

When Cancun met Nagoya

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Abstract:

Linkages between climate change and biodiversity do exist. On the one hand, climate change affects the hydrological cycle which in turn impacts wetlands. On the other hand, wetlands are critical to mitigating climate change. In this paper, we stress the importance of considering simultaneously the issues of climate change and of biodiversity. We provide a long term analysis of optimal pollution control by considering the social planner problem of a polluting country. In order to properly capture the linkages between climate change and biodiversity, we explicitly account for (i) the effect of biodiversity on the natural assimilation of GHG and (ii) the effect of GHG concentration on the biodiversity dynamics. We then appraise whether applying this framework affects the existing long run scenarios for the evolution of GHG concentration. Our results stress that policies derived under wrong scenarios are not only suboptimal but lead to dramatic situations for GHG concentration. Therefore they suggest (i) to call for better information on GHG concentration dynamics and in particular on the effect of biodiversity on these dynamics in order to build better scenarios for GHG concentration dynamics and (ii) to focus on biodiversity issues to mitigate climate change.

Keywords: climate change, biodiversity, mitigation

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