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**Before the Subcommittee on Government Management, Organization, and Procurement**  
**Of the Committee on Oversight and Government Reform**  
**U.S. House of Representatives**  
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## **Introduction**

Thank you for the opportunity to share my views regarding Chairman Waxman's Carbon-Neutral Government Act of 2007. My name is Emily Figdor, and I am the director of the Federal Global Warming Program at the U.S. Public Interest Research Group (U.S. PIRG). U.S. PIRG is the federation of state PIRGs and affiliated state environment groups. Our affiliated non-profit, non-partisan public interest advocacy organizations have a combined membership of nearly 1.3 million people nationwide.

Global warming is a challenge of historic scale. However, by adopting rigorous, science-based pollution limits – and using clean energy technologies to meet them – the United States can help stave off the biggest environmental threat of the 21<sup>st</sup> century, break our dependence on oil, enhance our long-term economic and national security, and once again lead the world as a positive force for change.

My testimony today will focus on the need for large, overall reductions in global warming emissions to prevent dangerous global warming, the role of this legislation in beginning to achieve those reductions, and the global warming emission standards for federal vehicle fleets included in the bill.

Chairman Waxman's proposal to freeze global warming emissions from federal government agencies at 2010 levels and reduce them steadily thereafter until the government becomes carbon neutral is a critical first step in rising to the challenge of global warming. The legislation would achieve substantial reductions in global warming emissions, drive the development and deployment of low-carbon technologies, and make the federal government a leader in the United States and worldwide.

## **Global Warming: A Severe Threat but Still Time to Act**

Science is clear that the world faces dramatic consequences if we fail to rein in global warming emissions from the burning of fossil fuels. Yet, science is also clear that what we do now to reduce emissions can make a real difference and enable us to avoid the worst consequences of a warming world.

Earlier this year, the Intergovernmental Panel on Climate Change (IPCC) stated that the evidence of global warming is “unequivocal”<sup>1</sup> and concluded that it is very likely (>90 percent probability) that human activities – primarily the burning of fossil fuels – are responsible for most of observed increase in global average temperature since the mid-20<sup>th</sup> century.<sup>2</sup>

The IPCC's scientific assessments, including the *Fourth Assessment Report*, which is being released over the course of 2007, are unparalleled in their rigor, comprehensiveness, and extensive review by both scientists and governments worldwide, including the United States government. As such, its conclusions should be given the utmost consideration by policymakers.

The IPCC has found that global average surface temperature increased by more than 1.4° F (0.8° C) since the second half of the 19<sup>th</sup> century.<sup>3</sup> Since 1975, temperatures have been increasing at a faster rate of about 0.36° F per decade.<sup>4</sup> Globally, 11 of the last 12 years (1995-2006) rank among the 12 warmest years in the instrumental record.<sup>5</sup> According to data from the National Oceanic and Atmospheric Administration, the December 2006-February 2007 winter season was the warmest on record globally,<sup>6</sup> and 2006 was the second warmest year on record for the contiguous United States.<sup>7</sup>

The IPCC has concluded “with high confidence” that human-caused warming over the last three decades “has had a discernible influence on many physical and biological systems,”<sup>8</sup> pointing to, among other things, changes in snow, ice, and permafrost; increased run-off and earlier spring peak discharge in many glacier- and snow-fed rivers; earlier timing of spring events; poleward and upward shifts in ranges in plant and animal species; and earlier migrations of fish in rivers.<sup>9</sup> Other changes, such as the increase in intense tropical cyclone activity in the North Atlantic since about 1970,<sup>10</sup> are consistent with the kinds of changes scientists expect to occur on a warming planet and are harbingers of the dramatic climate shifts that await us, unless serious action is taken to reduce global warming emissions.

As temperatures continue to rise, the effects of global warming will become more severe. In terms of the projected impacts in the United States, the IPCC warned of increasing droughts, floods, heat waves, water stress, forest fires, species extinctions, and coastal flooding. For instance:

- **Water Stress:** “Warming in western mountains is projected to cause decreased snowpack, more winter flooding, and reduced summer flows, exacerbating competition for over-allocated water resources.”<sup>11</sup>
- **Forest Fires:** “Disturbances from pests, diseases, and fire are projected to have increasing impacts on forests, with an extended period of high fire risk and large increases in area burned.”<sup>12</sup>
- **Heat Waves:** “Cities that currently experience heat waves are expected to be further challenged by an increased number, intensity, and duration of heat waves,” threatening people’s health, particularly that of the elderly.<sup>13</sup>

In addition, the IPCC pointed to the potential for large-scale climate events, including the at least partial deglaciation of the Greenland ice sheet, and possibly the West Antarctic ice sheet, raising sea levels by 13 to 20 feet or more over centuries to millennia. The complete melting of the Greenland and West Antarctic ice sheets would lead to sea-level rise of up to about 23 feet and 16 feet, respectively.<sup>14</sup>

Despite these dire predictions, the panel concluded that “many impacts can be avoided, reduced, or delayed” by reining in global warming emissions.<sup>15</sup>

The IPCC’s best estimate is that, if historical trends in emissions continue, temperatures could rise by 3.1 to 7.2° F (1.8 to 4.0° C) by the end of the century.<sup>16</sup> Even at the low end of this threshold, the impacts could be significant, triggering the irreversible melting of the Greenland ice sheet and putting up to 30 percent of plant and animal species at risk of extinction.<sup>17</sup>

The United States has committed, as a signatory to the 1992 United Nations Framework Convention on Climate Change, to the goal of “[s]tabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”<sup>18</sup> While the IPCC does not identify a specific temperature increase or stabilization level as “dangerous,” the European Union and other policymakers have come to accept a 2° C rise in global average temperature over pre-industrial levels (which is equivalent to 3.6° F, or about 2° F over today’s levels) as a rough threshold beyond which dangerous impacts from global warming will become inevitable.<sup>19</sup>

According to the IPCC, to limit the increase in global average temperature to about 2° C, global emissions must peak no later than 2015 and then decline by 50 to 85 percent below 2000 levels by 2050.<sup>20</sup> This level of reduction “can be achieved by deployment of a portfolio of technologies that are currently available today and those that are expected to be commercialized in coming

decades.”<sup>21</sup> In particular, the IPCC highlighted the vast potential for energy efficiency and renewable energy, stating that energy efficiency in vehicles and buildings could significantly reduce global warming emissions “with net economic benefit” and “large co-benefits,” but that “many barriers exist against tapping this potential.”<sup>22</sup> The co-benefits include improved energy security, job creation, lower costs, and reduced air pollution.<sup>23</sup>

To avoid dangerous global warming, the United States will have to act quickly and decisively to reduce its emissions.

The United States is responsible for 28 percent of cumulative carbon dioxide emissions from energy sources through 2004, making it by far the largest contributor to the problem.<sup>24</sup> Yet, global warming emissions continue to rise each year in the United States, increasing by 17 percent between 1990 and 2005.<sup>25</sup> The largest sources of U.S. global warming emissions are coal-fired power plants and light-duty passenger vehicles.<sup>26</sup>

To do its fair share to reduce emissions quickly enough and deeply enough to prevent dangerous global warming, the United States must:

- stabilize emissions at or below today’s levels by the end of this decade;
- reduce emissions by at least 15 to 20 percent below today’s levels by 2020; and
- reduce emissions by at least 80 percent by 2050.

These reduction levels assume similarly aggressive efforts to reduce emissions by other Western countries, along with action by developing nations, such as China and India.<sup>27</sup> *In other words, should the United States fail to achieve global warming emission reductions at or beyond these levels, the chances of preventing dangerous, human-caused global warming will be further compromised or out of reach altogether.*

### **We Have the Tools to Act**

Preventing dangerous climate change is a daunting challenge. But the United States has many tools at its disposal, including a history of technological innovation and a growing body of policy experience being developed in the states.

The United States already has the technology needed to achieve the short and medium-term emission reduction goals described above. For example, by achieving five simple and technologically feasible targets for energy efficiency and renewable energy development (along with keeping emissions of non-carbon dioxide global warming pollutants constant), the United States could reduce its global warming emissions by 19 percent below 2004 levels by 2020 (see table).<sup>28</sup>

**Global Warming Emission Impacts in 2020 of Selected Energy Targets (Relative to 2004 Emissions)<sup>29</sup>**

| <b>Strategy</b>                                                 | <b>Savings<br/>MMTCO<sub>2</sub>E</b> |
|-----------------------------------------------------------------|---------------------------------------|
| Stabilize Vehicle Travel                                        | 0*                                    |
| 40 MPG Fuel Economy and Heavy-Duty Truck Fuel Economy Standards | 383                                   |
| 10% of Transportation Fuel from Renewables                      | 61                                    |
| 10% Reduction in Energy Consumption                             | 400                                   |
| 20% of Electricity from New Renewables                          | 511                                   |
| <b>Total Savings</b>                                            | <b>1355</b>                           |
| 2004 U.S. Global Warming Emissions                              | 7122                                  |
| <b>Reduction Relative to 2004</b>                               | <b>19%</b>                            |

\* Avoids increase in emissions resulting from projected increases in vehicle travel between now and 2020.

The long-term goal of achieving an 80 percent reduction in U.S. global warming emissions also is feasible, given an aggressive push to improve energy efficiency and expand the production of renewable energy in the United States.<sup>30</sup>

Moreover, the United States already has models of effective policies that can be used to encourage a shift to cleaner and less-polluting sources of energy. In recent years, states have adopted a variety of innovative public policies to reduce global warming pollution. Among them are the following:

- Renewable energy standards for electricity that have been adopted in at least 21 states.
- Global warming emission standards for vehicles that have been adopted in 12 states.
- Enhanced appliance efficiency standards, building energy codes, and incentives for government-sector renewable energy use and “green” buildings.
- Incentive programs to enhance the market penetration of solar photovoltaic energy in states such as California and New Jersey.
- Ratepayer-funded energy efficiency programs and energy efficiency portfolio standards for electricity providers.

As a result of these and other state-driven efforts, there is a solid and growing body of real-world policy experience that points the way toward a “made in America” approach to climate policy that achieves aggressive reductions in global warming pollution while enhancing the nation’s economy, energy security, health, and well-being.

**First Step Needed Now: Carbon-Neutral Government Act**

The United States must act now to reduce its global warming emissions, and the Carbon-Neutral Government Act would be a strong first step.

The bill would freeze global warming emissions from federal government agencies at 2010 levels and reduce them steadily each year through 2050, at which point the federal government would be carbon neutral. This level of reduction in emissions is consistent with the pace and magnitude of the reductions in global warming emissions demanded by the science.

The federal government currently is the single largest energy consumer in the United States.<sup>31</sup> The vast majority of the energy consumed by the government is from fossil fuel sources, which makes the federal government a leading contributor to U.S. global warming emissions.

However, the federal government has made strides in reducing emissions from some sources in recent years, reducing global warming emissions from federal facilities by 22.1 percent from FY 1990 to FY 2005. This reduction in emissions is largely due to a 35.1 percent reduction in emissions at the Department of Defense over the period.<sup>32</sup>

Federal agencies have made progress in improving the energy efficiency of buildings and in increasing the use of renewable energy. For instance, the government reported obtaining 6.9 percent of its electricity from new renewable energy sources in FY 2005,<sup>33</sup> which exceeded the national average.<sup>34</sup>

Federal agencies have made this progress as a result of specific policy directives to improve energy efficiency, reduce the use of petroleum-based fuels, increase the use of renewable energy, and reduce global warming emissions from federal facilities (though this last goal was revoked in January 2007).<sup>35</sup>

The Carbon-Neutral Government Act would build on this experience to make the federal government a model in the global effort to curb emissions and prevent dangerous global warming. The bill would have four major impacts:

- Achieve substantial reductions in U.S. global warming emissions. As stated above, the federal government is the single largest energy consumer in the United States and a leading contributor to global warming emissions. Federal government operations were responsible for approximately 100 million metric tons of carbon dioxide equivalent in FY 2005.<sup>36</sup> By making the federal government carbon neutral by 2050, the bill would zero out these emissions.
- Spur markets for innovative energy efficient and renewable energy technologies. The federal government is a major purchaser of goods and services. A federal commitment to clean energy technologies would help to support and encourage businesses to offer those products – not just to the federal government but to other purchasers as well.
- Demonstrate the federal government’s willingness to “lead by example.” A serious, national effort to reduce emissions enough to stave off dangerous global warming will require effort by all Americans in all sectors of the economy. A federal commitment to carbon neutrality would set a powerful example for businesses, state and local governments, and citizens to take similar steps.
- Show the international community that the United States is committed to taking the threat posed by global warming seriously. The United States continues to be a detractor, rather than a leader, in the global effort to curb global warming, as most recently evidenced by the U.S. effort to weaken a G-8 statement on global warming that is set to be unveiled at the G-8 meeting next month. The United States is trying to delete from the statement a pledge to limit the rise in global average temperature to 2° C over pre-industrial levels as well as an agreement to reduce global emissions by 50 percent below 1990 levels by 2050.<sup>37</sup> Adoption of the Carbon-Neutral Government Act would be a first step toward the kind of meaningful domestic action that can re-establish American leadership in the fight against global warming.

The Carbon-Neutral Government Act backs up its commitment to carbon neutrality with a series of sound policy steps, including:

- Strong safeguards to ensure the integrity of any emissions offsets used to meet the requirements of the bill.
- Global warming emissions standards for federal vehicle fleets (more below).
- A requirement that the federal government consider the full cost of fuel in federal procurement decisions.
- A declining cap on the energy intensity of new federal buildings and those undergoing major renovations.
- A requirement that new federal buildings at a minimum achieve Leadership in Energy and Environmental Design (LEED) Silver certification from the U.S. Green Buildings Council.
- A requirement for federal agencies to regularly benchmark the energy performance of their large buildings.

These measures make a strong contribution to improving the energy efficiency of federal operations – which is likely to be the least expensive way to reduce global warming emissions – and help spur the development of innovative technologies that can find their way into the broader economy.

#### *Vehicle Fleet Requirement*

Among the most significant steps in the Carbon-Neutral Government Act is the adoption of global warming emission standards for federal vehicle fleets.

Nationwide, global warming emissions from passenger vehicles are rising quickly. Between 1990 and 2004, carbon dioxide emissions from motor gasoline consumption increased by almost a quarter (22 percent).<sup>38</sup> Two of the major factors contributing to the rapid rise in carbon dioxide emissions from motor gasoline consumption are a dramatic increase in driving and the stagnating fuel economy of U.S. vehicles. Between 1990 and 2004, the number of miles driven in America increased by more than a third (38 percent),<sup>39</sup> while new cars and SUVs in 2005 had a lower average fuel economy than new vehicles in 1982.<sup>40</sup>

The federal government is a large purchaser of vehicles, and its vehicle purchases have the potential to influence the broader market. There were more than 630,000 vehicles in the federal vehicle fleet in 2006.<sup>41</sup> Nearly 30 percent of the almost 63,000 vehicles acquired by the government in 2006 were dedicated alternative fuel vehicles – the vast majority E85 vehicles.<sup>42</sup> The need to supply alternative fuel vehicles to federal agencies and state government purchasers – established in the Energy Policy Act of 1992 – has helped spur the development and marketing of vehicles capable of running on E85.

The Carbon-Neutral Government Act would require federal agencies to purchase vehicles for federal fleets that meet the California global warming emissions standards for light- and medium-duty vehicles. The California standards require a 30 percent reduction in global warming pollution by model year 2016. Because the standards have already been adopted by 12 states, comprising one-third of the nation's vehicle market, manufacturers will be producing a variety of vehicles with lower global warming emissions. Moreover, automakers have access to many off-the-shelf technologies that can improve fuel economy, allow for the use of low-carbon vehicle fuels, or reduce global warming pollution from air conditioning – all steps that can reduce vehicle global warming emissions and be used to comply with the standards.

By putting the purchasing muscle of the federal government behind the drive for cleaner cars, the Carbon-Neutral Government Act would achieve significant reductions in global warming emissions from vehicles. In addition, the federal fleet standards send a clear message to automakers that a significant market will exist for energy-efficient and low-global warming pollution vehicles in the United States, when and if manufacturers bring those vehicles to the market. Finally, investing in low-emission vehicles likely will reduce oil consumption by federal fleets – enhancing America’s energy security and protecting the interests of taxpayers.

## Conclusion

Global warming poses severe threats to our environment, economy, and way of life. The science is clear that the United States must take decisive action immediately in order to avoid the worst consequences of a warming world. A federal commitment to carbon neutrality would be an important first step in rising to this challenge. The next step is to pass Chairman Waxman’s Safe Climate Act (H.R. 1590), which would limit total U.S. global warming emissions to the levels needed to prevent dangerous global warming.

The time to act is now. Delay will only increase the risks of global warming and the costs of emission reductions in the future. At least one-fourth of carbon dioxide emissions from burning fossil fuels remain in the atmosphere essentially forever (more than 500 years).<sup>43</sup> As a result, failure to act now will result in emissions that will continue to affect the climate for centuries to come and will force us to achieve steeper emission reductions in the future.

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<sup>1</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007, 4.

<sup>2</sup> *Ibid.*, 2 and 8.

<sup>3</sup> *Ibid.*, 4.

<sup>4</sup> J. Hansen, et al., NASA Goddard Institute for Space Studies, *GISS Surface Temperature Analysis: Global Temperature Trends: 2005 Summation*, downloaded from <http://data.giss.nasa.gov/gistemp/2005/>, 27 March 2007.

<sup>5</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007, 4.

<sup>6</sup> National Climatic Data Center, *Climate of 2007: February in Historical Perspective*, March 2007, accessed at <http://www.ncdc.noaa.gov/oa/climate/research/2007/feb/feb07.html>, 20 March 2007.

<sup>7</sup> National Oceanic & Atmospheric Administration, National Climatic Data Center, *Climate of 2006 in Historical Perspective: Annual Report*, revised 3 May 2007.

<sup>8</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Climate Change Impacts, Adaptation, and Vulnerability, Summary for Policymakers*, April 2007, 4.

<sup>9</sup> *Ibid.*, 2-3.

<sup>10</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007, 6.

<sup>11</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Climate Change Impacts, Adaptation, and Vulnerability, Summary for Policymakers*, April 2007, 12.

<sup>12</sup> *Ibid.*, 13.

<sup>13</sup> *Ibid.*, 13.

<sup>14</sup> *Ibid.*, 17.

<sup>15</sup> *Ibid.*, 20.

<sup>16</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007, 11.



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- <sup>17</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Climate Change Impacts, Adaptation, and Vulnerability, Summary for Policymakers*, April 2007, 15 and 17.
- <sup>18</sup> United Nations, *United Nations Framework Convention on Climate Change*, 1992.
- <sup>19</sup> Malte Meinshausen, "What Does a 2°C Target Mean for Greenhouse Gas Concentrations? A Brief Analysis Based on Multi-Gas Emission Pathways and Several Climate Sensitivity Uncertainty Estimates," in Hans Joachim Schnellhuber, ed., *Avoiding Dangerous Climate Change*, Cambridge University Press, 2006. Also see Juliet Eilperin, "U.S. Aims to Weaken G-8 Climate Change Statement," *Washington Post*, 13 May 2007.
- <sup>20</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Mitigation of Climate Change, Summary for Policymakers*, May 2007, 23.
- <sup>21</sup> *Ibid.*, 25.
- <sup>22</sup> *Ibid.*, 19.
- <sup>23</sup> *Ibid.*, 19-20.
- <sup>24</sup> Testimony of James E. Hansen, before the Select Committee on Energy Independence and Global Warming, U.S. House of Representatives, 26 April 2007, 16.
- <sup>25</sup> Department of Energy, Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2005*, November 2006, ix.
- <sup>26</sup> *Ibid.*, xii-xiii.
- <sup>27</sup> Malte Meinshausen, "What Does a 2°C Target Mean for Greenhouse Gas Concentrations? A Brief Analysis Based on Multi-Gas Emission Pathways and Several Climate Sensitivity Uncertainty Estimates," in Hans Joachim Schnellhuber, ed., *Avoiding Dangerous Climate Change*, Cambridge University Press, 2006.
- <sup>28</sup> U.S. PIRG Education Fund, *Rising to the Challenge: Six Steps to Cut Global Warming Pollution in the United States*, 2006.
- <sup>29</sup> *Ibid.*
- <sup>30</sup> Charles F. Kutcher, ed., American Solar Energy Society, *Tackling Climate Change in the U.S.: Potential Carbon Emissions Reductions from Energy Efficiency and Renewable Energy by 2030*, January 2007.
- <sup>31</sup> Department of Energy, Federal Energy Management Program, *Annual Report to Congress on Federal Government Energy Management and Conservation Programs Fiscal Year 2005*, 26 September 2006, 1.
- <sup>32</sup> *Ibid.*, 17.
- <sup>33</sup> *Ibid.*, 20.
- <sup>34</sup> Department of Energy, Energy Information Administration, *Electric Power Generation by Fuel Type (2005)*, downloaded from <http://www.eia.doe.gov/fuelelectric.html>, 14 May 2007.
- <sup>35</sup> Executive Order 13423, 24 January 2007. See Executive Order 13123 (issued 3 June 1999) for the revoked requirement regarding global warming emissions from federal facilities.
- <sup>36</sup> Memorandum from the Congressional Research Service to House Committee on Oversight and Government Reform, Federal Government Carbon Emissions from Non-Facility Energy Use, 3 May 2007; Memorandum from the Congressional Research Service to House Committee on Oversight and Government Reform, Federal Government Carbon Emissions from Exempt Facilities, 8 May 2007. The estimate of carbon emissions was multiplied by 44/12 to convert the data to carbon dioxide equivalent emissions.
- <sup>37</sup> Juliet Eilperin, "U.S. Aims to Weaken G-8 Climate Change Statement," *Washington Post*, 13 May 2007.
- <sup>38</sup> U.S. PIRG Education Fund, *The Carbon Boom: State and National Trends in Carbon Dioxide Emissions Since 1990*, April 2007.
- <sup>39</sup> 1990 data: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics Summary to 1995*, 1995, Section V, Table VM-203, available at [www.fhwa.dot.gov/ohim/summary95/section5.html](http://www.fhwa.dot.gov/ohim/summary95/section5.html); 2001 data: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2001, 2002*, Section V, Table VM-3, available at [www.fhwa.dot.gov/ohim/hs01/re.htm](http://www.fhwa.dot.gov/ohim/hs01/re.htm).
- <sup>40</sup> U.S. Environmental Protection Agency, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2005*, July 2005. Based on adjusted lab numbers.
- <sup>41</sup> General Services Administration, Office of Governmentwide Policy, *Federal Fleet Report, Fiscal Year 2006*, 31 January 2007, 11.
- <sup>42</sup> *Ibid.*, 76.
- <sup>43</sup> Jim Hansen, *Global Warming: Connecting the Dots from Causes to Solutions*, Presentation to the National Press Club and American University, 26 February 2007.