



A Pledge to Reduce Carbon Emissions: Progress Has Been Made, but We Must Move Forward

The Senate's failure to pass a clean energy and climate bill means we must continue to press for comprehensive legislation and find more effective ways to influence our elected leaders going forward. At the same time, we ought to recognize we have been effective in advancing the climate agenda on the administrative track, with much to show for it.

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Since taking office less than two years ago, President Obama has acted to lay the groundwork for sweeping changes in the way we treat carbon dioxide emissions, methane, and other greenhouse gases that are warming the planet.

Overall, the administration is taking a comprehensive approach, using its authority to improve the gas mileage of new cars and trucks; bring down the cost of highly insulated windows; promote renewable energy such as wind and solar; and foster energy efficiency advances in equipment ranging from refrigerators and vending machines to water heaters and electric motors. Each of these steps is aimed at cutting carbon emissions outright or reducing the need for the electricity production responsible for more than a third of our nation's greenhouse gases.

Taken together, these administrative actions are set to cut carbon emissions in the United States by hundreds of millions of tons per year over the next two decades. Clearly, they are no substitute for the legislation we need to help

reduce our carbon footprint enough to strike a blow against the climate change that threatens us all. The fact is, though, we are off to a good start.

The Story So Far

Accounting for roughly one-fifth of the world's carbon dioxide emissions, the United States ranks second to China as the world's largest generator of this heat-trapping gas. In 2008, the United States carbon emissions totaled 5.8 billion tons (19 percent of the world's total), compared to China's 6.5 billion tons (22 percent of the world's total), according to the Department of Energy's analytic and projections arm, the U.S. Energy Information Administration (EIA).

On a per-capital basis, we Americans rank first in carbon emissions. Nobody else comes close. In 2008, we produced a whopping 19.2 tons of carbon dioxide emissions for every man, woman, and child in the country. China and Europe produced 4.9 and 7.8 tons, respectively. To put these numbers in perspective, the world average is 4.5 tons per capita. When viewed in relation to our economic output, we generate



twice as much dollar-value per ton of carbon as China's coal-centric economy, but about a third less than our higher-tech and more efficient competitors in Europe. On a macro level, at a minimum, those who claim we cannot afford to cut carbon emissions are just plain wrong.

At the World Climate Summit in Copenhagen last December, Obama pledged to cut U.S. carbon emissions by 17 percent by 2020, using the country's carbon emission levels from 2005 (6 billion tons) as the base. So, to meet Obama's goal, the country must shave off about 1 billion tons from its annual carbon dioxide emissions.

The global recession has created—only temporarily, we hope—the illusion of progress toward curbing carbon emissions. Last year, as the economy contracted by 2.6 percent and unemployment hovered near 10 percent, energy use in the United States declined. Carbon emissions, as a consequence, fell to 5.5 billion tons. We are not, though, halfway to our goal. We are on track for a small increase in carbon output this year, according to the EIA. And, assuming the economy continues to improve, we will be back to generating 5.9 billion tons of carbon dioxide emissions per year by 2020, as things now stand.

We have to do better than that. We must cut our annual carbon emissions by 1 billion tons to avert climate catastrophe.

Exercising Administrative Authority

Fortunately, we did not put all our climate eggs in the legislative basket, and neither did President Obama. More than a year ago, the House passed a clean energy and climate bill that would have set this country on the road to substantial carbon emissions reductions, created two million good jobs, and improved national security. By failing to pass its own version, the Senate effectively killed this measure. The House bill will die when the 112th Congress convenes on January 20, 2011, and our fight for a good climate bill will continue.

In 2007, as a direct result of NRDC litigation, the U.S. Supreme Court ruled that carbon dioxide and other greenhouse gases could be regulated under the Clean Air Act if the Environmental Protection Agency (EPA) determined that the emissions endangered public health or welfare. In December 2009, after an exhaustive science-based analysis, the EPA found that atmospheric concentrations of carbon dioxide, methane, and four other greenhouse gases are reasonably anticipated to endanger both the public health and welfare of current and future generations.

Using its authority to enforce the Clean Air Act, the EPA took several steps aimed at reducing carbon emissions, beginning with the greatest source of such pollution—the large industrial users of coal, oil, and natural gas.

Taking Stock of Industrial Carbon Emissions

Nearly 70 percent of the carbon dioxide, methane and other greenhouse gases generated in this country come from about 10,000 large coal-fired power plants, refineries, cement makers, and other industrial users of large amounts of fossil fuels.

Last January, the EPA began requiring owners of these facilities to document their greenhouse gas emissions. Beginning in 2011, the owners must report this information annually to the agency. This will provide a national inventory of industrial greenhouse gas emission levels—a tool that can be used by businesses and the EPA—to help determine how to reduce those pollutants cost effectively.

Also, beginning in January 2011, some of those facilities will have to show that they are using the best technology they can afford to reduce greenhouse gas emissions. The measure will apply first to facilities that are already being required to reduce emissions of other air pollutants, such as sulfur dioxide, and that will increase their yearly output of greenhouse gases by 75,000 tons or more. Beginning next July, the same must be shown for any new facility that will kick out 100,000 tons or more in greenhouse gases per year, or existing facilities that will increase their annual greenhouse gas emissions by 75,000 tons or more.

These are first steps toward treating greenhouse gases like the destructive pollutants they are, identifying the sources of those pollutants, and, eventually, enforcing limits on them.



Feeding Our Fuel Tanks and Minding Our Tailpipes

Our cars and trucks make up a sizable portion of the transportation sector, which is responsible for 27 percent of carbon emissions in the United States. We can cut those emissions by 80 percent by 2050 by using cleaner and more fuel-efficient vehicles, improving public transit, and designing communities that reflect the way people choose to live, work, and shop.

NRDC is helping make these changes. For instance, we played an important role in working with California to design its nation-leading policies to curb climate change, and we have done similar work on the federal level. Again, that work is paying off.

In April of this year, the EPA and the National Highway Traffic Safety Administration (NHTSA) issued a clean car standard that requires new cars and light trucks to get, on average, 35.5 miles per gallon of gas. NRDC played a key role in designing the standard and getting it adopted. This measure will cut carbon emissions by nearly 1 billion tons over the lifetime of the cars produced under the standard, while saving some 75 billion gallons of oil. That will put money in consumers' pockets, reduce our need for imported oil, and make a down payment on the carbon reductions we need to turn back climate change. At NRDC, we are pushing the administration to go even further and to set a goal of 60 miles per hour, for passenger cars, by 2025. We can do it. We must do it.

By next July 2010, the EPA and the NHTSA plan to issue similar standards to apply to new commercial trucks of medium- and heavy-duty weight, and buses, beginning with model year 2014. The standards are expected to cut carbon emissions by a total of 250 million tons—saving more than 21 billion gallons of fuel—over the life of the vehicles produced during the first five years of the program.

Harnessing the Wind

In April of this year, the Obama administration approved the first utility-scale offshore wind farm, to be built in Nantucket Sound. With 130 wind turbines, the project will produce, on average, nearly 200 megawatts. That is enough to power approximately 200,000 homes, and meet nearly 75 percent of the electricity demand on Cape Cod, Martha's Vineyard, and Nantucket. By promoting the advancement of wind, solar, and other renewable sources of electricity, the administration is working to reduce the need for new coal-fired electricity plants that pump carbon into our atmosphere.

Going Further With our Cars and Trucks

Last February, the EPA issued its renewable fuel standard. It mandates that by 2022, ethanol and diesel fuels made from waste oil and biomass along with fuels made from corn cobs and other farm waste must make up at least 36 billion gallons of our car and truck fuel supply. That is enough to fuel the nation's vehicles for roughly two months at current consumption levels.

Expanding the range and use of electric cars is another key to our carbon reduction strategy. The economic stimulus package Congress passed last year includes \$2.4 billion to promote the development of the next generation of plug-in hybrid vehicles and advanced battery technology. Obama has set a goal of putting 1 million plug-in hybrid electric cars on the road by 2015. Buyers of the first 200,000 plug-ins will be eligible for tax credits of up to \$7,500.

Building Better Light Bulbs, Windows, and Motors

Residential and commercial buildings account for roughly 40 percent of the nation's energy use, 70 percent of national electricity consumption, and—through the coal-fired generators that produce half of our electricity—a huge share of country's carbon emissions. In order to reduce demand for electricity and directly shave our carbon footprint, the administration, through the U.S. Department of Energy (DOE), has issued a draft of new standards aimed at improving the efficiency of the equipment we use in our daily lives at home and on the job:

- In May of this year, the DOE instituted a program to link builders, architects, renovators, and other high-volume buyers of windows directly to more than 40 suppliers of energy-efficient windows. The program gives these buyers the advantages of volume pricing, helping to bring down the windows' cost—the main barrier to using energy-efficient windows. New highly-insulating windows can reduce heat loss by up to 40 percent, saving on heating bills and keeping homes cooler in summer, therefore also reducing air conditioning costs.
- In accordance with a strategy proposed by NRDC and partner advocates, the DOE has set a new residential water heater standard. Encouraging heat pump technology, which saves up to 50 percent on energy use when compared to conventional water heaters, the standard will cut carbon dioxide emissions by 160 million tons and save consumers \$10 billion in energy use over the next 30 years.
- In August, NRDC and other energy efficiency advocates negotiated an agreement with major appliance manufacturers belonging to the Association of Home Appliance Manufacturers (AHAM) on new, more stringent energy efficiency standards for home appliances. Products meeting the new standards will cut the typical household's electricity use by 6 percent, saving consumers nearly \$30 billion in electricity costs for products purchased by 2030, according to an analysis by the American Council for an



Energy-Efficient Economy. The DOE estimates that his agreement could reduce carbon dioxide emissions by 550 million tons over the same period, while saving enough energy to power 4 out of every 10 homes in the country for a year.

- Owners of manufactured housing (modular homes and the like) typically pay \$1,600 for electricity and gas each year. Over 30 years, the total bill for those utility costs will likely equal the cost of the home itself. In February, the DOE began developing standards aimed at improving the energy efficiency of such homes, which are becoming increasingly popular in retirement communities. Because they are built in factories under controlled conditions, small improvements in building design and construction process can make a big difference in the overall energy efficiency of manufactured homes, thereby capturing the vast potential for reducing energy use.
- In March, the DOE established minimum efficiency standards for small—1/4 horsepower to 3 horsepower—electric motors, used in a multitude of applications on common equipment ranging from air conditioners and refrigerators to air compressors and drills. The new standards apply to all electric motors—domestic or imports—sold in this country after March 2015. The efficiency gains will cut carbon emissions by 112 million tons between 2015 and 2045, as much as 25 million cars produce in one year. By 2045, these standards will eliminate the need for eight new 250-megawatt power plants.
- Building on NRDC's groundbreaking research into vending machines, the DOE set new efficiency standards in August 2009 expected to cut electricity consumption 40 percent in glass-front vending machines and 15 percent for other types of the machines.

Doing What We Must Do: Cutting Carbon Emissions

Beyond developing prescriptions for national change, Obama has directed his administration to walk the walk. In October 2009, the President ordered federal agencies to set specific sustainability goals. Last January, on the basis of those plans, he committed the federal government to cutting its carbon emissions 28 percent by 2020. Beginning that year, all new federal buildings must produce as much energy as they use through cogeneration, solar panels, heat recapture, and other means. Obama has also directed all federal agencies to reduce carbon emissions from indirect sources such as employee commuting and travel by 13 percent by 2020.

These are encouraging measures; they are incomplete, but also significant steps in the right direction. And, while this is not by any means the full story on climate, it is a useful counterpoint to the charge that the country is not acting to cut its carbon footprint. We are taking action, and we must do more.

We must be careful, too, not to take for granted the work the EPA is doing to help curb climate change. According to a September 2010 poll, about three out of four Americans (73 percent) support using the EPA to reduce greenhouse gas emissions.¹ More than four out of five Americans (82 percent) support the work of the EPA, recognizing the contributions the agency has made in the 40 years standing up for our health and welfare.

Despite popular support for the EPA's important work, misguided legislation proposed by Senator Jay Rockefeller (D-WV) and others would block the EPA from being able to regulate carbon emissions for two years. This being said, even if the bill passes the Senate and the House, Obama would be expected to veto it and there is little likelihood it could get the two-thirds majority support in both houses required to override that veto. The legislation shows, though, there are some in Congress who would challenge the EPA's authority in a Congress that seems poised to shift in its makeup following November elections. There are legal challenges as well. For example, in September of this year, a coalition of big polluters and climate-deniers filed a lawsuit asking the federal court of appeals in Washington to block the EPA from regulating carbon emissions. We must push back against these legal and legislative challenges to the EPA's authority—enshrined in law and affirmed by the U.S. Supreme Court—to protect us and our children from the greenhouse gas emissions that are warming the planet and threatening our future.

At NRDC we are doing just that every day, fending off challenges to the common-sense initiatives that protect our environment and our health, even as we press on in our larger mission to pass the comprehensive clean energy and climate legislation needed to prevail over the single greatest environmental challenge of our time.

¹ The study, which surveyed 1,007 adults nationwide, was conducted for NRDC by the respected Opinion Research Corporation, which frequently partners with CNN and other organizations to take the pulse of the public.