



Goldman Sachs building in lower Manhattan during Hurricane Sandy (Reuters)

Actions to Catalyze and Support Private-Sector Adaptation Efforts



President's Council of Advisors on
Science and Technology

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Climate Change and Private-Sector Adaptation Study

Co-Chairs

- Rosina Bierbaum, University of Michigan
- Michael McQuade, United Technologies Corporation
- Maxine Savitz, Honeywell (retired)

Working Group Members

- John Holdren, Co-Chair, PCAST
- Mario Molina, University of California, San Diego
- Daniel Schrag, Harvard University

Staff

- Marjory Blumenthal, Executive Director, PCAST
- Diana Pankevich, AAAS S&T Policy Fellow, PCAST



Climate Change Administration Initiatives

Actors Activities	Public Sector	Private Sector
Mitigation	Federal clean-energy research and development, EO 13693 (Planning for Federal Sustainability), Presidential Memorandum on Federal Energy Management	Clean Power Plan, building and vehicle-efficiency standards, American Business Act on Climate Pledge
Adaptation	EO 13653 (Preparing for the Impacts of Climate Change), Drought Resilience Partnership, EO 13690 (Federal Flood Risk Standard), Climate Data Initiative, Climate Resilience Toolkit, Task Force on Climate Preparedness and Resilience, building and infrastructure standards	Climate Data Initiative, Climate Resilience Toolkit



PCAST Stakeholder Exploration

- Conducted 25 deep-dive conversations with stakeholders
- Reviewed relevant reports and peer-reviewed papers
- Participated in several workshops
- Hosted a workshop with 35 stakeholder groups including:
 - Agriculture, energy, water, and insurance sectors
 - Federal agencies including members of the interagency Council on Climate Preparedness and Resilience
 - Non-governmental organizations representing both public and private sectors



PCAST Findings

- Adaptation to **climate change is undervalued** in the private sector.
- **Companies focus primarily on near-term changes** (e.g., flooding, drought) and not on the need for long-term adaptation to climate change (e.g., sea level rise, changing availability of feedstocks).
 - Few major companies have incorporated climate data or modeling into long-term decision-making or otherwise have taken steps to address these risks.
- **Better communication is needed** about the long-term risks climate change poses and the steps that can be taken to **minimize economic, social, and ecological costs**.



PCAST Findings (cont.)

- **Companies rarely report metrics** for measuring the success of climate-adaptation initiatives.
 - Best practices or lessons learned for dealing with climate variability are not widely available or shared.
- Relevant tools and information from the Federal Government can be **difficult to locate and use**.
 - Data needs to be more precisely tailored to specific users' needs.
- There is an overwhelming call for an **easy-to-use, single entry point** for obtaining actionable information.

The Federal Government can do more to motivate and facilitate private-sector adaptation efforts.



PCAST Recommendation Areas:

- 1. Educate and Communicate**
- 2. Enhance adaptation-science research and technology development and demonstration**
- 3. Close the information gap**
- 4. Unlock investment capital**
- 5. Expand public-private partnerships**
- 6. Leverage existing programs to deploy a city-based pilot project**



Recommendation 1: Educate and Communicate

The interagency Council on Climate Preparedness and Resilience should develop and implement a robust strategy for private-sector education and communication.

The Council should actively engage the private sector as an integral part of this effort.



via Getty Images



Recommendation 2: Enhance adaptation-science research and technology development and demonstration

The National Global Change Research Plan of 2012-2021, currently being updated, should include:

- (a) development of a research strategy for adaptation;
- (b) identification of research themes related to the application of scientific modeling; and
- (c) identification of “metrics of success.”

The interagency Council on Climate Preparedness and Resilience, in consultation with the private sector, should create an interagency working group to develop a comprehensive adaptation and resilience technology, development, and demonstration plan.



Recommendation 3: Close the information gap

The Subcommittee on Global Change Research, in consultation with private-sector participants and others who have a stake in adaptation activities, should:

- (a) take charge of improving the availability of, access to, and usability of the array of climate data, models, case studies, best practices, and information; and
- (b) review existing information programs and resources for sufficiency to support private-sector adaptation activities.

The Subcommittee should be responsive to the FY 2017 R&D Priorities Memo issued by the Office of Management and Budget (OMB) and the Office of Science and Technology Policy (OSTP).



Recommendation 4: Unlock investment capital

The National Economic Council (NEC), with OSTP, OMB, and the Department of the Treasury, and in consultation with the private sector, should establish a task force to recommend specific public-private partnerships that would create new public and private investment capacity for adaptation actions in both sectors.



via H2O4Texas



via CatskillJulie



Recommendation 5: Expand public-private partnerships

The Federal Government should increase the use of public-private partnerships focused on climate-change adaptation. Partnerships pool knowledge and provide good leverage for limited resources.

The Department of Energy (DOE) Partnership for Energy-Sector Climate Resilience should:

- (a) share best practices and lessons learned with the broader energy sector beyond the partnership; and
- (b) develop incentives for adaptation actions that take into account lessons learned to allow for utility rate recovery.



via rkfabrication.in

Recommendation 5 (cont.):

PCAST recommends three new areas for public-private sustained dialogue through partnerships and/or workshops.

- (a) OSTP should continue to encourage a public-private partnership focused on climate services to assess information needs, share best practices, and identify opportunities for investment.
- (b) We recommend that the interagency Council continue dialogues started with insurance and reinsurance leaders with the additional inclusion of lenders, rating agencies, and the financial/banking sector.
- (c) We recommend that the interagency Council convene local leaders engaged in innovative approaches to these challenges, including a group of the State, Local, and Tribal Leaders Task Force members, together with individuals from the private sector to further develop and implement the Task Force recommendations by incorporating the private sector.



Recommendation 6: Leverage existing programs to deploy a city-based pilot project

Leveraging the Strong Cities, Strong Communities (SC2) initiative, a private-sector adaptation pilot project should be deployed in at least three of the SC2 cities (e.g., Detroit, MI; Fresno, CA; New Orleans, LA). The project should engage the private sector to:

- (a) understand private-sector information needs and how these overlap with the public-sector needs;
- (b) test adaptation-focused efforts that align with the recommendations of the letter report;
- (c) identify opportunities where public- and private-sector adaptation programs can be integrated and jointly undertaken to benefit both sectors; and
- (d) create an easily accessible database of results and communicate best practices and lessons learned from these pilot programs.



Final comment

PCAST finds *significant opportunities* to further U.S. government actions that can support private-sector moves to become better prepared for and more resilient to ongoing and prospective climate-change impacts.

The recommendations outlined in the report leverage public-private partnerships to *bring focus and commitment* from all stakeholders to this important effort.





Thank you!

For more information about PCAST: www.whitehouse.gov/ostp/pcast

Recommendation 1: Educate and Communicate

The interagency Council on Climate Preparedness and Resilience should **develop and implement a robust strategy for private-sector education and communication** that:

- (a) explains the critical need for adaptation planning and action by companies and other organizations;
- (b) brings attention to the fact that the nature of such efforts will often extend well beyond the normal near-term planning horizon of most private-sector participants; and
- (c) integrates private-sector efforts with adaptation work underway in the public sector.

The Council should actively engage the private sector as an integral part of this effort.



Recommendation 2: Enhance adaptation-science research and technology development and demonstration

The National Global Change Research Plan of 2012-2021 is a comprehensive plan covering climate-related research activities across the U.S. Government. The update to that plan, underway at the time of this writing, should incorporate the activities of additional Federal partners, such as the Department of Homeland Security (DHS), which includes the Federal Emergency Management Agency (FEMA), and should “facilitate analyses of multi-sectoral effects of global change, such as linked effects on water, agriculture, energy, and health.”

The final plan should include:

- (a) **development of a research strategy for adaptation;**
- (b) **identification of research themes related to the application of scientific modeling** to enable better understanding of the advantages and limitations of various adaptation responses, as well as ways the processes and practices can be used to judge the efficiency and efficacy of long-term adaptation actions; and
- (c) **identification of “metrics of success”** that would enable the public and private sectors to measure progress to goals as well as, for example, the return on investments related to such activities.



Recommendation 2 (cont.):

The interagency Council on Preparedness and Resilience, in consultation with the private sector, should create an interagency working group to **develop a comprehensive adaptation and resilience technology, development, and demonstration plan**. By September 30, 2016, the Council should present a detailed roadmap to foster the development and demonstration of technologies needed to meet adaptation needs in both the public and private sectors.



Recommendation 3: Close the information gap

The Subcommittee on Global Change Research of the National Science and Technology Council's Committee on Environment, Natural Resources, and Sustainability, in consultation with private-sector participants and others who have a stake in adaptation activities, should:

- (a) **take charge of improving the availability of, access to, and usability of** the array of climate data, models (including ensuring models are at appropriate geographic scales), best practices, case studies, and information related to Federal Government programs and resources that will accelerate private-sector adaptation decision-making and actions; and
- (b) **review existing information programs and resources**, such as the Climate Data Initiative and the Climate Resilience Toolkit, for sufficiency to support private-sector adaptation activities.



Recommendation 3 (cont.):

The Subcommittee **should be responsive to the FY 2017 R&D Priorities Memo** issued by the Office of Management and Budget (OMB) and the Office of Science and Technology Policy (OSTP). That Memo contained guidance that participating agencies should “prioritize activities that foster the development and use of actionable data, information, and related tools needed to prepare for and reduce climate-related risks and should prioritize investments that support technical assistance for community climate-preparedness efforts.”



Recommendation 4: Unlock investment capital

The National Economic Council (NEC), with OSTP, OMB, and the Department of the Treasury, and in consultation with the private sector, should **establish a task force to recommend specific public-private partnerships that would create new public and private investment capacity for adaptation actions in both sectors.** That process should begin by assessing whether the Build America Investment Initiative, including its centers developing new investment vehicles, can do more to support investments associated with adaptation. The task force should assess the vehicles being used for sustainable-technology investing (e.g., municipal and green bonds, green banks, pension funds), evaluate their applicability to adaptation investing, and determine if additional guidance is warranted to improve OMB scoring and assessments, particularly for projects that operate on the long time scale of adaptation measures. The task force should also consider mechanisms to amplify existing programs within the government designed to provide partial funding of new investments.



Recommendation 5: Expand public-private partnerships

The Federal Government should **increase the use of public-private partnerships focused on climate-change adaptation**. Partnerships pool knowledge and provide good leverage for limited resources.

Below we highlight one existing partnership and suggest specific actions to expand its relevance to adaptation efforts. The program is aimed at activities within the electrical generation and distribution sector.

The Department of Energy (DOE) has established a Partnership for Energy-Sector Climate Resilience that includes 17 participating companies, representing 20 percent of U.S. electric generating capacity and serving about 25 percent of U.S. electricity customers. This partnership provides a mechanism for sustained engagement in climate adaptation between DOE and energy companies. An objective of the partnership is the accumulation and sharing of best practices for climate adaptation.



Recommendation 5 (cont.):

PCAST recommends that the following activities be undertaken in the initial year of the DOE partnership:

- (a) **share best practices and lessons learned with the broader energy sector** beyond the partnership, engaging the Edison Electric Institute, public utility commissioners, and rural utilities. This collection of best practices should be coordinated with FEMA, which has been conducting an ongoing program accumulating best practices across the sector; and
- (b) **develop incentives for adaptation actions** that take into account lessons learned from current approaches used by state regulatory authorities that allow utilities to recover in their rate structures the costs of investing in energy efficiency and renewable energy.



Recommendation 5 (cont.):

In addition to enhancing this existing partnership, we recommend **three new areas for public-private sustained dialogue** through partnerships and/or workshops.

- (a) OSTP should continue to encourage a public-private partnership focused on **climate services** that brings together the relevant Federal agencies with national, regional, and private-sector entities to assess information needs, share best practices, and identify opportunities for investment. The collaborations should:
 - (1) aim to become the authoritative climate information service and first-stop entry point for data and guidance on adaptation actions;
 - (2) draw on the Federal regional climate centers and include state and local managers as well as private sector business leaders; and
 - (3) include active input from the Office of the Chief Technology Officer at OSTP, including the Chief Data Scientist, and the Office of the Federal Chief Information officer at OMB.

Consistent with our focus in this report, this partnership should begin its efforts by looking specifically at the agriculture, energy, and water sectors.



Recommendation 5 (cont.):

- (a) The White House has engaged with **insurance and re-insurance leaders** to discuss opportunities to reduce the economic risks associated with extreme weather and climate change. We recommend that the interagency Council on Climate Preparedness and Resilience continue these dialogues with the additional **inclusion of lenders, rating agencies, and the financial/banking sector**. A sustained activity with these key stakeholders would help the Administration to explore opportunities for further collaboration in identifying, communicating, and reducing the impacts of extreme weather and climate change on economic sectors across the country. In addition, such an activity might work in coordination with the task force established from Recommendation 4.



Recommendation 5 (cont.):

- (c) The State, Local, and Tribal Leaders Task Force (SLTL-TF) on Climate Preparedness and Resilience identified several recommendations similar to those in this letter report, such as developing data and tools; encouraging prudent investments and leveraging private capital and existing assets; and providing guidance at a scale and in a form adequate for guiding decision-making and investments. We recommend that the interagency Council on Climate Preparedness and Resilience convene local leaders engaged in innovative approaches to these challenges, including a group of the SLT-TF members, together with individuals from the private sector, to **further develop and implement their recommendations by incorporating the private sector into community-based initiatives.**



Recommendation 6: Leverage existing programs to deploy a city-based pilot project

Leveraging the Administration's Strong Cities, Strong Communities (SC2) initiative, a **private-sector adaptation pilot project should be deployed in at least three of the SC2 cities (e.g., Detroit, MI; Fresno, CA; New Orleans, LA)**. The project should engage the private sector directly in development and programming of adaptation activities in the target cities, with goals to:

- (a) **understand private-sector information needs** and how these overlap with the public-sector needs, as well as those of universities and non-governmental organizations, being addressed in SC2 cities;
- (b) **test adaptation-focused efforts that align with the recommendations of this letter report**, including mechanisms to unlock investment capital within the city for use in financing adaptation measures and, in line with the SC2 effort, to expand public-private collaborations focused on climate-change adaptation;
- (c) identify opportunities where public- and private-sector adaptation **programs can be integrated and jointly undertaken** to benefit both sectors; and
- (d) create an **easily accessible data base of results and communicate best practices and lessons learned** from these pilot programs.

