

February 25, 2013

Dear Congressman Waxman and Senator Whitehouse;

First, thank you for forming the Bicameral Task Force on Climate Change and for your ongoing leadership in addressing this paramount threat to the nation's health, economy, and environment. We could not agree with you more strongly that climate change presents the moral challenge of our time and requires immediate action. Therefore, we appreciate the opportunity to supplement with some additional detail the response submitted by National Parks Conservation Association President Tom Kiernan on behalf of multiple environmental organizations to your January 31st letter. We hope this outline of near-and longer-term ideas will assist you as you help the nation chart a course forward.

1) What actions or policies could federal agencies adopt, using existing authorities, to reduce emissions of heat-trapping pollution?

Environmental Protection Agency

The Environmental Protection Agency (EPA) has the authority and responsibility to set standards to reduce carbon pollution from various kinds of industrial sources and motor vehicles under the Clean Air Act.

Though not an exhaustive list, the following are the three highest carbon-emitting industrial sectors that should be EPA's top priority under Section 111 of the Clean Air Act. EPA also has large opportunities to cut carbon pollution through further standards for heavy trucks and through a phase-down of potent industrial chemicals known as hydrofluorocarbons (HFCs). The most immediate and potent action the Administration can take to move the country forward on climate change is to use its authority to clean-up pollution from new and existing power plants.

Power Plants:

The EPA needs to move forward quickly to set standards for carbon pollution from new and existing power plants using its authority under Section 111 of the Clean Air Act. The Supreme Court has found that EPA has the authority and responsibility to set carbon pollution standards for power plants under this provision of the law. The electric power sector accounts for nearly 40 percent of all US CO₂ emissions. EPA proposed standards for new sources in April 2012 and final action is required by law in April 2013. More than 3.2 million Americans raised their voices in comments to EPA supporting the proposed new source standards and calling on EPA to act quickly also to set standards for the existing plants.

NRDC has offered a specific plan for carbon standards that achieves huge health and climate benefits at surprisingly low cost, is fair and flexible for each state and power company, holds power bills down, and triggers huge job-creating clean energy investments that can't be

outsourced. By 2020 power plant carbon emissions could be reduced by 560 million tons below the peak level reached in 2005. Since many power companies are already increasing their reliance on generation from natural gas, wind, and solar, and are already expanding money-saving energy efficiency programs, they already have made a substantial head start toward these targets. In addition to protecting the climate, these carbon standards would also save thousands of lives and avoid tens of thousands of illnesses by further reducing other dangerous air pollutants. Analyzed using the same analytical tools used by EPA and the power industry, the NRDC plan achieves enormous climate protection and public health benefits worth \$26-60 billion in 2020, at a reasonable cost of \$4 billion.

Oil and Gas Production:

The U.S. EPA should set standards for methane and other heat-trapping pollutants from oil and gas production and transmission facilities using its Section 111 Clean Air Act authority. The oil and gas sector is the second largest category of industrial sources of carbon pollution, according to EPA's greenhouse gas emissions inventory and EPA's greenhouse gas reporting system. EPA has determined that methane emissions endanger public health and welfare. Many measures are available to avoid methane emissions from new and existing oil and gas operations at low cost or often with a profit because the recovered methane is valuable fuel.

Petroleum Refineries:

The EPA should set standards for CO₂, methane, and other heat-trapping pollutants from new and existing petroleum refineries using its Section 111 Clean Air Act authority. The refinery sector is the third largest category of industrial carbon pollution, according to the EPA greenhouse gas emissions inventory and reporting system. Emissions and energy efficiency vary markedly from the best to the worst refineries. Many cost-effective measures are available to reduce carbon pollution from refineries, ranging from better process controls and flares to avoid or destroy methane leakage, to systematic energy efficiency improvements that can reduce CO₂ emissions from heaters, boilers, and other process equipment.

Heavy-Duty Engines:

Over the past four years, the EPA and the Transportation Department set two rounds of carbon pollution and fuel economy standards for cars and light-trucks that will cut cars' carbon emissions in half and double mileage by 2025. For heavy-duty truck and bus engines, the two agencies set a only a first round of standards covering the model years 2014-18. These truck standards pay for themselves in saved fuel. The two agencies should follow up by setting a second round of carbon pollution and fuel economy standards for heavy-duty engines carrying through to 2025.

HFCs:

The EPA should quickly implement a phase-down of hydrofluorocarbons (HFCs), a class of very potent heat-trapping chemicals used as refrigerants and for other purposes. Alternatives are available that provide equal or better performance with much lower heat-trapping power. For

example, a new coolant available for use in car air conditioners has 1/360th the climate impact of the refrigerant now in use. EPA should use its authority under Title VI of the Clean Air Act, including the Significant New Alternatives Program (SNAP), to provide for an orderly replacement of potent HFCs. The European Union and Japan are already moving to adopt phase-down policies. Domestic action under the Clean Air Act will help U.S. industries keep the lead in these important technologies.

Department of Energy and Related Energy Programs

Integral to meeting our carbon pollution reduction goals is transitioning to clean, renewable energy sources and reducing the amount of energy the nation consumes. Doing so will strengthen the economy, save consumers money, and create the next generation of domestic jobs while protecting communities from dangerous pollution. Below are specific recommendations:

DOE Appliance and Equipment Efficiency Standards:

Federal appliance and equipment standards are set by DOE and provide a floor on the energy performance of products, like refrigerators and air conditioners. They have transformed markets and made equipment more efficient while saving consumers' money and reducing emissions. Existing standards reduced electricity use by approximately 7 percent in 2010 and will yield over 200 quads of savings cumulatively through 2035, which is roughly twice the total energy used in the US in one year. Upcoming standards set between 2012 and 2015 have the potential to add 42 quads in cumulative savings. These cumulative energy savings will add up to over a trillion dollars in net consumer benefit. Yet these standards need continuous support from federal policy makers both in terms of staying on schedule implementing and updating standards (DOE and OMB are behind) and avoiding constraints on DOE, such as the budget rider on light bulbs.

Correcting Mortgage Finance Programs:

When a homeowner obtains a mortgage loan, monthly utility expenses should be factored into whether the house is affordable. Today, if the loan is purchased or insured by FHA, Fannie Mae, and Freddie Mac, monthly utility expenses are completely ignored, whether the borrower buys (or refinances) a small house with a new high efficiency boiler, or a very large house with high cooling expenses. This policy is: i) bad mortgage policy (incomplete picture of a borrower's ability to pay), and ii) bad energy policy, as it suppresses a builder and homeowner's incentive to invest in efficiency. This problem can be corrected within existing authority or through legislation (as introduced 2011 by Senators Bennet (D-CO) and Isakson (R-GA), the Save Act (s1737)). Corrective action could include:

- i) Regular reporting on correlation of energy expenses and mortgages
- ii) Hearings for agencies to report on how energy expenses are related to ability to pay and other attributes.

Weatherizing Homes that go through Foreclosure:

Federal mortgage agencies are foreclosing on a large number of homes. Before any home is re-

sold back into the market, the agency should do cost-effective weatherization. (note that the agencies already have programs to make repairs, upgrade appliances, paint, etc. and to identify which houses merit the investment.)

Department of State

Reject high carbon fuels, starting with the proposed Keystone XL tar sands pipeline:

The United States should avoid actions that will drive expansion of high carbon fuels such as tar sands or oil shale. The U.S. State Department should consider how proposals to build or expand cross-border pipelines bringing carbon intensive tar sands oil through the United States will increase global greenhouse gas emissions. There are three proposed or existing tar sands pipelines that must obtain new or modified Presidential Permits from the State Department under Executive Order (EO) 13337. First, the State Department is currently completing an Environmental Impact Statement and National Interest Determination as part of a review for a new application for Keystone XL, a cross-border tar sands pipeline that would bring 830,000 barrels a day of tar sands from Alberta to the Gulf Coast. Second, the State Department has recently initiated a NEPA environmental review for Enbridge's proposal to expand its existing cross-border tar sands pipeline, Alberta Clipper, from 450,000 to 800,000 bpd. Third, there is an existing Presidential Permit for a pipeline that crosses the Quebec-Vermont border. Pipeline companies have signaled interest in reversing that pipeline to ship tar sands crude through New England. The State Department should complete an environmental review process as part of a modification of its existing Presidential Permit to account for a change of the use of the pipeline. In all of these cases, the State Department must evaluate the climate impacts of bringing a substantial increase of tar sands into the United States. As part of the environmental review process, consulting federal agencies including the U.S. EPA must play an active role to evaluate the impact of the increase in carbon emissions. It is simply not in the national interest to continue developing tar sands and other high-carbon fuels.

Department of Interior

DOI can show U.S. leadership on the necessary challenge of leaving some fossil fuels in the ground by putting off limits the worst place in America to drill for oil, the Arctic Ocean.

International Action

Reduce aviation's carbon pollution:

If it were a country, aviation would be the 7th largest source of global warming pollution in the world. The U.S. could implement significant emissions reductions in the sector through implementing strong action under existing authority.

Require Ex-Im to dedicate 10% of its resources to renewable energy and energy efficiency as Congress has mandated:

Unfortunately it has failed to live up to that mandate, with less than 1 percent of its funding going to these activities. In fact, according to a recent assessment Ex-Im is the fourth largest public international financier of coal-fired power plants. With clean energy booming globally there is a huge opportunity for Ex-Im products to help U.S. companies tap into this growing market.

Continue to implement that Lacey Act. The Lacey Act requires that companies bringing wood and wood products into the U.S. must ensure that they are sourced legally. This is playing an important role in helping to address deforestation, which accounts for around 15% of the world's greenhouse gas emissions. Continuing to fully implement the Lacey Act will help reduce carbon pollution, while ensuring that U.S. companies don't have to compete against illegal sourced wood and wood products.

2) What actions or policies could federal agencies adopt, using existing authorities, to make our nation more resilient to the effects of climate change?

Federal Agency Adaptation Plans

As noted in a recent U.S. Government Accountability Office (GAO) report, climate change presents significant financial risks for the federal government due to its role in owning and operating infrastructure, administering insurance, and providing disaster aid.¹ The GAO report also indicates that the federal government is not well-organized to address these risks due to a lack of coordination and the need for more comprehensive and systematic strategic planning.² The recent release of federal agency climate adaptation plans in accordance with Executive Order 13514 is a significant initial step towards ensuring that the mission, goals, and actions of federal agencies consider the impacts of climate change. While this is an important first effort at adaptation planning for numerous federal agencies, many of these adaptation plans are lacking specificity on discrete actions that agencies will take to help build the nation's resilience to climate impacts. Additionally, there are substantial inconsistencies among federal agencies in terms of the level of detail and range of issues considered in their respective adaptation plans. For example, the Department of the Interior's (DOI) climate adaptation plan for FY 2013 is a mere twelve pages in length and contains only general adaptation actions, such as avoiding actions that are contradictory or inconsistent with goals outlined in cross-cutting planning documents like the *National Fish, Wildlife, and Plants Climate Adaptation Plan*.³ For success to

¹ U.S. Government Accountability Office, *High-Risk Series: An Update* (2013), <http://www.gao.gov/products/GAO-13-283>.

² *Id.* at 64-65.

³ U.S. Department of the Interior, *Department of the Interior Climate Change Adaptation Plan for FY2013* (2012), 11,

be measured, goals and actions must be specific and quantifiable. The failure of federal agencies to set meaningful targets will make success in addressing climate-related challenges unlikely. Therefore, successive agency adaptation plans would greatly benefit from the articulation of more concrete and measurable steps that federal agencies can and will undertake to address the likely impacts of climate change.

Funding to sustain the federal government's adaptation activities also is critical. In the implementation of Executive Order 13514 and related climate change adaptation initiatives, funding should be committed to further the implementation of adaptation strategies by the more than 20 federal agencies that are part of the Interagency Climate Change Adaptation Task Force. Agency adaptation actions also must be better coordinated across federal agencies to effectively address the threat that climate change poses and to maximize efficient use of increasingly limited federal resources. Moreover, it is unclear how agency adaptation plans will complement interagency strategic planning efforts like the *National Ocean Council Implementation Plan*, *National Action Plan: Priorities for Managing Freshwater Resources in a Changing Climate*, and other ongoing adaptation initiatives.

Need For Federal Research and Tools

Research, observations, and modeling are critical to informing our understanding of the ecological, hydrologic, and socioeconomic impacts of climate change. Furthermore, designing and implementing effective adaptation strategies will require an understanding of climate impacts already underway and greater capabilities to assess and forecast changes over time. Federal agencies have a key role in providing data and decision-support tools to facilitate the implementation of climate adaptation strategies by local, regional, and state governments and other entities. Oftentimes, these stakeholders lack the technical capacity or data necessary to integrate climate change information into planning and operations.

The research and tools developed and supported by the National Oceanic and Atmospheric Administration (NOAA), DOI, and Environmental Protection Agency (EPA) provide policymakers and stakeholders with useful information to help plan and prepare for climate impacts. For example, the NOAA Regional Integrated and Science Assessments (RISA) Program and the Sea Level Rise and Coastal Flooding Impacts Viewer are important resources for state and local adaptation planning. In addition, the DOI's Climate Science Centers (CSCs) and Landscape Conservation Cooperatives (LCCs) play a vital role in connecting the climate science and planning and policy communities. Tools and resources developed by EPA, such as the Climate Ready Water Utilities (CRWU) program's Climate Resilience Education and Awareness Tool (CREAT) and the Climate Ready Estuaries (CRE) program's *Rolling Easements* primer, enable water utilities and municipalities to consider climate change impacts and potential adaptation mechanisms in long-range planning and operations. The federal government should

http://www.doi.gov/greening/sustainability_plan/upload/DOI_Climate_Adaptation_Plan_for_FY2013_for_release.pdf.

ensure that these programs are funded sufficiently and that outreach and training efforts to inform and engage stakeholders on these tools and resources are expanded.

Specific Federal Agency Actions

Federal agencies have a responsibility to use all available tools, including guidance and rulemaking opportunities, to address the serious threats that climate change creates for our people, communities, economy, and natural resources. The federal government also should lead by example by considering climate change when evaluating proposed federal actions. Analyses under the National Environmental Policy Act (NEPA) should consider how federal agencies can design their initiatives to both minimize vulnerability to climate impacts as well as avoid exacerbating those impacts. In February 2010, the White House Council on Environmental Quality (CEQ) released a draft guidance document discussing when and how federal agencies must consider greenhouse gas emissions and climate change in their proposed actions.⁴ The draft guidance document should be strengthened to provide clearer direction on incorporating climate risk and building climate-resilience into federally funded projects. Additionally, federal agencies have a key opportunity to ensure effective adaptation at the state and local levels by requiring federal funding recipients to consider the possible impacts of climate change. In the attached appendix we provide some specific examples of federal agency actions that can and should be taken to make our nation more resilient to climate change.

Wildlife and Landscape Preservation

The Department of Interior and other related land management agencies should preserve from development stressors all remaining 1,000 acre or larger blocks of relatively intact habitat in federal control, to provide refugia for species during climate change, and identify and work to protect large corridors connecting major habitat blocks to allow terrestrial animals and plants to shift their ranges over time.

Ocean Resilience

Oceans represent two-thirds of the planet and are at imminent threat from ocean acidification driven by carbon pollution. First and foremost, all of the actions referenced above to reduce carbon pollution are necessary to reduce the rate of ocean acidification which is rapidly putting at risk our ocean resources and the economies that depend on them. In order to enhance the resilience of our oceans to the impacts of acidification, we must take immediate steps to reduce existing stressors on the ecosystems, protect critical areas, and conduct research to better understand the processes at work. In 2009, Congress passed the Federal Ocean Acidification Research and Monitoring Act (FOARAM) Act to monitor the progression of ocean acidification

⁴ White House Council on Environmental Quality, *Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts* (2010), <http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf>.

and better prepare vulnerable industries and communities to prepare for the acidifying seas. This important program suffers from severe underfunding, which is now stalling its implementation. Just as mariners rely on accurate weather forecasts before heading out to sea, the aquaculture and fishing industries need to know which species and fishing grounds are vulnerable to rising acidity in the sea. Without adequate monitoring and research, these industries are ‘flying blind.

Below are specific recommendations to enhance the resilience of our oceans in the face of ocean acidification and climate change:

- Fully implement Executive Order No. 13547 on Stewardship of Ocean, Coastal and Great Lakes Resources
- Establish a network of marine protected areas in federal waters to help oceans become more resilient to the impacts of climate change and ocean acidification
- Rebuild healthy ocean fisheries under the Magnuson-Stevens Act so the fish populations will be better able to withstand adverse effects of climate change and ocean acidification
- Use the federal Coastal Zone Management Act to promote protections for natural coastal and ocean habitats, like wetlands, dunes, oyster reefs, sea grass beds, etc., that help to buffer and mitigate the effects of storms and sea level rise
- Support the Coastal Barrier Resources System which limits or prohibits federal subsidies for development in undeveloped coastal barriers and consider expansion of the system and its protections
- Establish a monitoring program for ocean acidification that provides coordinated chemical and biological monitoring in regions at most risk of social and economic harm from ocean acidification.
- Establish a research initiative to identify resistant strains of shellfish that are resistant to ocean acidification.

3) What legislation would you recommend Congress enact to strengthen the ability of federal agencies to prevent and respond to the effects of climate change?

Clean Energy

Energy Efficiency:

Remove the budget rider prohibiting the U.S. Department of Energy from using any funds to enforce the federal light bulb efficiency standard.

Tax Incentives for Building Improvements: Modify and extend the tax deduction for investments to make energy efficient improvements to commercial and multi-family buildings (Sec. 179D) so that it is useable by REITs and other ownership structures that currently cannot claim the

deduction and so that it incentivizes retrofits of existing buildings based on the amount of energy saved compared to the building's prior usage. Create a performance-based tax credit for retrofits of existing homes that would reward homeowners based on the amount of energy saved (Sec. 25E). Modify and extend the existing non-business energy efficient property credit (Sec. 25C), so that it is a more limited incentive aimed at promoting the highest efficiency heating, cooling, and water heating equipment, and windows at performance levels that currently represent a small percentage of the market. Extend and increase efficiency requirement for the tax credit provided to builders of new energy efficient homes. The efficiency criteria to be eligible to meet the incentive should be increased and a second tier should be added to the credit that would give a greater incentive to homes that meet even greater levels of energy efficiency (Sec. 45L). Establish national savings targets for building codes and direct DOE to assist model code organizations in achieving these targets. Provide further incentives and direction to states to adopt and comply with the latest model building energy codes.

Manufacturing: Extend the tax credit for manufacturers of energy efficient appliances (45M). Enact provisions included in INCAAA, but not passed in recent legislation, that would allow DOE to set multiple efficiency metrics in product efficiency standards and to facilitate the use of higher efficiency equipment in new construction.

Tax Incentives for Industry: Create industrial energy efficiency tax credits to reduce financial and other barriers to deploying energy efficiency improvements at industrial facilities, including Combined Heat and Power and Waste Energy Recovery technologies. Enact provisions from the Expanding Industrial Energy and Water Efficiency Incentives Act of 2012 (S. 3352), to increase the megawatt and capacity size limitations in the combined heat and power system property energy tax credits, and improve motor efficiency. Provide an investment tax credit to utilities for investments in industrial energy efficiency projects that have been approved by public service and public utility commissions, which would be paid back by industrial partners in the energy efficiency projects over a period of time.

Enhance DOE's ability to raise the bar for efficient products and buildings through codes and standards.

Establish efficiency standards for residential housing financed through federal programs: A) Direct federal mortgage agencies to collect and account for homeowner energy expenses in the conventional loan process (as described in existing authority). B) Amend the Low Income Housing Tax Credit program (LIHTC) to require minimum energy efficiency requirements for buildings receiving these tax credits, including operations and maintenance standards, which HUD would formulate. C) Require Fannie Mae and Freddie Mac to follow the policy implemented by HUD for FHA loans – to be eligible for a mortgage loan on a newly built house, builder must certify house is built in compliance with model energy code (borrower ends up with lower total monthly expenses of mortgage payment plus utility bills).

Expand the Energy Star program to include large tenant spaces, so a building owner could achieve Energy Star designation with high-performance renovations floor-by-floor as new tenants build out. This is still being formulated with stakeholders and is not ready to be introduced (working with Senator Bennet on this).

Direct Fannie Mae, Freddie Mac, and FHA to implement appropriate requirements for Multifamily financing programs to deliver better information to all parties about the energy performance of the building being financed, such as with an Energy Star score (when available for MF) and any efficiency improvements that would be cost effective, such as with energy audit for all buildings over a certain size, e.g., 100 units.

Renewable Energy:

Provide a supportive policy environment for the development and deployment of new clean energy. Kick start the deployment of new clean renewables with smart and sustainable incentives that let new technologies establish a foothold in the market while not unduly straining energy budgets.

- Support a national Renewable Electricity Standard of 25% by 2025: Passing a strong national RES of 25% by 2025 would reduce CO2 emissions by 240 million metric tons by 2025 and provide the critical long-term policy certainty needed for companies to make capital and workforce investments, for utilities to plan for a clean energy future and for the building of required infrastructure.
- Support a production-based incentive for renewable technologies that builds on the concept of the production tax credit (PTC), and provides a direct cash-based alternative as opposed to tax incentives to improve efficiency; support an expansion of the investment tax credit (ITC) for new technologies, and the advanced manufacturing credit, 48C.

Enhance Renewables and Storage Financing: bring down the cost of capital while providing renewables developers with additional access to capital to facilitate construction.

- Modify Master Limited Partnership and REITs to include renewables
- Direct DOE to assist with standardizing project finance structure for renewable projects

Support Innovation Funding:

Build on a renewed, bipartisan commitment to research, development and demonstration in clean energy by providing funding certainty to critical basic and advanced energy and environmental research programs at institutions including ARPA-E, the National Science Foundation, and DOE's Office of Science and Office of Energy Efficiency and Renewable Energy.

Oil Subsidies

Cutting subsidies to the oil industry should be a part of the nation's climate and energy plan. The United States spends over \$8 billion a year on subsidies that benefit the oil industry. These

subsidies divert taxpayer revenues to a mature industry that does not need government support. Oil subsidies increase the federal deficit, encourage carbon intensive energy sources and promote activities that increase pollution and harm the health of our communities. Congress should support reforms that would benefit the American people by reducing environmentally destructive oil subsidies.

International Action

Support robust Congressional appropriations for international climate action:

Congressional appropriations for investments in clean energy deployment, deforestation reductions, and adaptation play a critical role and must be maintained and eventually increased.

Dedicate resources to support the Climate and Clean Air Coalition efforts to create a global movement towards cleaner diesel:

Through the CCAC, the U.S. has an unprecedented opportunity reduce emissions that are accelerating global warming and premature deaths around the world by leveraging U.S. technical assistance and resources.

Reform International Financial Institution lending:

A recent assessment found that the World Bank Group was the second largest international public financier of coal-fired power plants, with the Asian Development Bank the 3rd largest, and the European Bank for Reconstruction and Development the 10th largest. The U.S. is a key shareholder in all three of these international financial institutions and should play a role in ensuring that these organizations stop funding climate destruction and instead fund clean energy.

Transportation Policy

According to a new survey by the American Public Transportation Association, 92 percent of the nation's transit agencies say they've already been impacted just in the last decade by major storm events yet more than one-third are not even collecting or using any data related to extreme weather or climate change. The three big barriers to doing more identified by those surveyed include lack of funding, low institutional priority and need for better data and tools. Clearly, the laggards outnumber leaders in climate preparedness. Therefore, Congress should also require that states and metro regions address preparedness in their plans and transportation improvement programs, and provide dedicated funding to match local and state monies for this purpose.

Transportation accounts for up to 28.1% of the United States' energy use and 71% of its oil consumption. This sector plays a significant role in affecting national goals of energy productivity, environmental protection, and energy security. Improving federally required transportation plans and programs would improve energy productivity for all transportation modes and drive dangerous oil dependence down further. Direct funding to promote efficient

development patterns and transportation infrastructure consistent with the regional and local plans.

Congress should direct the Department of Transportation and the Environmental Protection Agency (EPA) to establish energy performance standards for long-range regional transportation plans and short-term transportation improvement programs developed by Metropolitan Planning Organizations (MPOs). Federal transportation agencies, states, regional planning agencies, local governments, and the private sector should work together to establish or update regional land use and transportation plans, and then local transportation and land-use plans, codes, and zoning consistent with the regional plans, to meet the standards. To catalyze standard setting and ensure the success of these standards Congress should allocate transportation investments when renewing the nation's transportation law.

Congress should lay the groundwork for a federal low carbon fuel standard that sets market incentives for use of lower carbon fuels and prevents backsliding into high carbon fuels use. As part of that effort, EPA should require fuel providers to report the pathways, volumes and fuel carbon intensity. Federal agencies such as the EPA should track flow and use of tar sands into and through the United States. EPA should annually report the carbon intensity of transportation and petroleum heating fuels. EPA shall develop modeling estimates and reporting requirements evaluating GHG emissions for all crude oil sources, by facility or field level, consumed in the US, including those imported as finished or refined product. Using existing authorities to regulate carbon pollution, EPA should establish the logistic pathways of fuels to U.S. markets, their volumes and carbon pollution associated with the full lifecycle of those fuels, from extraction, transportation, upgrading, refining and in-vehicle combustion. EPA shall identify and develop a study by the end of 2014 that identifies GHG emissions reduction opportunities in the petroleum supply chain, including technical potential and cost curves. The information on fuel carbon intensity (gGHG/MJ) provides a foundation for determining if we are reducing emissions as needed to meet climate targets and as a basis for setting targets for market-based programs to encourage the use of clean fuels and discourage high-carbon fuel use.

Ocean Policy

Provide full funding for research and monitoring of ocean acidification under FOARAM (the Federal Ocean Acidification Research and Monitoring Act)

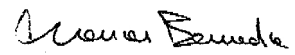
Comprehensive Climate Legislation

Congress ultimately must strengthen existing laws in order to reduce carbon emissions 80% by 2050 which the science unequivocally shows is necessary to avoid the worst impacts of climate change.

Once again, thank you for the opportunity to share our thoughts. We look forward to working

with the Bicameral Task Force to move forward on climate to secure a safer, healthier, and more prosperous future for this and the next generation.

Sincerely,

A handwritten signature in black ink that reads "Frances Beinecke". The signature is written in a cursive style with a large, prominent initial 'F'.

Frances Beinecke
President
Natural Resources Defense Council

Appendix: Specific Agency Actions to Advance Climate Preparedness

Federal Emergency Management Agency (FEMA)

FEMA should use its existing authority under the Stafford Act, as amended by the Disaster Mitigation Act of 2000 (42 U.S.C. § 5165), to require that all state hazard mitigation plans consider climate change impacts. In order to be eligible for certain pre-disaster hazard mitigation funding, states must prepare hazard mitigation plans that identify the natural hazards, risks, and vulnerabilities facing the state. These plans must be approved by FEMA. The Agency currently has the statutory authority – in fact, the obligation – to approve only those state plans that comprehensively assess *all* hazards and risks, including the impacts of climate change. However, FEMA currently does not enforce this requirement, and most state plans do not assess climate-related risks. Because past risk is no longer a good indicator of future risk, FEMA’s approval of insufficient plans means that many states will not be prepared for climate-related disasters when they strike. As a result, FEMA should enforce the Stafford Act and insist that state plans fully consider and prepare for the impacts that climate change will have on their communities.

The National Flood Insurance Program (NFIP) is another federal program that undermines climate risk mitigation by effectively subsidizing and encouraging development in vulnerable areas. The insurance rates offered through NFIP are often considerably lower than those charged by private insurers and may not accurately reflect the true cost of living and developing in hazardous areas. According to a 2007 GAO report, NFIP’s exposure has quadrupled since 1980 to almost \$1 trillion as a result of population growth and development in hazard-prone areas.⁵ As of November 2012, NFIP has borrowed approximately \$20 billion from the U.S. Treasury and with increasing exposure to weather and climate risks, the continued losses generated by the program create significant financial exposure for the federal government and taxpayers.⁶ The best approach is to avoid development in flood-prone areas, thereby reducing the risk of damage from floods and preserving important habitat. Where that is not feasible or where structures already exist, the elimination of NFIP premium subsidies should be expedited for severe repetitive loss and other properties as directed by the 2012 Flood Insurance Reform Act. Furthermore, FEMA should adopt stricter regulations and requirements to ensure that structures insured by NFIP are designed and built to address climate change impacts such as sea level rise and greater flooding risks.

Health and Human Services -- Centers for Disease Control and Prevention (CDC)

Within the Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC)’s Climate Change and Health Program has three health-protective core

⁵ U.S. Government Accountability Office, *Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades Are Potentially Significant* (March 2007), 4, <http://www.gao.gov/new.items/d07285.pdf>.

⁶ U.S. Government Accountability Office 2013 at 67.

missions: (1) To translate climate change science to inform states, local health departments, and communities; (2) To create decision support tools to build capacity to prepare for climate change; and (3) To serve as a credible leader in planning for the public health impacts of climate change.⁷ The Program provides important national leadership toward identifying populations vulnerable to climate change, adapting to current and anticipated health impacts, and establishing systems to detect and respond to current and emerging health threats.⁸ However, there are several actions and policies CDC could yet adopt, using existing authorities, to make our nation more resilient to the effects of climate change. These include:

- CDC should support making heat-related illness and death nationally reportable. Currently, only two states (Missouri and Alabama) require that heat-related deaths and illnesses be tracked and centrally-reported. Heat morbidity and mortality should be avoidable conditions, ideally; but climate change is intensifying both. If reporting expanded to the national scale, we would gain a more immediate sense of the burden extreme heat is placing on the nation's health, know better where to target heat preparedness efforts, and enable communities experiencing the highest burden of heat-related illness and death to benefit from heat preparedness best practices in other locations.
- Enhanced funding support is needed for CDC's National Environmental Public Health Tracking Program, or NEPHT,⁹ which is vitally important to maintain our ability to monitor climate-sensitive indicators of human health. The program should be among CDC's budget line items.
- Enhanced funding support is needed for CDC's Climate-Ready Cities and States Initiative,¹⁰ an innovative program that enhances community and state-level resilience to help meet the public health challenges of a changing climate. The nation cannot afford to see this initiative's support contract, since it is creating a community of experts on the front lines of climate change, giving them a fighting chance to help the public cope with the rising tide of climate-health effects.

Health and Human Services – National Institutes of Health (NIH)

Another key agency within the Department of Health and Human Services, the National Institutes of Health (NIH), could also adopt meaningful policy to make our nation more resilient

⁷ From the CDC *Climate and Health Program* website, available at: <http://www.cdc.gov/climateandhealth/about.htm> [accessed 15 February, 2013].

⁸ From the CDC *Climate and Health Program* website, available at: <http://www.cdc.gov/climateandhealth/about.htm> [accessed 15 February, 2013].

⁹ CDC's *National Environmental Public Health Tracking Program* website is available at: <http://www.cdc.gov/nceh/tracking/default.htm> [accessed 15 February, 2013].

¹⁰ CDC's *Climate Ready States and Cities Initiative*, available at: http://www.cdc.gov/climateandhealth/climate_ready.htm [accessed 15 February, 2013].

to the effects of climate change, by committing more funding to support NIH research on climate change. A recent study found that, “of the nearly 53,000 awards that NIH made in 2008, approximately 0.17 percent focused on or were related to climate change.”¹¹ Given the pressing and complex nature of the health challenges posed by climate change, more research support is warranted to understand its implications.

Environmental Protection Agency (EPA)

EPA must use all available tools at its disposal to address the serious threat that climate change poses, particularly for water resources. This includes considering climate change-related issues in all future guidance and rulemaking [such as when addressing protections for Waters of the United States, promulgating nutrient criteria, or establishing cooling water regulations under Clean Water Act §316(b)].

In particular, EPA should make the inclusion of green infrastructure (GI) and low impact development (LID) practices, which protect water quality and make watersheds more resilient, in stormwater permits a rulemaking priority. Such rulemaking should include climate change considerations as well. GI and LID techniques restore or mimic natural hydrologic conditions by allowing rainwater to infiltrate the soil. To adequately address water quality concerns posed by runoff pollution, which could be exacerbated by climate change, we offer the following actions that EPA should take.

1. EPA’s new stormwater rules must adopt objective performance requirements for the control of runoff volume from new development and redeveloped sites.
2. EPA should require green infrastructure retrofits in existing public and private developed areas and as part of infrastructure reconstruction projects.
3. EPA should update its outdated guidance on the development of Combined Sewer Overflow (CSO) Long Term Control Plans to make clear that communities must conduct integrated planning that identifies opportunities to use green infrastructure in cost-effective combinations with (or, where appropriate, as substitutions for) gray infrastructure.
4. EPA should provide detailed guidance to its regional offices and to states that explains how to draft enforceable green infrastructure requirements for inclusion in Clean Water Act permits and compliance orders pertaining to CSOs, municipal separate storm sewer systems (MS4s), and sanitary sewer overflows (SSOs).
5. EPA should ensure that all future CSO and SSO permits and orders incorporate green infrastructure as part of an integrated approach.

¹¹ Jessup CM, Balbus JM, Christian C, Haque E, Howe SE, Newton SA, Reid BC, Roberts L, Wilhelm E, Rosenthal JP, “Climate Change, Human Health, and Biomedical Research: Analysis of the National Institutes of Health Research Portfolio,” *Environ Health Perspect* (): .doi:10.1289/ehp.1104518 [Received: September 20, 2011; Accepted: January 17, 2013; Published: January 18, 2013].

6. EPA and its state counterparts should develop Clean Water Act permits for MS4s that promote green infrastructure by requiring on-site retention of stormwater and that require green infrastructure directly through the installation of specific practices throughout the service area.

Additionally, most existing total maximum daily loads (TMDLs) established under Clean Water Act §303(d) fail to consider climate change. Where TMDLs are re-opened or re-examined, EPA should encourage and support the consideration of climate change as part of that process.

Furthermore, in circumstances where climate change will likely impact the ability of an existing TMDL to attain applicable water quality standards,¹² the TMDL or its implementation plan (particularly with regard to existing sediment, nutrient, temperature, oxygen depletion, salinity and pH-related TMDLs) should be revisited to incorporate relevant climate change information.

Water efficiency and conservation are strategies that provide immediate benefits while also helping to reduce energy consumption and increase resilience to water scarcity issues that may arise from climate change. EPA can and should take the following actions to promote and expand the implementation of water efficient practices.

1. EPA should continue to update WaterSense standards for all fixtures and appliances and promote the incorporation of those standards into an update of national minimum water efficiency standards.¹³
2. EPA and its partners should provide incentives for the installation of WaterSense products, as is done currently to support energy efficiency under the ENERGY STAR program.
3. EPA can take a leadership role on the implementation of water efficient landscaping by developing model ordinances that municipalities can adopt to ensure efficient water use in new landscape development and reduce water waste in existing landscapes.
4. EPA should aggressively promote water loss control programs, which can help lessen the severity of the effects of drought and climate change by controlling and reducing water loss from drinking water systems. In California, members of the California Urban Water Conservation Council are required to complete a standard water audit and balance and implement effective leak control measures. EPA should work with water agencies to ensure that utilities across the nation are taking similar steps to minimize water losses.
5. EPA should aggressively pursue ways to promote conservation pricing for both water and wastewater services. If done properly, the pricing of water and wastewater services can be an effective means of signaling the importance and scarcity of water and the cost of water and wastewater infrastructure. Reducing water consumption not only mitigates against water shortages but also saves energy. Further, the implementation of volumetric wastewater pricing will benefit water and wastewater agencies by reducing operating

¹² 40 CFR 130.7(c)(1).

¹³ See Energy Policy Act of 1992.

costs, helping to preserve wastewater treatment capacity, and helping to reduce sewer overflows. EPA should include these types of water conservation measures in National Pollutant Discharge Elimination System (NPDES) permits for publicly-owned treatment works (POTWs) administered by EPA,¹⁴ and ensure that states that administer NPDES permits follow suit.

6. EPA should continue its plumbing and building codes work to encourage the installation of meters on all new homes, multi-family individual units, and commercial buildings. Water that is not measured cannot be efficiently managed.

EPA grant and loan programs also can and should be used to facilitate climate adaptation. The Drinking Water and Clean Water State Revolving Funds (SRFs) provide support for drinking water infrastructure improvements and water quality protection projects, such as wastewater treatment and non-point pollution control. While state agencies ultimately have control over how funds are distributed under the SRF, EPA should ensure that projects funded by the program take climate change into consideration. These criteria should include energy and water efficiency as well as potential climate change impacts to the design and siting of proposed projects. By requiring climate change criteria, EPA can avoid funding projects that result in the release of additional greenhouse gas emissions and/or projects located in potentially hazardous areas, which contribute to greater climate change vulnerability.

¹⁴ 40 C.F.R. § 122.41(d). That section states: “Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.” Because volumetric wastewater pricing induces water conservation, and in turn reduced flow to the sewage system, volumetric pricing is a “reasonable step” to minimize SSOs.