



U.S Status on Climate Change

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Key Messages

In the absence of national legislation, regulatory actions have placed the US on a path to approximately achieve President Obama's Copenhagen pledge for mitigation of carbon emissions. Domestic emissions are probably less than would have occurred if the Waxman-Markey cap-and-trade proposal had become law in 2010 because that program would have provided for substantial international offsets.

At the 2009 United Nations climate meetings in Copenhagen, President Obama pledged that the United States would achieve greenhouse gas (GHG) emissions reductions of 17 percent from 2005 levels by 2020. The policy mechanism imagined at the time to achieve that outcome was the Waxman-Markey economywide cap-and-trade proposal. Despite the failure of federal climate legislation, the emissions goal is within reach, at least with respect to carbon dioxide (CO₂) emissions.

By 2012, the United States had already taken actions to achieve CO₂ reductions of over 10

percent compared to 2005 levels. From that vantage point, additional actions were identified by the U.S. Environmental Protection Agency that would take the nation to GHG reductions of 16.3 percent from 2005 levels in 2020. Incremental reductions beyond the 10 percent milestone will be achieved mostly in the electricity sector, which is now the focus of the proposed Clean Power Plan that aims to reduce power sector emissions in the US by 30 percent from 2005 levels by 2030. Most of those reductions will come by 2020.

Three factors contribute to the progress in emissions reductions to date. One is secular changes in the energy economy, involving an expansion of natural gas supply and increased energy efficiency. A great deal of attention is

directed toward the expanded availability of natural gas. Its role is important; however, absent further policy measures the availability of natural gas as a substitute for coal in electricity generation would account for only about one-quarter of the distance to achieving the 17 percent pledge.

A second factor is the actions of subnational jurisdictions. For example, ten states have cap-and-trade policies in place, 29 have renewable energy performance standards and over half have energy efficiency policies. Cities have taken many additional actions. In January 2015, California's cap-and-trade policy expanded to cover transportation and home heating, now encompassing about 85 percent of total GHG emissions in the state. Recently, the nine states in the Regional Greenhouse Gas Initiative increased the stringency of their emissions limits.

The third factor is regulation under the Clean Air Act. New standards for mobile sources and construction of facilities are in place already. The big missing piece has been regulation of existing stationary sources. EPA identified opportunities in six sectors, but regulations in all these sectors take time. The most important sector, though, is electricity, where the Clean Power Plan is expected to take effect by 2020. It is useful to recognize that the logic of the Clean Power Plan is to build on what subnational jurisdictions are already doing to reduce emissions in the electricity sector. The Plan identifies

successes in a number of technical areas, such as power plant efficiency, renewable energy and energy efficiency, and imposes national standards that would bring other states up to "best in class" levels of performance. Our research indicates that if the Plan is implemented in a well-designed manner, it may by itself nearly achieve the Copenhagen pledge with respect to CO2 emissions.

However, there is more work required to achieve the 2020 goal with respect to total GHGs. In early 2015 the Environmental Protection Agency identified measures to regulate emissions of methane in oil and gas production, which is an important additional step along the path to achieving the Copenhagen pledge.

Domestic emissions are probably less than would have occurred under the Waxman-Markey proposal because more than half of the reductions that were anticipated during the deliberations for that proposal would have occurred through international offsets. Under the current regulatory approach, there is no role for international offsets. The emissions reductions are occurring on shore.

The U.S. remains on target to achieve its goals, but the outcome is not guaranteed yet. Two factors will be decisive to the outcome for the U.S. One is the successful implementation of the Clean Power Plan in the electricity sector, and the other is the promulgation of regulations aimed at other GHGs.

The Mistra Indigo program is aimed at developing tools and instruments that in an internationally coordinated, cost-effective way can support climate efforts "bottom up", i.e. independent of international frameworks.

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