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Tackling the air pollution and climate change challenge: A science-policy dialogue

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Recent scientific research has identified an inexorable link between air pollution and climate change. Air pollutants such as ozone and black carbon act as short-lived climate forcers and long-term climate change resulting from a build up of CO2 in the atmosphere may impact air pollution concentrations by modifying circulation and precipitation patterns. In addition, mitigation strategies to control climate change could have negative impacts on air quality, e.g. possible enhancement in nitrogen oxide emissions from biofuels. Similarly, mitigation strategies to improve air quality could enhance global warming, e.g. reduction of sulfur emissions. Whilst controls of CO2 emissions should remain a priority for mitigation of climate change, policy makers are now considering reductions of short-lived forcers as a means of achieving a slow-down in global warming in the short-term (10-30 years). However, due to the interaction between air pollution and climate change, it is critical that existing and proposed mitigation policies take into account potential impacts on both air pollution and on climate. In order for this to occur, policy makers and scientists need to establish a dialogue that allows policy makers to design mitigation strategies based on the best scientific knowledge available and for scientists to be able to examine the impact of different policy strategies on air pollution and climate. Therefore, the International Geosphere-Biosphere Programme (IGBP) has launched the Air Pollution & Climate initiative. It aims to open a science-policy dialogue that examines the multiple implications of existing and proposed mitigation policies that address air pollution and climate change in the near and long-term. The initiative is working toward (1) providing a synthesis for policy makers on the current state of knowledge on the role and interactions between air pollutants and climate change, (2) developing a strategy for a new multi-disciplinary research programme across traditional science-policy boundaries to tackle the air pollution and climate change challenge.