

Compliance of the Parties to the Kyoto Protocol in the first commitment period

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This article provides an *ex post* analysis of the compliance of the Parties to the Kyoto Protocol during the first commitment period (2008–2012) based on the final data for national GHG emissions and exchanges in carbon units that became available at the end of 2015. On the domestic level, among the 36 countries that fully participated in the Kyoto Protocol, only nine countries emitted higher levels of GHGs than committed and therefore had to resort to flexibility mechanisms. On the international level – i.e. after the use of flexibility mechanisms – all Annex B Parties are in compliance. Countries implemented different compliance strategies: purchasing carbon units abroad, stimulating the domestic use of carbon credits by the private sector and incentivizing domestic emission reductions through climate policies.

Overall, the countries party to the Protocol surpassed their aggregate commitment by an average 2.4 GtCO₂e yr⁻¹. Of the possible explanations for this overachievement, 'hot-air' was estimated at 2.2 GtCO₂e yr⁻¹, while accounting rules for land use, land-use change and forestry (LULUCF) further removed 0.4 GtCO₂e yr⁻¹ from the net result excluding LULUCF. The hypothetical participation of the US and Canada would have reduced this overachievement by a net 1 GtCO₂e yr⁻¹. None of these factors – some of which may be deemed illegitimate – would therefore on its own have led to global non-compliance, even without use of the 0.3 GtCO₂e of annual emissions reductions generated by the Clean Development Mechanism. The impact of domestic policies and 'carbon leakage' – neither of which is quantitatively assessed here – should not be neglected either.

Policy relevance

Given the ongoing evolution of the international climate regime and the adoption of the Paris Agreement in December 2015, we believe that there is a need to evaluate the results of the first commitment period of the Kyoto Protocol. To our knowledge there has been no overarching quantitative *ex post* assessment of the Kyoto Protocol based on the final emissions data for 2008–2012, which became available in late 2015. This article attempts to fill this gap, focusing on the domestic and international compliance of the Parties to the Kyoto Protocol in the first commitment period.

KEYWORDS: Carbon accounting; carbon emissions trading; compliance; GHG emissions; Kyoto Protocol

1. Introduction

The Kyoto Protocol, adopted in 1997, established GHG emissions reduction targets for 38 developed countries and economies in transition (EIT) – Annex B Parties to the Protocol. These mitigation targets were enounced in countries' emissions allowances – assigned amount units (AAU). In order to maximize the economic efficiency of achieving their targets, Parties were allowed to exchange

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