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An Environmental Threat as an Economic Opportunity? The case of Climate Change

Konstantinos Vrettos

PhD Candidate, Department of Economics, University of Athens

It has not been long since discussions on Climate Change in Stockholm led to the publication of a conclusions' summary, by Working Group 1 (WG1) of the Intergovernmental Panel for Climate Change (IPCC), a substantial precursor of the following IPCC report. The findings so far more or less clearly state that the planet's overheating has become scientifically undeniable, at least since the 1950s. In terms of consequences for the climate this translates as an increase of the atmosphere and sea level temperature, a decrease of the ice volume at the Earth's Poles, a rise of the sea level and an increase of concentrated greenhouse gases in the atmosphere. The source of this worrying, if not nightmarish, scenery are the increased emissions of carbon dioxide (CO2) in the atmosphere, for which the IPCC could not have been clearer concerning their anthropogenic origin.

Evidence on climate change is undisputed. In the first IPCC report published in 1990, scientists spoke of a CO2 emission concentration of approximately 354 ppm, whereas the level during the pre-industrial period is calculated at only 280 ppm. The latest report speaks of over 400 ppm, for the first time in human history. What does this practically mean? The increase of the planet's average temperature, according to all reports until this day, is moving at a range of 1,5-4,5 degrees Celsius with a time limit at 2100, generating irreversible transitions for the planet's climate balance.

The truth is that with each IPCC report, regardless its undeniable value, we are no longer learning something entirely new, we simply bring up to date what we were already aware of – or we should have been aware of - for quite some time, meaning that CO2 emissions are responsible for the planet's overheating. Useful knowledge, however no one can any longer claim that this is something unheard of. In order to avoid all sorts of misinterpretation though, we should emphasize the extreme importance of the IPCC reports, as they provide us with crucial information/warnings for the immediate future.

Therefore, a global environmental crisis is emerging that must be immediately managed at both a global and local level. Two ways are being recommended –the one not excluding the other- in order to tackle climate change. First, decrease of CO2 emissions (mitigation policies) and second adaptation policies to the new circumstances that seem to constitute part of an established future track. Starting with the decrease of CO2 emissions, we are "stuck" on

issues and problems related to the economic growth of countries (especially developing ones), since no country is willing to play the role of the "savior" in a free riding game, especially at the expense of its own growth rate. The transition towards reduced emissions technologies is not just costly but it also needs wider reform initiatives, which developing countries are either unwilling or unable to undertake. Even on a wider global scale, one may observe that a common target to reduce CO2 emissions is almost impossible. The attitude of the US and China during discussions on the Kyoto Protocol are indicative of the situation. Consequently, managing the environmental crisis seems, on a global scale, to be "tripping" over an economic and growth restriction, mainly coming from the side of developing countries.

On the other hand, adaptation policies seem to provide a wide-range action field, since they are linked to a set of complementary productive activities and investment opportunities. But what is an adaptation policy? Even if we assume that tomorrow, leaders around the globe agree on a drastic reduction of emissions to the levels set by scientific criteria, the cumulative effects of past emissions will not be able to be avoided. Despite the fact that such an agreement is not even faintly seen on the horizon, states (on a local scale) should reduce the dangers from these consequences, through adequate actions and policies (e.g. infrastructure protection, insulation of buildings etc.), or to exploit to the highest possible degree the opportunities that may come along. Especially in relation to the latter, it must be noted that climate change is translated as extreme weather phenomena, and as a rise of temperatures and sunshine in Northern Countries. For Greece, the calendar extension of the summer season (temperature-wise) could be seen as an excellent opportunity to expand the tourist period and thus its income. We may also consider just as useful the energy utilization of renewable sources (e.g. solar or wind), mainly on a local scale, where produced energy can be directly distributed to the local population, avoiding this way the more difficult issues of energy storage and transportation. Therefore, it appears that a linkage exists between the environmental crisis' management, at least with respect to adaptation policies, and a set of investment and production opportunities. Especially in the case of Greece, which since 2008 has been through a long recession period, managing the environmental crisis may be seen as a growth lever for restarting or stimulating production sectors that have either stagnated (e.g. constructions) or which can be improved in terms of efficiency (e.g. tourism and energy).

A the same time, adaptation policies can significantly contribute in promoting employment and new productive sectors with prospects, especially those of innovative nature, accompanied by increased investments in R&D. This potential functional subsidiarity between the management of the economic and environmental crises becomes even more imperative due to the continuous economic recession both on a European and a national level. More specifically, the total employment at eco-industries is now calculated around 1-2% of the total European employment, while the average increase rate of employment in these industries is calculated at 2,7% on a pan-European scale (European Commission, 2012). According to WWF estimations, renewable energy resources can provide up to 4,4 million jobs until 2030. Moreover, globally, the industry of clean energy has almost doubled its turnover from €104 billion in 2008 to €198 billion in 2011.

For Greece specifically, the last report by the Bank of Greece on climate change estimates that the cost of non-action against the looming environmental crisis might cost Greece, in economic terms, around 700 billion euro (cost of natural consequences per sector, such as agriculture, fisheries, built environment, tourism etc, projected in economic terms under a scenario without adaptation). Given the world-wide effort for mitigation of dioxide carbon emissions, the cost may decrease to €436 billion. On the contrary, the unilateral adoption of adaptation policies on a national level will restrain the cost at €578 billion. All these predictions are cumulative and concern the period 2011-2100. Even though benefits from mitigation policies are undeniably feasible and important, a fact which is noted by the IPCC report, collaboration on a global scale is rather uncertain or at least characterized by inherent uncertainty. Therefore, as recommended by the Bank of Greece's report itself, adaptation policies should be followed as a more certain solution, hoping of course for the contribution of mitigation policies on a global scale.

The key issue for Greece is of course what will be the adaptation cost in the years ahead. The report by the Bank of Greece estimates that the adoption of adaptation policies may yield multiple benefits in relation to its cost, if an adequate and efficient program is carefully planned. Among the possible benefits may be the stimulation of employment, the restart of production sectors that have stagnated because of the economic recession (e.g. built environment etc), saving energy in terms of consumption (both on housing and business level), as well as the turn towards alternative energy resources (e.g. renewable energy resources, geothermal). The support of research and technology sectors is considered particularly significant, as they are connected to green technology and innovation. In the same direction, the collaboration of the public and private sectors is essential, especially when it comes to cooperation of university and research institutions with the business sector, possibly even in a cluster system. Indicative in this respect is the case of the cluster of biomass in Graz, Austria, which has led to the creation of 6000 new jobs in the region, while the management invests 10% of its annual profit in research and development.

Facing the dangers of climate change is both a threat and an opportunity, depending on how one approaches it. In any case, until 2020 Greece is bound to follow policies for the reduction of CO2 emissions, in accordance with the Growth Strategy "Europe 2020", and must also adjust a set of environmental and energy criteria according to the wider environmental European strategy. It would not be a bad idea to turn a conventional obligation into an investment and production opportunity, especially at times when investment activity constitutes the milestone for the exit of the country from long-term recession. Perhaps an even more important element would be the realization that the management of the environmental crisis is not simply translated into costs that due to the recession at the national level Greece should avoid. On the contrary, coordinated and strategic management of this environmental crisis, as well as the dangers that it brings along, may act complementary as investment and production injections for the Greek economy, making thereby –as paradoxical as it may sound- the climate crisis an antidote to a different productive and economic crisis.

Hellenic Foundation for European & Foreign Policy (ELIAMEP)- CRISIS OBSERVATORY
Vas. Sofias, 10676 Athens, Greece | Tel. +30 210 7257 110 | Fax +30 210 7257 114 | E-mail **info@crisisobs.gr**
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