

Greenhouse Gas Mitigation by Promoting Renewable Energy in Algeria

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Abstract : The study focuses on the analysis of the Algerian greenhouse gas emissions. In Algeria, as in other countries, the issue of greenhouse gas (GHG) emissions and climate change is the subject of great concern. As climate change is a global problem and taking into consideration the principle of 'common but differentiated responsibilities' as mentioned in the Rio Declaration in 1992, Algeria has initiated a broad program of voluntary reduction of GHG emissions and climate change adaptation. Thus although the contribution of Algeria on global warming is minimal (less than 0.5% of global GHG emissions), the country is, because its geographical position and climatic characteristics, very vulnerable and should integrate mitigation and adaptation into its development policy. Even a small rise in temperature would lead to various socio-economic problems that hinder the development of the country. The models predict that rainfall events are less frequent but more intense, while droughts are more common and longer. The decrease of water resources, declining agricultural yields, encroaching desert, the challenge of planning and the energy consumption for air conditioning are only the initial impacts to which Algeria must find answers supportable economically and socially. The study examines to what extent, Algeria can significantly reduce greenhouse gas emissions. We present an analysis of the current situation, trends in CO₂ emissions, footprint of Algeria, national climate plan and especially what will be the impact on GHG emissions of the new strategy for promoting renewable energy adopted in 2011 and expects to produce 40% of electricity needs from solar energy. The results show that in 2012 the GHG emissions totaled 153 MT CO₂ eq and growing at a rate of over 3%. The Introduction of solar energy in electricity production and implementation of energy efficiency allow to reduce by 2030 more than 300 MT CO₂ eq. Avenues of consideration relating to a combination of policies and improved technologies that are able to reduce CO₂ emissions and mitigate the impacts caused by climate change in the medium term will also be presented.

Keywords : climate change, co₂ mitigation, greenhouse gases, renewable energy, sustainable development

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