THE ROAD FROM PARIS: THE UNITED STATES PROGRESS TOWARD ITS CLIMATE PLEDGE

In its nationally determined contribution (NDC), the United States has pledged to reduce greenhouse gas emissions by 26 to 28 percent of 2005 levels by 2025. This is an ambitious—but achievable—goal based on existing policies and regulatory authority. Additional policy measures could put the United States on track to reduce its carbon emissions by 80 percent by 2050. The United States’ bilateral engagements ahead of the Paris conference and its formal ratification of the Paris Agreement have galvanized global climate efforts.

OVERVIEW OF NATIONAL CIRCUMSTANCES

The United States is the third-most populous country in the world, with an estimated population of 319 million as of 2014. From 1990 to 2012, the United States was responsible for about 18 percent of the cumulative global total of greenhouse gas (GHG) emissions. As of 2012, it is the second-largest emitter of annual emissions after China, accounting for 12 percent of the global total.

The United States is also the second-largest producer and consumer of energy. Over the past decade, the discovery and exploitation of vast domestic shale gas reserves have changed the U.S. energy mix. In 2014, 27.4 percent of the nation’s electricity was generated from natural gas, up from 18 percent in 2004. Also in 2014, renewable resources—including wind, solar, biomass, and geothermal energy—generated 5 percent of total U.S. electricity, while 6 percent came from conventional hydroelectric resources and 20 percent from nuclear resources. At the same time, U.S. coal consumption for electric power has declined, down to 38.7 percent in 2014 from a 50 percent share in 2005.

U.S. NATIONALLY DETERMINED CONTRIBUTION

In September 2016, the United State formally joined the Paris Agreement, which entered into force on November 4, 2016. The U.S. NDC formally proposes to reduce economy-wide GHG emissions by 26 percent below 2005 levels by 2025 and to make best efforts to reduce emissions by 28 percent. Meeting the 2025 target will require a further emissions reduction of 9 to 11 percentage points beyond the 2020 target of 17 percent below the 2005 level set at the Copenhagen climate talks. So far, the United States has not stated that it will use international market mechanisms for trading carbon emissions reduction credits to reach its 2025 target.
CLIMATE MITIGATION POLICY

President Obama’s Climate Action Plan includes a variety of initiatives for power plant emissions, energy efficiency, renewable energy, and transportation.

Clean Power Plan

In 2015, the Clean Power Plan (CPP) established the first-ever limits on carbon pollution from U.S. power plants, the nation’s largest source of the pollution driving dangerous climate change. The U.S. Environmental Protection Agency (EPA) adopted the Clean Power Plan under the Clean Air Act, which, as the Supreme Court ruled in 2011, provides the legal authority to control carbon pollution from America’s fleet of fossil-fueled power plants. Under this authority, the CPP establishes a federal-state process for controlling power plant pollution, sharply reducing carbon pollution and other dangerous air emissions by shifting our electricity system toward cleaner energy sources at a steady, achievable pace. Enforceable carbon pollution limits will begin to take effect in 2022 and ramp up into full effect by 2030.

The CPP establishes national carbon dioxide emissions performance rates for existing coal- and gas-fired power plants. States then have an opportunity to formulate and adopt individual plans for their coal and gas plants while expanding the nation’s economy through clean energy resources. The CPP describes multiple ways states can structure their plans and emission limits. The plans must include enforceable emissions limits for power plants starting in 2022 and advancing to full strength by 2030.

For 45 years, states have almost always chosen to develop and carry out plans to implement Clean Air Act protections. In the rare cases when states choose not to act, the Clean Air Act provides a critical guarantee that the national government will regulate polluters directly. To meet its responsibilities, the EPA would implement federal regulations if necessary. The federal proposal would include corresponding “model plan” provisions that states can choose to adopt, simplifying the plan development process.

The CPP allows each state to design its own most cost-effective pathway to a cleaner electricity system while expanding the nation’s economy through clean energy investments. Power companies have already substantially shifted away from coal-fired generation as a result of energy efficiency gains and the lower cost of natural gas, wind, and solar. Tax credits for wind and solar power, extended by Congress in 2015, are encouraging a rapid expansion of these resources. As a result, the power sector is already

U.S. GHG EMISSIONS

making significant progress toward CPP compliance. The EPA projects that by 2030, the plan will cut the electricity sector’s carbon pollution by 32 percent nationally, relative to 2005 levels. In 2030 alone, the EPA projects a reduction of 790 million metric tons of carbon pollution compared with 2005 levels—equivalent to the annual carbon emissions from 70 percent of the nation’s cars.

Energy Efficiency

Efficiency Standards for Appliances and Equipment

The U.S. Department of Energy (DOE) has proposed or finalized many energy conservation standards for appliances, equipment, and federal buildings, and these are expected to cut 3 billion metric tons of carbon pollution by 2030. That’s equivalent to shutting down all of the power plants in the country for a year and a half, or removing all vehicles from America’s roads for more than two years. These standards directly benefit businesses and consumers by cutting energy bills and reducing emissions. Appliance and equipment standards will account for about 11 percent of the U.S. NDC.

Efficiency standards cover everything from common household appliances, such as refrigerators and televisions, to commercial and industrial equipment like electric motors and distribution transformers. Efficiency standards have long had bipartisan support. In 1987, President Ronald Reagan signed the first federal law establishing energy efficiency standards, and President George W. Bush signed legislation strengthening the program in 2005 and 2007. President Obama has made efficiency standards one of the cornerstones of his energy strategy.

At the start of the Obama administration in 2009, many energy efficiency standards were woefully out of date—in some cases by decades—falling far behind the schedule required by law. Recently, the DOE has gotten back on track in a big way, updating standards for more than 40 products since 2009.

In the summer of 2015, industry representatives and energy efficiency advocates agreed on updated efficiency standards for commercial rooftop air conditioners and furnaces. These consensus standards were finalized in late 2015 and will save more energy and carbon pollution than any single DOE standard to date. These standards alone will reduce carbon emissions by 77 million metric tons by 2030. Efficient commercial heating and cooling equipment shipped over the next 30 years will lead to energy savings of almost 15 quads (almost as much as all the coal-fired energy generated annually in the United States) and will avoid 815 million metric tons of carbon emissions.

The Obama administration continues to work hard to meet its commitment to reduce emissions by 3 billion metric tons by 2030, with more than 2.3 billion metric tons of projected emissions savings slated through existing standards for appliances, equipment, and federal buildings. The remaining 0.7 billion metric tons can be cut through forthcoming important energy efficiency standards, including requirements for residential gas furnaces, pool pumps, central air conditioners, and heat pumps. The DOE expects to finalize about a dozen additional standards by the end of the Obama administration in January 2017.

Building Codes

The International Energy Conservation Code (the national model energy code) is updated every three years by the International Code Council. However, building codes vary by jurisdiction in the United States, and some places operate under a version of the code from 2009 or earlier. New energy codes have the potential to save 160 million metric tons of greenhouse gases in 2030—if jurisdictions adopt them. Savings from building codes continue to grow over time, as new buildings are constructed more efficiently.

Clean Energy Deployment

Thanks to significantly reduced technology costs and critical state and federal government support, wind and solar technologies have been instrumental in decreasing emissions from the power sector. Through the CPP, the U.S. government has made clean energy a priority, providing permits for renewable energy installations on public lands and in affordable housing. It has also secured public- and private-sector commitments for solar power and energy efficiency and provided grants and guaranteed loans for renewable energy and efficiency projects in rural areas. The DOE will provide up to $4 billion in loan guarantees for innovative commercial renewable energy and energy efficiency projects. Programs are also being created to help communities negatively impacted by changes in the coal industry.

Transportation

Despite projected growth in transportation demand, the United States is on a path to reduce the transportation sector’s carbon pollution. Strong fuel efficiency and carbon pollution standards are in place for passenger cars and light trucks through 2025. In 2016, the U.S. Department of Transportation (DOT) and the EPA issued similar standards to cut fuel use and emissions from medium- and heavy-duty vehicles through 2027. Federal funding has supported local expansion of hybrid, electric, and natural gas transit buses and the development of electric vehicles and infrastructure to support them. Today the United States is also the largest global market for electric vehicles, which are also benefitting from state standards. To address off-road mobile sources, the EPA has issued an Advanced Notice of Proposed Rulemaking on carbon pollution standards for aircraft.

Limiting Other Potent Greenhouse Gases

The oil and gas sector is the largest U.S. industrial emitter of methane, which is the second-strongest driver of climate change after carbon dioxide. Methane and the other chemicals released from oil and gas extraction sites also harm air quality, endangering health in neighboring communities. The EPA has issued standards to reduce methane pollution from new oil and gas production, processing, and transmission equipment nationwide. It has also committed to issuing standards to cut methane
from existing oil and gas industry sources over the next two years. These steps are in line with the EPA’s goal of reducing methane emissions from the oil and gas sector by 40 to 45 percent from 2012 levels by 2025.

Most of the industry’s methane pollution comes from intentional venting and leaks that can be identified and curbed with existing, low-cost technology and better maintenance practices. NRDC and partners released a report illustrating how federal standards for new and existing infrastructure can cut methane pollution in half while dramatically reducing other harmful air pollution.13

The EPA has prohibited certain uses of hydrofluorocarbons (HFCs) through the Clean Air Act’s Significant New Alternatives Policy (SNAP) and has provided a list of acceptable alternative substances. The White House has also secured private-sector commitments to reduce consumption of HFCs.

International Engagement

At the 2016 North American Leaders Summit, Canadian Prime Minister Justin Trudeau, Mexican President Enrique Peña Nieto, and President Barack Obama released the North American Climate, Clean Energy, and Environmental Partnership Action Plan. Under this policy, North America aims to generate 50 percent of electricity from clean energy by the year 2025 by investing in clean energy technologies, advancing collaborative research, and aligning environmental standards and regulations across sectors.14

The United States was an early entrant into the Paris Agreement, signing on in September 2016 in a joint announcement with China. In October 2016, the U.S. played an important role in the adoption of an ambitious Montreal Protocol amendment to phase down HFCs, and in the adoption of a resolution in the International Civil Aviation Organization (ICAO) to offset aviation emissions growth after 2020.

THE ROAD AHEAD

The United States has made significant progress in reducing emissions across many sectors and will continue to do so. The historic Clean Power Plan provides a fair and achievable blueprint to cut carbon pollution over the next 15 years. Although some power companies are urging governors to reject the plan, most companies and other stakeholders want their states to take the lead, rather than face the imposition of a federal plan. And most governors appear ready to move ahead. The CPP is bolstered by the tax credits for wind and solar power that were extended by Congress in 2015. In addition, clean energy deployment has benefited from dramatically falling costs, permits for installation on public lands, private-sector commitments, and federal funding. Energy efficiency standards will cut emissions by tens of billions of metric tons by 2030. New standards for heavy-duty vehicles and future plans to regulate carbon pollution from aircraft will drive even deeper emissions cuts. In the next two years, we will have standards for methane emissions from the oil and gas sector, and HFCs will be limited through the SNAP program. These efforts are furthered by international engagement on climate change—through the Paris Agreement, ICAO, and the Montreal Protocol as well as significant engagement on climate change through bilateral agreements and international forums such as the G7 and G20. It will be up to the next presidential administration to advance global leadership in the fight against climate change by strengthening domestic policies and securing strong bilateral and multilateral agreements for climate action.

ENDNOTES