developing countries, by grants, to supplement contributions of the private sector, and by loans from financial institutions.

In the period 2007 - 2013, the Commission has directed approximately 4.5 billion euros to climate financing, via policy instruments for development and external assistance for activities relating to climate change in developing countries.

The annual climate support increased constantly up to 800-900 million Euro in 2013. This sum was supplemented by the significant contributions of Member States, as well as by the fast start finance contributions for the years 2010-2012, that were mentioned earlier.

During the period 2008 - 2013, the least developed countries, and the countries located on small islands benefited of approximately €300 mil. directed via the Global Climate Change Alliance (GCCA). This program operated as a platform for dialogue and experience exchange on climate change issues, and provided technical assistance and financial support to partner countries, for the purpose of integrating the climate change issues into the national development policies.

The objectives relating to climate change will be integrated in the EU budget for the 2014-2020 periods, through an ambitious series of measures and targets. These include an overall objective, namely that 20% of the total EU budget to be used for climate activities.

The EU development policy will contribute to the fulfillment of this overall objective, with an estimated amount of 1.7 billion Euro, used for climate activities in developing countries, only during the 2014-2020 period. This amount is added to the funding from Member States.

At the same time, the European Union and the Member States committed themselves to contribute with their share to the developed countries objective to mobilize 100 billion \$ per year by 2020, from a wide variety of sources, public and private, bilateral and multilateral, including alternative funding sources, all these in the context of a serious limitation and a transparent implementation. Mobilizing the climate finance requires a global participation and an equal sharing between developed countries.

Starting from 2007, the European Commission and Member States have agreed on a series of EU Blending Facilities, which combines funding through grants and loans, and covers different regions. These facilities are meant to increase the weight of external support, which underlies the EU's external policy priorities and ensure coherence with the European Union's policies and strategies.

In 2010 the Climate Change Windows were established, in all Blending Facilities, in order to improve tracking and visibility of climate actions within these facilities. Climate Change Windows were also aimed at improving the project design, so that low-carbon emissions and the resistance considerations related to climate change will be incorporated into strategic areas such as transport, energy and environment.

Since 2007, grants worthing around 480 million Euros have been obtained in Blending Facilities, in over 200 climate initiatives. These include investments in infrastructure projects as well as support to the private sector, particularly the SMEs. This had a leverage effect of 6 billion Euros in loans, money coming from European public finance institutions and regional development banks. This corresponds to a total project financing of over 14 billion Euros, beneficiary being both low income countries and countries with an average income.

In order to combat climate change, the European Investment Bank (EIB) provided loans, to developing countries, in addition.

The EIB is among the biggest creditors of the world, in terms of climate action, about 25% of the loans given each year being dedicated to climate change mitigation and adaptation programs. In the period 2008-2012, the EIB has invested nearly 80 billion euros in such projects, both in Europe and also in the emerging and developing countries outside of Europe. The support for projects outside Europe has been expanded considerably, especially in 2010.

In 2013 the claim for investments in energy efficiency, renewable energy, resource management and adaptation to climate change has increased in all regions outside of Europe.

### 3.3 Increasing transparency of the international climate financing

Considering the fact that climate finance flows have increased, and will reach 100 billion euros in 2020, transparency is crucial. This represents an important tool for increasing trust between partners, both in developed countries, and in developing countries. This will also contribute to the improvement of the efficiency of climate financing.

In the climate change negotiations conducted under the aegis of the United Nations, the parties have agreed to strengthen the international framework for measuring, reporting and verification (MRV) of the international climate finance.

The EU Member States and the European Commission think that the transparency regarding climate finance represents a crucial element for gaining confidence. In 2013, the European Union has adopted a framework for an improved reporting on the climate financing, as part of MRV.

The European Union's MRV gives annual reports on the financial support and on the activities related to technology transfer to the developing countries, based on the best data available.

The European Union and the Member States have undertaken to cooperate with the developing countries, for the purpose of the implementation of a suitable MRV framework. them.

For the operation of an international climate regime, transparency is very important, both on climate finance flows, but also on the undertaken actions. The MRV of the financing provided by the developed countries must be accompanied by the MRV of the emission reduction measures in the developing countries.

## 4. Conclusions

In conclusion, the directions of action on limiting and reducing the climate change are varied, and they will be channeled primarily on reducing the phenomenon, and secondly on the adaptation to its effects.

The European Union puts great value on the activity of mitigation and combating climate change, this being demonstrated by the fact that the EU allocates substantial amounts in order to fulfill the international objectives in the field of climate change.

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