

ACHIEVING THE UNITED STATES' INTENDED NATIONALLY DETERMINED CONTRIBUTION



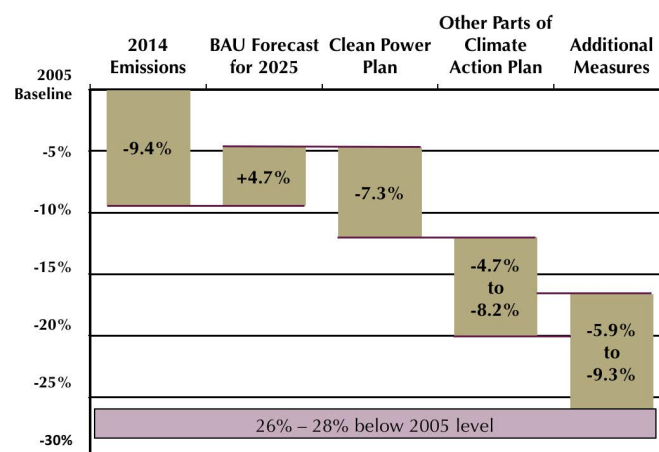
Nations are working toward a new global climate change agreement later this year in Paris. To that end, countries have begun submitting their “intended nationally determined contributions” (INDCs) to the agreement. In its INDC, the United States said it intends to achieve an economy-wide target of reducing its greenhouse gas emissions 26 to 28 percent below 2005 levels in 2025. Based on available estimates, measures already adopted or proposed will reduce emissions 17 to 20 percent below 2005 levels, meaning additional measures will be needed to achieve the 2025 target.

At the end of 2014, U.S. emissions were more than 9 percent below 2005 levels.¹ A number of factors, both market- and policy-related, contributed to this decline. Electric power sector emissions fell 15 percent as a result of a shift from coal to natural gas, increased use of renewable energy, and a leveling of electricity demand.² Improved vehicle efficiency helped reduce transportation-related emissions by 10 percent, and the continued shift to a more service-oriented economy helped reduce industrial emissions by 5 percent.³

EMISSIONS FORECAST FOR 2025

Looking forward, emissions are projected to rise. New vehicle standards will reduce emissions from transportation. However, as natural gas prices have inched up from historic lows in 2012, electricity generators are burning more coal, contributing to a 3.3 percent rise in energy-related emissions over the past two years. The Energy Information Administration’s (EIA) business-as-usual (BAU) forecast, which assumes no new policies, projects that energy-related emissions will increase another 2 percent by 2025.⁴

Furthermore, the Environmental Protection Agency (EPA) expects that non-CO₂ greenhouse gas emissions (e.g. methane, nitrous oxide, and fluorinated gases (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride)) will increase around 20 percent.⁵ In total, U.S. emissions are projected be just 4.7 percent below 2005 levels in 2025.



The top line in this figure represents U.S. emissions in 2005. From left to right, the bars represent emission reductions through 2014, projected increases by 2025 under a business-as-usual (no new policies) scenario, estimated reductions from final EPA power plant regulations, estimated reductions from other elements of the Obama Administration’s Climate Action Plan, and additional reductions needed to achieve the U.S. INDC.

Sources: EPA, EIA, State Department, Climate Advisers, WRI

CLIMATE ACTION PLAN

President Obama’s Climate Action Plan outlines a series of measures that can be implemented under existing statutes and will significantly reduce emissions by 2025. The major steps include:

- EPA's Clean Power Plan, finalized in August 2015, aims to reduce carbon pollution from existing power plants 32 percent below 2005 levels by 2030. EPA analysis suggests that the plan would reduce total U.S. emissions 7.3 percent below 2005 levels by 2025.⁶
- Measures to reduce hydrofluorocarbons (HFCs) and methane are projected to achieve a further 3.5 to 7 percent reduction.⁷ Reductions at the higher end of the range would require stronger standards for HFCs and policies to reduce methane from landfills and coal mines in addition to the oil and gas sector.⁸
- More stringent standards for medium- and heavy-duty trucks, formally proposed in June 2015, could achieve a little over 1 percent of the target in 2025 with more significant reductions later, according to early projections.^{9,10}

Collectively, these measures would reduce U.S. emissions about 16.7 to 20.1 percent below 2005 levels by 2025.

FILLING THE GAP

Analysts have identified additional federal and state measures, beyond those contained in the Climate Action Plan, that can fill the remaining gap to achieve a 26 to 28 percent reduction in U.S. emissions by 2025. These include:

- The World Resources Institute estimates that energy efficiency improvements and fuel switching in the industrial sector (bulk chemicals, petroleum refining, pulp and paper, iron and steel, and cement) could contribute around 3 percent of the target.¹¹
- The Union of Concerned Scientists estimates that the United States' could reduce its global warming pollution through changes in agriculture, forestry and other land use by nearly 2 billion tons of carbon dioxide equivalent in 2020 and 3 billion in 2030.¹² Policies that reduce even a fraction of this potential could meaningfully contribute to the target.

ENDNOTES

¹ U.S. Environmental Protection Agency. 2015. "U.S. Greenhouse Gas Inventory Report: 1990 – 2013." Available at: <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html>.

² U.S. Energy Information Administration. 2015. "Total Energy: Monthly Energy Review: Environment." Available at <http://www.eia.gov/totalenergy/data/monthly/#environment>.

³ Ibid.

⁴ U.S. Energy Information Administration. 2015. "Annual Energy Outlook 2015." Available at: <http://www.eia.gov/forecasts/aeo/>.

⁵ U.S. Environmental Protection Agency. 2014. "Non-CO2 Greenhouse Gases: International Emissions and Projections." Available at: <http://www.epa.gov/climatechange/EPAactivities/economics/nonco2projections.html>.

⁶ U.S. Environmental Protection Agency. August 2015. "Regulatory Impact Analysis: Clean Power Plan Final Rule." Available at: <http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>.

⁷ U.S. Department of State. 2014. "First Biennial Report of the United States of America." Available at: <http://www.state.gov/documents/organization/219039.pdf>.

⁸ Hausker, Karl. "Delivering on the U.S. Climate Commitment: A 10-Point Plan Toward a Low-Carbon Future." World Resources Institute. May 2015. Available at: <http://www.wri.org/blog/2015/05/10-steps-achieve-us-emissions-reduction-target>.

⁹ Belenky, Maria. "Achieving the U.S. 2025 Emissions Mitigation Target." Climate Advisors. April 2015. Available at: http://www.climateadvisors.com/wp-content/uploads/2013/12/US-Achieving-2025-Target_May-20151.pdf.

¹⁰ Hausker, Karl. "Delivering on the U.S. Climate Commitment: A 10-Point Plan Toward a Low-Carbon Future." World Resources Institute. May 2015. Available at: <http://www.wri.org/blog/2015/05/10-steps-achieve-us-emissions-reduction-target>.

¹¹ Ibid.

¹² Boucher, Doug. "Halfway There? What the Land Sector Can Contribute to Closing the Emissions Gap". January 2015. Union of Concerned Scientists. Available at: <http://www.ucsusa.org/global-warming/stop-deforestation/halfway-there-what-land-sector-can-contribute-closing-emissions-gap#.VXBkUUY1R74>.



The Center for Climate and Energy Solutions (C2ES) is an independent nonprofit organization working to promote practical, effective policies and actions to address the twin challenges of energy and climate change.