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Editorial

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One of the greatest challenges that modern society is now facing is the climate change and this phenomenon constitutes an important task of the technology. Almost all opinion sectors around the world recognize that it is a real serious problem, which will have serious impacts on human lives, and all countries should take concrete actions.

According to some scenarios evaluated, if relevant actions are not taken to reduce greenhouse gases (GHG) emissions, towards the year 2035 global average temperature will increase above 2 °C, and at the end of this century it can exceed 5 °C.

The most exhaustive economic studies predict that overall costs and risks of climate change could imply a loss of 5 % to 20 % per year in global Gross Domestic Product (GDP); while costs to reduce GHG emissions to prevent climate change impacts can be limited to 1 % of global GDP each year.

Because impacts of climate change are a global problem with serious consequences in human life quality and environmental services, a global response is required. All countries will be affected, and in particular the poorest ones, where their population are more vulnerable to its effects, although paradoxically are the ones least contribute to this problem.

Climate change will affect the basic elements of people's life as potable water access, food production, health and safe environment. Extreme climates impacts will show costs of disasters such as droughts, storms, avalanches, etc.

Revised data show that climate change impacts can be reduced by stabilizing the atmosphere levels of GHG (CO_2) in 450 ppm to 550 ppm. Currently the average concentration is 430 ppm, but it is increasing 2 ppm every year. To stabilize these levels to reference values, the current GHG emissions must be reduced 89 %, given that the costs to reduce these levels are lower than the costs to face the impacts.

Actions on climate change can also generate business opportunities (technological changes, development of clean energy sources and new productive processes) that reduce the emissions growth. Besides pressure on ecosystems, deforestation and industrial processes intensive in fossil fuels use, must be reduced.

The problem magnitude requires definition and development of international policies with local application, to reduce emissions to acceptable range levels both in developed and developing countries. Some policies could be: taxes, trade, and carbon emissions price regulation, innovation and low-carbon technologies development, elimination of access barriers to new technologies, energy efficiency incentives, mass education strategies, communities and individuals persuasion about how they can face this situation, etc.

It is important to promote an international shared vision with long-term goals and build regulatory frameworks that help each country or region to achieve them. These frames can include concrete

actions on emissions trading that promote actual emissions reduction costs, technological cooperation, deforestation reduction and even adapting to new scenarios caused by climate change.

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