

# Stanford Law School

**A 21<sup>st</sup> CENTURY GOVERNANCE CHALLENGE:**

**FINDING EFFECTIVE MECHANISMS TO  
ADDRESS CLIMATE CHANGE  
ACROSS THE FEDERAL GOVERNMENT**

**Comments and Recommendations**

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# EXECUTIVE SUMMARY

The public is well aware that the Obama Administration is plowing new ground in developing policy responses to climate change. Few can ignore, for example, the buzz around the Environmental Protection Agency's march toward adoption of its "Clean Power Plan."

Below the radar screen, however, the Administration has begun the hard work of beginning to implement climate change-related policies that are less controversial than EPA's Clean Power Plan but which, if executed well, could have significant positive impacts. The work is particularly challenging because the causes and impacts of climate change cut across a wide swath of the federal government. As a result, effective implementation depends on coordinating the activities of many federal agencies that have different missions, authorities, and budgets.

The federal government does not have a long or particularly successful track record in pushing agencies to jointly implement policy imperatives that cut across agency lines. That is why it is useful to examine the relative successes, and failures, of the Obama Administration's early forays into interagency coordination efforts in the climate change arena.

The Administration has tried several different governance formulas to promote joint climate change implementation activities. This report provides an in-depth examination of several of the different approaches the federal government (and, in one instance, the State of California) has applied to facilitate interagency coordination in the climate change context. In each of these cases, the federal (or state) government and its customers sought operational results, not policy pronouncements. And in each of these cases, success largely turned on whether the interagency approach pursued by the agencies and/or the White House (or, in California's case, the Governor's Office) was itself well designed and well executed.

This report reviews the design and execution of interagency coordination efforts in six climate change contexts, addressed in six sections of this report. The contexts evaluated in the report are:

1. Reducing the Federal Government's Carbon Footprint
2. Implementing State-Wide Greenhouse Gas Reductions in California
3. Coordinating the Siting of Major Renewable Energy Projects on Public Lands
4. Federal Interagency Efforts to Address Climate Impacts to Critical Infrastructure
5. Responding to Climate Impacts on Natural Resources Managed by the Federal Government

## 6. Using Geographic Mapping Tools to Make Climate Change Impact Data Available Across Agencies and with Stakeholders

Key take-aways from each of the reviews are summarized below. Taken together, they provide a roadmap of the ingredients that portend the success or failure of interagency implementation exercises.

The first three initiatives, which achieved significant success, included a number of key features, summarized below.

### 1. Reducing The Federal Government's Carbon Footprint

This interagency process was focused, from the start, on the *implementation* of a climate change policy directive, in the form of executive orders, to reduce the federal government's carbon footprint (and achieve other sustainability objectives). This contrasts with many interagency efforts that involve the development of a unified *policy* approach for the federal government. *While the White House is the natural lead when it comes to developing government-wide policy prescriptions, interagency efforts that focus on how best to implement or operationalize policy directions must defer to, and rely heavily on, agency leadership and expertise to be successful.* These executive orders have largely achieved this important balance, as demonstrated by the following characteristics:

- Agencies were actively involved in drafting and reviewing the executive orders. As a result, there was agency buy-in for the metrics and processes established under the executive orders.
- Agency-led working groups established under the executive orders developed guidelines and best practices for groups of agencies that had similar operational characteristics.
- The executive orders' heavy reliance on agency experts to develop practical guidance to satisfy high-level goals set by the White House reflects a mature organizational approach that acknowledges the limitations of White House policy staff in establishing practical, workable guidelines for meeting sustainability goals.
- The two executive orders' recognition that significant interagency coordination needs to occur at the regional level illustrates the orders' practical emphasis on implementation. Not surprisingly, enhancing regional cooperation has been one of the biggest challenges under the orders; additional mechanisms may be needed to make more progress in this area.

The policy goals that drove the interagency process were clearly defined and provided metrics upon which agencies' operational success could be measured.

- The agencies were required to produce Strategic Sustainability Performance Plans and report on their results.
- The executive orders included reporting mechanisms that provided performance incentives.
  - Performance was taken into account during internal budget reviews with OMB; supplemental funds were provided for project investments that yielded proven results.
  - Agency performance results were made available to the public, in support of the President’s commitment to transparency and open government.

## **2. Implementing State-Wide Greenhouse Gas Reductions**

*The interagency process used to launch the complex regulatory mandates included in California’s AB32 holds a number of lessons that may be pertinent to federal efforts to coordinate agency climate change-related implementation efforts. The key drivers for this successful interagency process included the following:*

- The Governor’s Office, representing the state’s chief executive, played a key role in overseeing the interagency process. Importantly, the Governor’s Office did not directly manage the process, but was part of it, and available to step in and enforce discipline among the agencies involved, when necessary. This model of oversight by the chief executive, without purporting to be “in charge” of the implementation effort, offers a blueprint that could be useful when crafting White House involvement in interagency implementation activities.
- The California climate change legislation explicitly designated a single state agency (the California Air Resources Board, CARB) to direct a structured, interagency implementation effort. With the legitimacy afforded by the legislation and the Governor’s backing, CARB was able to organize a collaborative effort that took full advantage of other agencies’ input and expertise by maintaining strong lines of communication among the agencies throughout the process.
- In addition to CARB’s leadership and overall accountability, the Climate Action Team—established under AB32—was divided into a number of crosscutting subgroups that enabled relevant agencies to work together to develop emissions reduction goals that made sense for all of the agencies involved. This type of hands-on involvement by agencies is a critically important element in successful interagency implementation efforts.

- All parties involved understood the importance of the task of implementing the groundbreaking elements of California’s pioneering climate change law. There was a unity of purpose shared across the many agencies involved.

As with the executive orders related to reducing the federal government’s carbon footprint, AB32 included clear metrics that led to more defined goals for each agency. Success (or failure) could be identified, and measured, with each agency having an identified subset of the state’s overall goal for which they were responsible.

### **3. Coordinating the Siting of Major Renewable Energy Projects on Public Lands**

*Instead of the typical interagency challenge in which the White House oversees a process involving several different Departments with differing missions, the renewable energy context had the Secretary of the Interior acting in the White House role, overseeing an interagency coordination process involving several different bureaus with differing missions within the same Department. The goal was to work across agency lines to facilitate the siting of major renewable energy projects on public lands. Key take-aways for this successful interagency effort include:*

- **Leadership Mandate:** Early on, Interior Secretary Ken Salazar issued Secretarial Order 3285A1, which established renewable energy siting as a priority of the Department and established a new interagency approach among Interior’s bureaus to facilitate permitting decisions and improve environmental results.
- **Top-Level, Hands-On Engagement:** The Interior Department formed a “Strike Team”—made up of senior decision-makers from each bureau, and managed with a representative of the Secretary—to develop and manage an efficient permitting process that respected the interests of all of the impacted agencies and stakeholders. The hands-on coordination by the Secretary’s office demonstrated the priority of the interagency effort, and the office’s willingness to troubleshoot issues for the agencies was key to the effort’s success. (There are parallels to OMB’s involvement in the infrastructure permitting modernization effort, discussed below.)
- **Early Planning and Conflict Prevention:** Interior’s interagency permitting process institutionalized early planning and conflict prevention by bringing in potentially impacted bureaus and key stakeholders to meet with project developers on the front end to identify potential fatal flaws in projects and provide an opportunity to retool projects to reduce or eliminate objections. Leadership from the Secretary’s Office played an important role in facilitating this process.
- **Finding Budget Support for Priority Needs:** The Secretary’s Office recognized that improved permitting would require more resources, and it maximized available financial tools to bring support to the effort. This contrasts with many

interagency coordination efforts in which discussion of serious budget issues is taboo.

- **Focus on Implementation and Results:** This approach required an emphasis on implementation and decision-making by the principals involved. High-level individuals in the Secretary's office and senior positions in the bureaus had to commit to the process and be accountable for results. This differed from many interagency policy efforts that revolve around report writing and the chronicling of policy improvements. Here, the emphasis was on action-oriented implementation activities, proceeding in real time.

The White House has applied some of the lessons learned from the Interior experience across the Administration through the President's Modernizing Infrastructure Permitting Initiative. This is an ambitious and important interagency implementation effort. Important take-aways from the effort include:

- The Office of Management and Budget has invested significant White House resources in this interagency implementation effort. It is unusual for the White House to dedicate significant staff time to a project, but the benefits of the commitment have been substantial, enabling OMB to obtain a deeper understanding of the difficulties of coordinating the permitting of complex projects across several agencies.
- OMB has married its investment in staff time with a commitment to learn from, and adopt, best permitting practices employed by leading permitting agencies (e.g., Department of the Interior; Department of Transportation).
- There is a significant question how the permitting reforms gained through the OMB-led infrastructure permitting modernization effort can be institutionalized so they do not fall away as personnel and Administrations change. This is a serious issue for many interagency implementation efforts. In this case, there are viable legislative and regulatory actions that could be taken to lock in the operational approaches that have been piloted through the initiative.

*The last three initiatives reviewed in this report also included some successes. As a general matter, however, these initiatives fell short of their goals. They provide a number of lessons learned that can be used to help construct more effective interagency coordination frameworks in the future.*

#### **4. Federal Interagency Efforts to Address Climate Impacts to Critical Infrastructure**

*Managing climate risks to critical infrastructure requires deliberate preparation, close cooperation, and coordinated planning to facilitate Federal, State, local, tribal, private sector, and nonprofit-sector efforts to improve climate preparedness and resilience. Because the majority of the Nation's infrastructure is owned and operated by the private*

*sector, the federal government must work with owners and operators on a primarily voluntary basis to incorporate climate change resilience into infrastructure operation. The agencies operating in this sphere have not only overlapping jurisdictions, but also different missions, priorities, and resources that push them toward agency-specific policies and programs and away from crosscutting, government-wide initiatives.*

Five federal interagency initiatives explored in this report have sought to develop a coordinated approach for enhancing the resilience of the critical infrastructure community to climate change. Three of the efforts are complete, and two are ongoing. Key conclusions include:

- Significant progress has been made in incorporating infrastructure resilience principles and policies into agency operations. However, the implementation of these principles and policies has moved forward primarily through a piecemeal, agency-by-agency approach, rather than through a true joint implementation effort.
- Recent interagency efforts have emphasized the importance of cross-agency collaboration, but *meaningful interagency coordination has been elusive, with significant effort being focused on cataloging agency actions, rather than attempting to work jointly. Likewise, there has been an unfortunate proliferation of duplicative infrastructure resilience guidance and programs. In many ways this duplication has resulted from ad hoc reactions to Executive orders, directives, and memorandum.*
- As the Executive Branch has continued to push resilience principles, agencies have often responded by hastily enacting a confusing and duplicative array of guidance and programs. Opportunities for improvement abound. Recommendations for the design of future interagency initiatives to enhance resilience in the face of climate change include the following features:
  - Interagency efforts should work to move beyond merely developing policies and cataloging efforts that tout increased collaboration, to actually structuring joint implementation initiatives.
  - To effectively consolidate and streamline the current array of infrastructure resilience efforts, departments and agencies leading the effort will need support, pressure, and focus from the White House. But, rather than continuing to issue new directives to agencies, the White House might endow a single group, like the Federal Senior Leadership Council (FSLC), with the stature and authority to pursue a unified interagency approach to infrastructure resilience.
  - Recent efforts to consolidate differing agency initiatives, like the Federal Resource Guide for Infrastructure Planning and Design, indicate that the White House may be aware of the redundancy and confusion created by

disparate federal policies and programs in the arena. However, a more holistic focus is necessary to continue to detangle the patchwork system and move toward a simplified, unified approach to infrastructure resilience to the risks posed by climate change.

## **5. Responding to Climate Impacts on Natural Resources Managed by the Federal Government**

*Because the federal government's wide-ranging resource management responsibilities are divided among a number of agencies, there is a premium on developing effective interagency coordination mechanisms to address climate impacts efficiently and effectively.* During the first term of the Obama Administration, a White House-led Climate Change Adaptation Task Force was the primary interagency effort utilized to address climate impacts on natural resources. It triggered an offshoot interagency effort focused on addressing freshwater resources. Two other resource-specific interagency efforts also moved forward in the first term, including the White House-led National Oceans Council and the Congress-directed National Fish, Wildlife and Plants Climate Adaptation Strategy. After the President issued his Climate Action Plan in June 2013, the Administration decided to “reboot” its interagency climate adaptation activities in the second term, leading to the issuance of a 2014 report entitled *Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources*.

Key lessons from the first term's climate change adaptation efforts include:

- The Climate Change Adaptation Task Force was staffed by the White House's Council on Environmental Quality (CEQ). It focused on developing general, high-level policy approaches to adaptation; it did not seriously address implementation issues raised by the multiple federal agencies that were confronting common climate impact issues affected shared natural resources.
  - By failing to engage the leadership of the natural resource agencies in a focused coordination effort, the Task Force stood by as virtually all of the federal natural resource agencies developed their own stove-piped adaptation and resilience programs. This unfortunate situation recently prompted the Advisory Committee on Climate Change and Natural Resource Science to observe that “the rapid development of these [natural resource agency climate change] programs, and the ever-expanding list of potential partners in these endeavors, *suggests a pressing need for significant investments in coordination.*”
- The three resource-specific interagency efforts touching on climate change also had limited effectiveness, for a variety of reasons:
  - Two agencies with a major stake in freshwater issues—the Department of Interior and EPA—took the lead in developing an interagency approach to addressing climate impacts on freshwater resources. Because the project

was being led by two agencies with significant expertise and experience, the freshwater interagency workgroup focused on implementation issues and identified a series of practical deliverables and outcomes. Unfortunately, however, because the workgroup was a subset of the White House-led Climate Change Task Force, it did not receive top-level budget or implementation attention from the White House or the Departments.

- The National Ocean Council (NOC) is a White House-led interagency effort that focuses on climate change and other impacts on oceans. Most observers commented that the NOC effort has been disappointing. Key concerns have been the sprawling and somewhat disorganized nature of the effort, with the relatively weak White House engagement loosely overseeing more than twenty-five agencies and offices that had widely varying levels of commitment to the effort. Without strong leadership in the White House or at top levels of the key agencies, the exercise produced lengthy documents that tended to chronicle what individual agencies were doing and did not tackle difficult interagency overlap and implementation issues.
- The National Fish, Wildlife and Plants Climate Adaptation Strategy, like the freshwater interagency initiative, was largely driven by the key federal wildlife agencies (e.g., the U.S. Fish & Wildlife Service) and by companion state agencies. The White House only had nominal involvement in the initiative. The primary focus of the exercise was policy development and the participants were largely pleased with the results. A coordinating body has been established to help with implementation, but the effort is proceeding at a lower level, and without significant funding support.
- The Administration's more recent efforts over the past two years to adopt a new framework for better interagency cooperation in the area of climate impacts on natural resources holds more promise for successful integration of cross-agency efforts. The framework builds on existing agency priorities, draws input from a Task Force of state, local and tribal stakeholders, and is a clear Presidential priority—features that position it well for success. Of special note is the fact that an agency-led Climate and Natural Resources Working Group has been set up under E.O. 13653. By entrusting the agencies to take ownership of the issues, a much more ambitious avenue for interagency action has emerged in the report that the interagency agency working group released in October 2014.

## **6. Using Geographic Mapping Tools to Make Climate Change Impact Data Available Across Agencies and with Stakeholders**

*Coordinating the collection of diverse data sets in a common format and developing standards and protocols to ensure their integrity presents a classic case example in which interagency coordination and cooperation is needed.* The Federal Geographic

Data Committee (FGDC) has been utilized since 1990 as the interagency coordination mechanism to develop common standards and protocols for GIS-based data and mapping products. In the last two years, in connection with the President’s Climate Action Plan, the Administration has initiated a new effort to provide easier access to GIS-based data and mapping services through its “Climate Data Initiative” and the development of a related “Climate Resilience Toolkit.”

Lessons learned from the FGDC’s longstanding interagency efforts, and the Administration’s more recent climate-related data initiatives, provide insights into the ingredients of successful interagency coordination initiatives. Key take-aways include:

- Despite operating relatively well, the great acceleration in technology and data is beginning to overwhelm the lower-level and low-key FGDC interagency effort. The new demand for GIS mapping services, fueled by the need for climate impact information and other landscape-level informational needs, has triggered largely uncoordinated, agency-by-agency investments in IT and mapping software and services—leading to large expenditures and a poor user experience, as users typically must search for relevant data inefficiently, on an agency-by-agency approach.
- Because the FGDC governance structure relies on volunteer help from the relevant agencies and does not have a history of commanding buy-in from cabinet and White House office leaders, the FGDC does not appear to have the institutional heft to force more interagency coordination in providing GIS data and mapping services.
- The Administration’s Climate Data Initiative and Resilience Toolkit are intended to provide centralized, easy access to key GIS mapping tools, but the Administration has not identified a governance structure that will accomplish that difficult interagency coordination task.
  - Current participants in the effort describe the Climate Data Initiative as being run by a “coalition of the willing.” Turnover among key volunteers could significantly set back progress on the initiative.
  - The Administration had not explained how its new climate data initiative—which is being loosely overseen by Council on Climate Preparedness and Resilience—relates to the long-established, interagency Federal Geographic Data Committee. Disconnected interagency efforts around closely aligned issues create confusion and weaken the effectiveness of interagency efforts.
- Experts indicate that the federal government’s push to develop more customer-friendly access to helpful, climate-related, GIS-based data and mapping tools through *Geoplatform.gov* and *Data.gov* (enhanced by the Climate Data Initiative and the Resilience Toolkit) will likely require full-time database management

staff, operating with state-of-the art software and IT tools. This points to the need to put a shared services model in place. To do so will require a strong interagency governance structure that will marry on-going, agency-specific data generation and curation activities with a government-wide center of excellence that will use modern IT tools, and a dedicated staff, to provide efficient access to useful data and analysis. Neither the FGDC nor the more recent Administration climate data initiative has the type of strong interagency governance structure necessary to address this requirement.

## I. REDUCING THE FEDERAL GOVERNMENT'S CARBON FOOTPRINT

### Summary and Conclusions

Early in his Presidency, Barack Obama challenged the federal government to “lead by example” by issuing Executive Order 13514 and establishing sustainability performance goals and an annual reporting framework for the federal government.<sup>1</sup> The initiative is significant, given that the federal government is the single largest energy consumer in the United States<sup>2</sup>—it occupies approximately 500,000 buildings, operates more than 600,000 vehicles, and purchases more than \$500 billion of goods and services each year.<sup>3</sup>

Five and one-half years later, on March 19, 2015, President Obama took the unusual step of issuing revised and updated federal sustainability goals—and the mechanisms adopted to attain those goals—by signing Executive Order 13693.<sup>4</sup> These executive orders reflect sensitivity to the need to fully engage agencies in implementation efforts. The new executive order incorporates management lessons learned from the initial implementation efforts of E.O. 13514.

*The interagency process put in place by the President to oversee efforts to reduce the federal government's carbon footprint (and achieve other sustainability goals) has worked quite well. It arguably represents the most successful of the interagency efforts reviewed in this report. The key drivers for this successful interagency process include the following points, which are discussed in further detail below:*

- The interagency process was focused, from the start, on the *implementation* of policy directives. This contrasts with many interagency efforts that involve the development of a unified *policy* approach for the federal government. While the White House is the natural lead when it comes to developing government-wide policy prescriptions, interagency efforts that focus on how best to implement or operationalize policy directions must defer to, and rely heavily on, agency leadership and expertise to be successful. These executive orders have largely achieved this important balance.
  - Agencies were actively involved in drafting and reviewing the executive orders. As a result, there was agency buy-in for the metrics and processes established under the executive orders.

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<sup>1</sup> *Federal Leadership in Environmental, Energy, and Economic Performance*, Exec. Order No. 13514, 74 Fed. Reg. 52,117 (Oct. 5, 2009) [hereinafter Exec. Order 13514].

<sup>2</sup> *Cutting the Federal Government's Energy Bill: An Examination of the Sustainable Federal Government Executive Order: Hearing Before the Fed. Fin. Mgmt., Gov't Info., Fed. Servs., & Int'l Sec. Subcomm. of the S. Comm. on Homeland Sec. and Governmental Affairs*, 111th Cong. 5 (2010) (statement of Nancy Sutley, Chair, Council on Env'tl. Quality).

<sup>3</sup> *Id.*

<sup>4</sup> *Planning for Federal Sustainability in the Next Decade*, Exec. Order No. 13693, 80 Fed. Reg. 15,871 (Mar. 19, 2015) [hereinafter Exec. Order No. 13693].

- Agency-led workgroups established under the executive orders developed guidelines and best practices for groups of agencies that had similar operational characteristics.
- The executive orders heavily relied on agency experts to develop practical guidance to satisfy high-level goals set by the White House, reflecting a mature organizational approach that acknowledges the limitations of White House policy staff in establishing practical, workable guidelines for meeting sustainability goals.
- The two executive orders recognized that significant interagency coordination needs to occur at the regional level, illustrating the orders' practical emphasis on implementation. Not surprisingly, enhancing regional cooperation has been one of the biggest challenges under the orders; additional mechanisms may be needed to make more progress in this area.
- The policy goals that drove the interagency process were clearly defined, and provided metrics upon which agencies' operational successes could be measured.
  - The agencies were required to produce Strategic Sustainability Performance Plans and report their results.
  - The executive orders included reporting mechanisms that provided performance incentives.
    - Performance was taken into account during internal budget reviews with OMB<sup>5</sup>; supplemental funds were to be provided for project investments that yielded proven results.<sup>6</sup>
    - Agency performance results were made available to the public, in support of the President's commitment to transparency and open government.<sup>7</sup>

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<sup>5</sup> See Exec. Order 13514, §§ 4(a), 8(c), *supra* note 1 (specifying that agency SSPP reports should be reviewed concurrently with OMB's review and evaluation of agency budget requests and that agencies should integrate the SSPP process with their strategic planning and budget process). *But see* Exec. Order 13693, §§ 5(c), 9(a), 14, *supra* note 4 (demonstrating that the requirement for OMB review of SSPP reports in the new executive order no longer mentions concurrent budget review, although the sections describing the SSPP still describe it as an integrated plan and agency Chief Sustainability Officers are called on to ensure that strategies to achieve the goals of the executive order be integrated into agency permitting and environmental reviews).

<sup>6</sup> These specific types of projects were addressed in President Obama's December 2, 2011 Presidential Memorandum. *See Presidential Memorandum – Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings* (Dec. 2, 2011), available at <https://www.whitehouse.gov/the-press-office/2011/12/02/presidential-memorandum-implementation-energy-savings-projects-and-perfo>; Exec. Order 13693, § 3(k), *supra* note 4. Indeed, as of April 2015, agencies have awarded more than \$2 billion of such projects.

## A. E.O. 13514: Introduction and Background

Executive Order 13514—“Federal Leadership in Environmental, Energy, and Economic Performance”—established a broad policy mandate for sustainability: “to create a clean energy economy that will increase our [n]ation’s prosperity, promote energy security, protect the interests of taxpayers, and safeguard the health of our environment.”<sup>8</sup> To this end, the executive order required the head of each agency to establish targets for reducing greenhouse gas emissions by the year 2020.<sup>9</sup> The executive order set many other metrics as well, including improving water use efficiency, increasing waste diversion and recycling, supporting regional and local integrated planning efforts, and improving sustainable procurement.<sup>10</sup>

In order to track performance toward these targets, Executive Order 13514 required that each agency prepare an annual Strategic Sustainability Performance Plan (SSPP).<sup>11</sup> These annual sustainability plans were intended to be integrated into the agency’s strategic planning and budget processes<sup>12</sup> and were to be reviewed by the Chair of the Council on Environmental Quality (CEQ)<sup>13</sup> and the Director of the Office of Management and Budget (OMB).<sup>14</sup>

The executive order established a Steering Committee on Federal Sustainability, composed of the Federal Environmental Executive<sup>15</sup> and Senior Sustainability Officers—senior management officials designated by each agency head and accountable for preparing the SSPP.<sup>16</sup> This Steering Committee managed the SSPP reporting process and advised the CEQ Chair and OMB Director on implementation of the executive order.<sup>17</sup> Sharing agency strategies and best practices was a major theme and purpose of the Steering Committee. To recognize exceptional sustainability performance and share best practices among the agencies, the executive order also continued the CEQ-administered Presidential Leadership Awards program established under Executive Order 13423.<sup>18</sup>

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<sup>7</sup> See *Memorandum for the Heads of Executive Departments and Agencies* (Jan. 21, 2009), available at [https://www.whitehouse.gov/the\\_press\\_office/TransparencyandOpenGovernment/](https://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/).

<sup>8</sup> Exec. Order 13514, § 1, *supra* note 1.

<sup>9</sup> *Id.* § 2 (addressing scope 1 and 2, as well as scope 3 greenhouse gas emissions).

<sup>10</sup> *Id.* Other goals established in the executive order included explicit targets, such as reducing petroleum consumption by 2% per year through 2020, reducing potable water intensity by 2% per year through 2020, achieving 50% or higher of waste diversion by 2015, and ensuring at least 15% of existing buildings and leases meet the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* by 2015, among others. *Id.*

<sup>11</sup> *Id.* § 8.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* § 5.

<sup>14</sup> *Id.* § 4. Notably the OMB Director was directed to “where feasible, review each agency’s Plan concurrently with OMB’s review and evaluation of the agency’s budget request.” *Id.* § 4(a).

<sup>15</sup> See *Strengthening Federal Environmental, Energy, and Transportation Management*, Exec. Order No. 13423, § 6, 72 Fed. Reg. 3,919 (Jan. 24, 2007) (establishing the Federal Environmental Executive).

<sup>16</sup> See Exec. Order 13514, § 7, *supra* note 1.

<sup>17</sup> *Id.* § 3.

<sup>18</sup> *Id.* § 5.

## 1. Management Structure

Executive order 13514's management structure recognized that the large agencies—required to meet specified performance and reporting requirements—are complex organizations with different workforces, missions and operational characteristics. Accordingly, the E.O. wisely gave agencies the flexibility and autonomy to decide how best to achieve those goals. The executive order authorized the CEQ Chair and OMB Director to organize agency-led subcommittees to assist in helping agencies apply appropriate agency tools to facilitate compliance with the order's overarching goals.<sup>19</sup> A number of agency-driven guidance documents, reflecting practical input from agency experts, emerged from this process.

By way of example, Section 9 of the executive order required the Department of Energy's Federal Energy Management Program (DOE-FEMP), in coordination with the Environmental Protection Agency (EPA), Department of Defense (DOD), General Services Administration (GSA), Department of the Interior (DOI), Department of Commerce (DOC), and other agencies, to develop recommendations for greenhouse gas emissions reporting and accounting.<sup>20</sup> DOE-FEMP also led development of a template workbook, which provided the format for calculation and submission of an agency's scope 1 and 2 greenhouse gas emissions reduction targets, as required in Section 2(a) of the executive order.<sup>21</sup> The greenhouse gas emissions reduction goal utilized this template, leveraging the expertise of DOE-FEMP to empower the heads of agencies to set informed goals for their own agency.<sup>22</sup>

Other interagency efforts also developed practical guidance to assist agencies in implementing the executive order. The Department of Transportation (DOT), the Department of Housing and Urban Development (HUD), EPA, and GSA, in coordination with DOD and the Department of Homeland Security (DHS), for example, prepared guidance on “sustainable locations” strategies for siting federal facilities, as required by Section 10 of the executive order.<sup>23</sup> Likewise, GSA led a working group involving the Department of Agriculture (USDA), DOC, DOD, DOE, DOI, the Defense Logistics

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<sup>19</sup> *Id.* § 3.

<sup>20</sup> *Id.* § 9; see COUNCIL ON ENVIRONMENTAL QUALITY, FEDERAL GREENHOUSE GAS ACCOUNTING AND REPORTING GUIDANCE (2010, updated 2012), *available at* <https://www.whitehouse.gov/administration/eop/ceq/sustainability/fed-ghg>.

<sup>21</sup> Exec. Order 13514, § 2(a), *supra* note 1; see DOE-FEMP, DEVELOPMENT OF AGENCY REDUCTION TARGETS (DARTS), *available at* <https://www.fedcenter.gov/darts>.

<sup>22</sup> DOE-FEMP also provides other tools, such as comprehensive datasets on agency energy and water consumption based on requirements in the National Energy Conservation Policy Act (as amended), Energy Policy Act of 2005, and Executive Order. DEPARTMENT OF ENERGY, *Comprehensive Annual Energy Data and Sustainability Performance*, <http://ctsedweb.ee.doe.gov/Annual/Report/Report.aspx>.

<sup>23</sup> Exec. Order 13514, § 10, *supra* note 1; see DEPARTMENT OF TRANSPORTATION ET AL., RECOMMENDATIONS ON SUSTAINABLE SITING FOR FEDERAL FACILITIES (2010), *available at* [https://www.fedcenter.gov/\\_kd/Items/actions.cfm?action=Show&item\\_id=15263&destination=ShowItem](https://www.fedcenter.gov/_kd/Items/actions.cfm?action=Show&item_id=15263&destination=ShowItem). See also COUNCIL ON ENVIRONMENTAL QUALITY, IMPLEMENTING INSTRUCTIONS – SUSTAINABLE LOCATIONS FOR FEDERAL FACILITIES (2011), *available at* [https://www.whitehouse.gov/sites/default/files/microsites/ceq/implementing\\_instructions\\_-\\_sustainable\\_locations\\_for\\_federal\\_facilities\\_9152011.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ceq/implementing_instructions_-_sustainable_locations_for_federal_facilities_9152011.pdf).

Agency (DLA), EPA, the Federal Trade Commission (FTC), the National Aeronautics and Space Administration (NASA), the Small Business Administration (SBA), and the U.S. Postal Service (USPS) to address questions raised in Section 13 of the executive order concerning the feasibility of addressing scope 3 greenhouse gas emissions from vendors and contractors.<sup>24</sup> The working group concluded that coordination with suppliers to track and reduce the government's scope 3 greenhouse gas emissions was feasible, and it prepared recommendations for that process.<sup>25</sup> EPA's Water Office worked with several agencies to develop technical guidance on management of storm water runoff, based on requirements in Section 438 of the Energy Independence and Security Act of 2007 and Section 14 of the executive order.<sup>26</sup>

These are just a few examples of the many guidance documents promulgated under the executive order.<sup>27</sup> As noted above, the executive order's heavy reliance on agency experts to develop practical guidance to satisfy high-level goals set by the White House reflects a mature organizational approach that acknowledges the limitations of White House policy staff in establishing practical, workable guidelines for meeting sustainability goals.

## 2. Regional Coordination

Because many of the federal government's operations occur at the local and regional level, the executive order recognized that achieving government-wide sustainability goals would need to extend beyond Washington. Accordingly, Section 15 of the executive order called for increased coordination among federal operations in the various regions and the development of regional implementation plans.<sup>28</sup>

The executive order's call for coordination of sustainability efforts at the regional and local level was less successful than the effort to engage agencies in developing implementation guidance. A "GreenGov Spotlight Communities" initiative had some success, particularly in the West, but these efforts seem to have been an ad hoc

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<sup>24</sup> Exec. Order 13514, § 13, *supra* note 1.

<sup>25</sup> See GENERAL SERVICES ADMINISTRATION, RECOMMENDATIONS FOR VENDOR AND CONTRACTOR EMISSIONS (2010), available at [http://www.gsa.gov/graphics/admin/GSA\\_Section13\\_FinalReport\\_040510\\_v2.pdf](http://www.gsa.gov/graphics/admin/GSA_Section13_FinalReport_040510_v2.pdf).

<sup>26</sup> Exec. Order 13514, § 14, *supra* note 1; see ENVIRONMENTAL PROTECTION AGENCY, TECHNICAL GUIDANCE ON IMPLEMENTING THE STORMWATER RUNOFF REQUIREMENTS FOR FEDERAL PROJECTS UNDER SECTION 438 OF THE ENERGY INDEPENDENCE AND SECURITY ACT (2009), available at <http://water.epa.gov/polwaste/nps/upload/eisa-438.pdf>.

<sup>27</sup> See also Exec. Order 13514, §§ 9-14, *supra* note 1 (requiring agencies to develop recommendations and guidance on various issues). Section 16 of the executive order also reiterates that agencies shall continue to participate in the interagency Climate Change Adaptation Task Force, and requires that the CEQ Chair shall update the President on the group's progress.

<sup>28</sup> Exec. Order 13514, § 15, *supra* note 1. Notably, however, Washington-based efforts were acknowledged as potential pilots for emulation in the field. See, e.g., OFFICE OF THE FEDERAL ENVIRONMENTAL EXECUTIVE, IMPLEMENTING A SUCCESSFUL BICYCLE AND ACTIVE COMMUTING PROGRAM IN THE WASHINGTON, DC METROPOLITAN AREA (2010), available at [http://ofee.gov/guidance\\_reports.asp](http://ofee.gov/guidance_reports.asp).

development, driven more by preexisting personal relationships and infrastructure than by the type of integrated planning envisioned in the executive order.<sup>29</sup>

### 3. Performance under Executive Order 13514

According to its own metrics recorded in the agency SSPPs and OMB's Sustainability and Energy Scorecards, Executive Order 13514 met—or was on track to meet—the majority of its goals. As of the beginning of 2014, the federal government's aggregate greenhouse gas emissions were reduced by 17.2% (compared to the 2008 baseline) and were on track to meet the 2020 target of reductions by 28%.<sup>30</sup> All but four of the agencies required to submit OMB's Sustainability and Energy Scorecards were meeting their scope 1 and 2 greenhouse gas emission targets as of January 2014, and two of those four delinquent agencies had achieved at least half of their target.<sup>31</sup> The agencies were generally making progress toward the other goals of the executive order, although the goals for reduction in fleet petroleum and for sustainable green buildings proved difficult to accomplish. Nine of the scorecard agencies failed to reach at least 14% reduction in fleet petroleum use (compared to the 2005 baseline) and fourteen scorecard agencies could not comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* for new construction, major renovations, or leases, and/or less than 11% of building inventory (either by number of buildings or by gross square footage when greater than 5,000) met the *Guiding Principles*.<sup>32</sup>

### B. Doubling Down on Sustainability Goals: Revising and Extending the Reach of E.O. 13514.

Although most executive orders are not amended or updated to reflect new goals or to improve implementation of existing orders, President Obama recently took the unusual step of signing a new executive order—E.O. 13693 (“Planning for Federal Sustainability in the Next Decade”)—to update the policies and goals of E.O. 13514.<sup>33</sup>

Continuing to emphasize the federal government's ability to “lead by example,” the new executive order preserves much of the original architecture of E.O. 13514 while applying more aggressive targets and emphasizing areas that struggled under the previous order.<sup>34</sup>

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<sup>29</sup> See OFFICE OF THE FEDERAL ENVIRONMENTAL EXECUTIVE, 2013 GREENGOV SPOTLIGHT COMMUNITIES: FINAL REPORT (2013), available at <http://epa.gov/fgc/spotlight/pdf/final-report-greenGov-spotlight-communities.pdf>; see also Jon Powers, *GreenGov Spotlight Communities: Leading by Example*, COUNCIL ON ENVIRONMENTAL QUALITY (Feb. 5, 2013, 11:55AM), <https://www.whitehouse.gov/blog/2013/02/05/greengov-spotlight-communities-leading-example>.

<sup>30</sup> PERFORMANCE.GOV, *Climate Change: Progress Update* (FY2015), available at <http://www.performance.gov/node/3406/view?view=public#>.

<sup>31</sup> See PERFORMANCE.GOV, *Supporting Information*, <http://www.performance.gov/node/3406/view?view=public#supporting-info> (for the agencies' annual OMB Scorecard on Sustainability/Energy).

<sup>32</sup> See *id.*

<sup>33</sup> Exec. Order No. 13693, *supra* note 4. CEQ has not yet released the Implementing Instructions for E.O. 13693. Accordingly, the observations and recommendations in this paper are preliminary.

<sup>34</sup> *Id.* § 1.

In particular, E.O. 13693 directs the heads of agencies to establish updated targets for greenhouse gas emissions reductions extending to 2025 and to collectively achieve a government-wide emissions reduction goal of at least 40%.<sup>35</sup> As a clear demonstration of the emphasis that the Administration is putting on the new E.O, the U.S.’s Intended Nationally Determined Contributions (INDC)—issued in anticipation of the 21st Session of the Conference on the Parties to the United Nations Framework Convention on Climate Change (COP21—Paris)—explicitly mentions the new executive order as part of U.S. efforts to reduce greenhouse emissions.<sup>36</sup>

### **1. Continuing to Rely on Agency Help in Implementing Government-Wide Goals**

The new executive order maintains much of the architecture of E.O. 13514, including the Federal Interagency Sustainability Steering Committee<sup>37</sup> and the preparation of agency Strategic Sustainability Performance Plans,<sup>38</sup> which are still reviewed by the CEQ Chair<sup>39</sup> and OMB Director,<sup>40</sup> as well as the OMB Scorecards evaluating agency performance.<sup>41</sup> The Presidential Leadership Awards program also is continued under the administration of the CEQ Chair,<sup>42</sup> while principal agencies are called on to implement agency leadership award programs in order to “foster outstanding performance and excellence in agency efforts to implement the order.”<sup>43</sup> The Federal Environmental Executive is reestablished as the Federal Chief Sustainability Officer and continues as chair of the steering committee’s quarterly meetings.<sup>44</sup> Instead of agency Senior Sustainability Officers, however, the new executive order calls for each agency head to designate an agency Chief Sustainability Officer—now required to be a senior civil service officer at Level IV or above on the Executive Schedule.<sup>45</sup>

The new executive order mandates more specific goals for some of the priorities established under E.O. 13514, such as promoting energy conservation and efficiency (including an increase in the use of renewable and alternative energy) and improving water use efficiency and management (including storm water management).<sup>46</sup>

Importantly, the new order draws on experience gained under E.O. 13514 and incorporates revisions that are intended to facilitate more effective implementation of sustainability efforts undertaken by agencies. By way of example:

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<sup>35</sup> Exec. Order 13693, § 2, *supra* note 4.

<sup>36</sup> U.S., *Intended Nationally Determined Contribution* (Mar. 31, 2015), available at <http://www4.unfccc.int/submissions/INDC/Published%20Documents/United%20States%20of%20America/1/U.S.%20Cover%20Note%20INDC%20and%20Accompanying%20Information.pdf>.

<sup>37</sup> Exec. Order 13693, § 4(a), *supra* note 4.

<sup>38</sup> *Id.* § 14.

<sup>39</sup> *Id.* § 4.

<sup>40</sup> *Id.* § 5.

<sup>41</sup> *Id.* § 5(b).

<sup>42</sup> *Id.* § 4(j).

<sup>43</sup> *Id.* § 7(h).

<sup>44</sup> *Id.* § 6.

<sup>45</sup> *Id.* §§ 7-9.

<sup>46</sup> *Id.* § 3.

- The new executive order emphasizes some of the areas that proved challenging under E.O. 13514,<sup>47</sup> particularly relating to vehicle fleet management, building efficiency, and sustainable procurement and acquisition.<sup>48</sup> Regional coordination is another area that receives increased emphasis in the new executive order.<sup>49</sup> Each regional office of the EPA and GSA is required to coordinate with the Federal Executive Boards, DOD, and other agencies to convene regional sustainability workgroups.<sup>50</sup> These workgroups provide opportunities for agencies to share infrastructure and logistical support for the adoption of alternative fuel vehicles, drought response and water management, climate change preparedness and resilience planning, and collective procurement of clean energy.<sup>51</sup> This kind of interagency coordination at the regional level would really make a difference in the federal government's footprint.
- There may be a concern, however, that—unlike their DC counterparts at agency headquarters—these regional workgroups do not benefit from institutionally tapped leadership comparable to the Federal Chief Sustainability Officer. The language of the executive order is also unclear if GSA and EPA should adopt a leadership role in these workgroups, or whether the agencies are on purely equal footing. Understandably, it is difficult to determine decisively what organizational structure would make the most sense in the context of different regions and circumstances, but this leadership ambiguity could hamstring regional efforts, particularly if the regional offices are hearing mixed messages from their agency counterparts in DC. Facility co-location, joint power purchase agreements and other sustainability efforts make sense as a matter of good government but have been difficult to achieve in the past; while Section 10 of the new executive order is fairly short and vague, it could make a big difference.

The new executive order reinforces the important role of agency-based guidance documents to assist implementation. Many of the working groups from the previous executive order were carried forward. In addition, the new order identifies a number of specific areas in which working group recommendations might be developed, including: grid-based green power; data quality, collection, and reporting; greenhouse gas emissions associated with the transportation of federal freight and cargo; sustainability considerations in resilience planning; agency supply chain climate vulnerability; recycled content paper; green infrastructure; and carbon uptake accounting and wood products.<sup>52</sup>

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<sup>47</sup> See the discussion of OMB's Sustainability and Energy Scorecards, above.

<sup>48</sup> Exec. Order 13693, § 3, *supra* note 4. Performance contracting, which was previously addressed in a Presidential Memorandum, is incorporated into the goals of the new executive order. See *Presidential Memorandum*, *supra* note 6

<sup>49</sup> See Exec. Order 13693, § 10, *supra* note 4.

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.* § 4(k).

- Where the executive order calls for specific guidance, it requires the CEQ Chair to issue revisions of existing guidance or implementing instructions. The new order calls for updated Guiding Principles for new and existing federal buildings (including considerations for climate change resilience and employee and visitor wellness);<sup>53</sup> revised implementing instructions on Sustainable Locations for Federal Facilities, Sustainable Practices for Designed Landscapes, Federal Greenhouse Gas Accounting and Reporting Guidance, and Federal Agency Implementation of Water Efficiency and Management Provisions of E.O. 13514;<sup>54</sup> and implementing instructions for federal facility climate preparedness and resilience.<sup>55</sup>
- The new executive order also establishes some specific duties. Supporting the order’s fleet management goals, GSA is directed to make available—for lease or sale—a variety of alternative fuel vehicles, including zero emission and plug-in hybrid types,<sup>56</sup> and DOE is to assist USPS in evaluating the best alternative and advanced fuel technologies for its fleet.<sup>57</sup> Personnel training and education efforts receive special emphasis in the new executive order in interesting ways. The Office of Personnel Management, in coordination with DOE, GSA, EPA, and other appropriate agencies, is directed to “consider the establishment of a dedicated [f]ederal occupational series for sustainability professionals” and to include sustainability and climate preparedness in federal leadership training programs—particularly for the Senior Executive Service and GS-15 personnel.<sup>58</sup>
- In order to improve supply chain efforts, the CEQ Chair is to publically release an inventory of major federal suppliers, and include whether the supplier publically discloses annual scope 1 and 2 greenhouse gas emissions and targets for emissions reductions.<sup>59</sup> Along with their SSPP reports, the seven largest federal procuring agencies<sup>60</sup> shall submit a plan to implement at least 5 new procurements annually that include agency requirements for the contractor to identify greenhouse gas emissions management practices.<sup>61</sup> These supply chain efforts seem like the positive outcome of the GSA-led working group—established under Section 13 of E.O. 13514—which studied the feasibility of addressing scope 3 emissions from contractors and vendors.

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<sup>53</sup> *Id.* § 4(f).

<sup>54</sup> *Id.* § 4(g).

<sup>55</sup> *Id.* §§ 4(h), 13.

<sup>56</sup> *Id.* § 12(a).

<sup>57</sup> *Id.* § 12(b).

<sup>58</sup> *Id.* § 11.

<sup>59</sup> *Id.* § 15(a).

<sup>60</sup> As identified in § 4(i), *id.*

<sup>61</sup> *Id.* § 15(b).

- In an additional nod to agency involvement in implementation activities under the new executive order, the Federal Chief Sustainability Officer is empowered to “lead the development of programs and policies to assist agencies in implementing the goals of this order in coordination with DOE, EPA, [GSA], and other agencies as appropriate.”<sup>62</sup>

The new executive order bifurcates agencies into two categories for reporting purposes: Principal Agencies and Contributing Agencies.<sup>63</sup> This is a sensible change as it reduces the reporting compliance burden for contributing agencies and focuses tracking efforts on the agencies that are likely to have the biggest impact. The Chief Sustainability Officers of contributing agencies will still participate in the Steering Committee and are encouraged to submit SSPP reports, but they may limit the content of those reports to “a summary of agency actions to meet the requirements of this order.”<sup>64</sup>

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<sup>62</sup> *Id.* § 6(c). It is theoretically possible that the vagueness inherent in the Federal Chief Sustainability Officer’s role to “coordinate and provide direction to relevant existing workgroups” could lead to conflict with the CEQ Chair, but multiple provisions in the executive order indicate the role of the Federal Chief Sustainability Officer is to “advise the Chair of CEQ.” *See id.* § 6(a), (e). The historical relationship between these two officials and the fact that the Office of the Federal Chief Sustainability Officer is housed within CEQ reinforce this understanding.

<sup>63</sup> *Id.* § 19(t) (defining Principal Agencies as those “agencies subject to the Chief Financial Officers Act and agencies subject to the OMB Scorecard process under section 5(b) of this order”); *id.* § 19(h) (defining Contributing Agencies as “executive agencies that are not subject to the Chief Financial Officers Act and include Federal Boards, Commissions, and Committees”).

<sup>64</sup> *Id.* §§ 8, 14.

## II. IMPLEMENTING STATE-WIDE GREENHOUSE GAS REDUCTIONS

### Summary and Conclusions

California has long been at the forefront of climate change policy innovation. Starting in the late 1990's, California's political leadership, backed by strong public support, responded to the global threat of climate change. The California Legislature's passage of AB1493 in 2002<sup>65</sup>—the first legislation in the world to regulate greenhouse gas emissions from passenger vehicles—was an early example of the state's commitment to addressing climate change.<sup>66</sup> Governor Arnold Schwarzenegger and the California legislature followed up in 2006 with enactment of one of the most comprehensive climate change statutes ever passed, the Global Warming Solutions Act—commonly known as AB32.<sup>67</sup> Governor Jerry Brown has continued in this tradition by setting ever-higher targets for GHG emissions reductions and clean energy generation in the state.

While these laws provide the statutory framework for addressing greenhouse gas emissions in California, implementation of their complex requirements falls on the administrative agencies of state government, led by the Governor's Office. A number of state agencies have roles and responsibilities that need to be coordinated to achieve California's aggressive climate change goals. Those agencies include: the California Air Resources Board (CARB), a department of the California Environmental Protection Agency (Cal-EPA), which is responsible for regulating air pollution and reducing greenhouse gases; the California Energy Commission (CEC), which is responsible for energy policy and planning; the California Public Utilities Commission (CPUC), which regulates investor-owned utilities and other entities providing energy, transportation, and water services and helps with consumer protection; and the California Independent System Operator (CAISO), which is an independent non-profit entity (established by state law but not a state agency) that manages a substantial portion of California's power grid.

This section of the report reviews the interagency process that California developed to facilitate the implementation of AB32's climate change requirements. It also reviews the state's aggressive new energy efficiency goals for existing buildings and explores some of the interagency coordination challenges that it presents.

*The interagency process used to launch the complex regulatory mandates included in AB32 worked surprisingly well, and it holds a number of lessons that may be pertinent to federal efforts to coordinate agency climate change-related implementation efforts. The key drivers for this successful interagency process include the following points, which are discussed in further detail below:*

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<sup>65</sup> 2002 Cal Stats. Ch. 200 (A.B. 1493) (West).

<sup>66</sup> *E2 Advocacy Projects: California Clean Cars Campaign*, ENVTL. ENTREPRENEURS, <https://www.e2.org/jsp/controller?docName=campaignDisplay&activityName=CalifCleanCars1493> (last visited May 19, 2015).

<sup>67</sup> Cal. Health & Safety Code § 38500 (West 2015).

- The Governor’s Office, representing the state’s chief executive, played a key role in overseeing the interagency process. Importantly, the Governor’s Office did not directly manage the process, but was part of it, and available to step in and enforce discipline among the agencies involved, when necessary. This model of oversight by the chief executive, without purporting to be “in charge” of the implementation effort, offers a blueprint that could be useful when crafting White House involvement in interagency implementation activities.
- The California climate change legislation explicitly designated a single state agency (CARB) to direct a structured, interagency implementation effort. CARB was a logical choice to take the lead among the state agencies—and play a “first among equals” role—because it had the largest jurisdictional footprint among the agencies and the most relevant experience. With the legitimacy afforded by the legislation and the Governor’s backing, CARB was able to organize a collaborative effort that took full advantage of other agencies’ input and expertise by maintaining strong lines of communication among the agencies throughout the process.
- In addition to CARB’s leadership and overall accountability, the Climate Action Team established under AB32 split into a number of cross-cutting subgroups which enabled relevant agencies to work together to develop emissions reductions that made sense for all of the agencies involved. This type of hands-on involvement by agencies is a critically important element in successful interagency implementation efforts.
- All parties involved understood the importance of the task of implementing the groundbreaking elements of California’s pioneering climate change law. There was a unity of purpose shared across the many agencies involved.
- As a related point, the E.O. and AB32 both included clear metrics that, in turn, led to more defined goals for each agency. Success (or failure) could be identified, and measured, with each agency having an identified subset of the state’s overall goal for which they were responsible.

While the interagency process for implementing AB32 has proceeded remarkably well, additional implementation challenges lie ahead. In particular, the state has launched an initiative to achieve high levels of energy efficiency in its existing building stock. Unfortunately, the law that governs the new program does not provide clear direction to the CEC, which is given a lead role in implementing the new program, but which has limited jurisdiction, limited funding, and limited hands-on experience in implementing energy efficiency programs in the state. The law directs the CEC to coordinate with the CPUC, which has had a major role in energy efficiency matters, but it is unclear how joint administration of the program might work, particularly insofar as most existing buildings are in private hands, or in the hands of local jurisdictions.

The second part of the discussion below outlines the interagency coordination challenges presented by the existing buildings energy efficiency initiative, and discusses some potential alternative approaches, using the experience under AB32 as a guide.

### **A. Implementing AB32—California’s Groundbreaking Climate Change Law**

AB32’s history elucidates the challenges of coordinating a complex interagency and multi-stakeholder process to achieve cross-industry, statewide reductions of GHG emissions. The events leading up the bill’s passage played a key role in defining the governance structure that ultimately was utilized to implement the ambitious agenda set forth in the law.

The path to AB32 began with Governor Schwarzenegger’s issuance of Executive Order S-3-05 in June 2005.<sup>68</sup> That E.O. committed California to reduce its GHG emissions to year 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.<sup>69</sup> To facilitate the interagency coordination that would be needed to achieve these significant emissions reductions, the E.O. created a Climate Action Team (CAT), led by the Secretary for Environmental Protection, and including the directors, secretaries, and chairpersons of all major California environmental and energy agencies.<sup>70</sup> The Secretary of Cal-EPA, as head of the CAT, was charged with keeping agencies on track in their GHG emissions reduction efforts.<sup>71</sup> Under the E.O., Cal-EPA was obligated to report biannually to the Governor and legislature on “progress made toward meeting the greenhouse gas emission targets established [in the E.O.]” and “on the impacts to California of global warming.”<sup>72</sup>

The Governor’s executive action creating a Climate Action Team led by one of his cabinet secretaries created some tension with the legislature. Some members of the California legislature were displeased that the Governor and his cabinet had unilaterally taken steps to administratively oversee GHG reduction efforts in the state.

This tension was one of the factors that prompted the California legislature to pass AB32, which codified the E.O. into law but adopted an alternative approach for organizing the state-wide climate change initiative. While AB32 maintained a role for the Climate Action Team in “coordinating overall climate policy,”<sup>73</sup> the legislature explicitly invested leadership of the Act’s implementation in an “independent” state agency—the California Air Resources Board (CARB).

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<sup>68</sup> Cal. Exec. Order. No. S-3-05 (June 2005), available at <http://gov.ca.gov/news.php?id=1861>.

<sup>69</sup> *Id.*

<sup>70</sup> *Climate Action Team & Climate Action Initiative*, STATE OF CAL., [http://www.climatechange.ca.gov/climate\\_action\\_team/index.html](http://www.climatechange.ca.gov/climate_action_team/index.html)

<sup>71</sup> *See, e.g.*, CAL. CLIMATE ACTION TEAM, STATE AGENCY GREENHOUSE GAS REDUCTION REPORT CARD Table 4 (Jan. 2013),

[http://www.climatechange.ca.gov/climate\\_action\\_team/reports/2013\\_CalEPA\\_Report\\_Card.pdf](http://www.climatechange.ca.gov/climate_action_team/reports/2013_CalEPA_Report_Card.pdf).

<sup>72</sup> Cal. Exec. Order. No. S-3-05, *supra* note 68

<sup>73</sup> Health & Safety § 38501(i).

More specifically, AB32 tasked CARB with “monitoring and regulating sources of emissions of greenhouse gases that cause global warming.”<sup>74</sup> This involved “coordinat[ing] with state agencies, as well as consult[ing] with the environmental justice community, industry sectors, business groups, academic institutions, environmental organizations, and other stakeholders . . . .”<sup>75</sup> By way of example, AB32 called on CARB to work with the CPUC to develop emissions reductions measures,<sup>76</sup> but it vested the ultimate authority for designing these measures with CARB.<sup>77</sup> As such, AB32 designated CARB as the lead agency for AB32 implementation, with the CAT serving a climate change policy coordination function.

CARB thus became responsible for the initial implementation phase of California’s aggressive emissions reduction targets.<sup>78</sup> AB32 vested CARB with overall responsibility to produce a “Scoping Plan” that would identify the contributions for which each agency and department would be responsible and that would describe the steps needed to achieve GHG reduction goals.<sup>79</sup>

Preparation of the Scoping Plan required the highest level of coordination among all relevant agencies. Under the watchful eye of the Governor’s office, and the clearly defined objectives of AB32, CARB successfully brought state agencies together and, working collaborative with them, identified potential emission reduction opportunities. In the end, state agency programs and mandates have generated the large majority of the emission reductions (on the order of 70%) identified in the final Scoping Plan and its update. Only about 30% are being generated from the cap and trade program that CARB oversees.

### **1. AB32’s Recipe for Successful Interagency Cooperation**

Both the CAT and CARB’s Scoping Plan efforts were able to deliver results efficiently and with cross-agency consensus, demonstrating that coordination was possible among a large number of agencies and stakeholders, even in a complex undertaking like reducing GHG emissions. Three key items contributed to the success of these coordination efforts:

- Strong support from the Governor’s Office, representing the state’s chief executive;
- An authoritative lead agency (CARB) overseeing a structured interagency team; and
- Clear metrics and a unifying priority that that created a shared purpose among all key stakeholders.

#### **a. An Involved, Engaged Governor’s Office**

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<sup>74</sup> *Id.* at § 38510.

<sup>75</sup> *Id.* at § 38501(f).

<sup>76</sup> *Id.* at § 38501(g).

<sup>77</sup> *Id.* at § 38501(h).

<sup>78</sup> *Id.* at § 38550.

<sup>79</sup> *Id.* at § 38561(a).

A defining feature of the success for both the CAT and the Scoping Plan was the Governor's commitment to the success of California climate change effort. Governor Schwarzenegger paved the way by issuing his ambitious E.O. and requiring the key California agencies to follow CAT's leadership and align with the Governor's overall goals. The legislature followed with its passage of AB32, further bolstering and facilitating California's climate efforts and granting CARB the authority to oversee the implementation effort.

Agency staff members familiar with the process emphasize that the Governor's support was critical to the success of the initial climate change program. A strong, guiding hand from the Governor's Office compelled agencies to understand each others' goals and cultures and to define success in a way that aligned the interests of all agencies. Additionally, because the Governor endorsed AB32, agencies and stakeholders knew that climate change abatement was a critical priority for their boss. This heightened attention prompted agencies to work cooperatively with each other, knowing they would be held accountable for any failure to do so.

A number of staffers involved in the effort noted the Governor's Office was in an ideal position because it could ensure all agencies were cooperating in the effort. Because AB32 empowered the CAT and CARB to manage the process, however, the Governor's Office was not burdened with a direct management role. As a result, it was able to play a more supportive role by, for example, assisting CARB in getting more tangential agencies on board, like the Department of Finance and other agencies that did not have explicit environmental goals and tools. *This use of the Governor's Office to facilitate interagency cooperation, without attempting to directly manage the process, provides a useful model for the White House and other executive offices.*

#### **b. An Authoritative Lead Agency Overseeing a Structured Interagency Team**

The designation of CARB as the clear agency lead was critical to AB32's successful implementation. The legislature chose CARB to lead the implementation not only because of its perceived independence from the Governor, but also because of its expertise, the respected leadership of its senior management team, and the tools that it had for tackling the overall goals of the law. Furthermore, CARB had an excellent track record as a pioneer in the air quality field and as a nationally recognized GHG emission strategies champion. According to several staff members, CARB also had regulatory authority over nearly 60% of the GHG emission sources, making it a natural fit for the leadership position.<sup>80</sup>

The Climate Action Team, headed by Cal-EPA, also was an effective partner for CARB, primarily because it employed a robust subgroup structure. The CAT was split into 12

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<sup>80</sup> See CAL. AIR RES. BOARD, *Laws and Regulations*, <http://www.arb.ca.gov/html/lawsregs.htm>

subgroups, including Agriculture, Energy, Land Use, and Green Buildings.<sup>81</sup> These subgroups were integral to helping CARB create emissions reduction measures; together, the subgroups submitted over 100 suggestions for emissions reductions for inclusion in the Scoping Plan.<sup>82</sup> Each subgroup consisted of agencies responsible for tasks defined by the subgroup (e.g., the Energy subgroup contained CPUC and CEC members). This structure enabled each agency to offer its expertise, while collaborating under the common leadership of the Team, which in turn fed this work into CARB, as the lead implementing agency.

The CAT structure also facilitated agency reporting of progress, without interfering with the jurisdiction or responsibilities of individual agencies. As the final CAT Report noted:

Since the signing of the Executive Order, under the leadership of Cal/EPA, the Climate Action Team has provided a forum for coordinating State agency actions, program development, and budget proposals in addition to this report. It allows for collaboration, reduced internal competition and conflict, and provides a single point of contact.<sup>83</sup>

Likewise, under AB32, CARB was solely responsible for the final drafting of the Scoping Plan, enabling it to solicit and integrate input from other agencies in an effective way. As such, CARB served as the central hub for communication and was responsible for integrating agency ideas and programs into the plan.

Also, while CARB was in charge of running the overall process, all of the key agencies were involved in the process. Each agency was responsible for contributing its expertise to discrete portions of the Scoping Plan, defining procedures, targets and the responsibilities within the agency. Drafts of each section were discussed in informal meetings that were attended by CARB senior staff, allowing for better, more immediate information sharing. This dialogue helped prevent conflicting decisions among the various agencies. This informal model of coordination allowed agencies to be fully responsible and involved in their area of expertise, without being threatened that CARB would force compliance with non-sensical requirements.

Finally, CARB provided multiple opportunities for agencies to air their concerns. Agencies were able to voice their opinions on the Scoping Plan at the drafting stage and later, during the approval process, in connection with the CARB's public meetings on the final Scoping Plan.<sup>84</sup> In particular, during these public meetings, the agencies and other interested stakeholders were able to publicly air their concerns, ensuring that CARB would have an opportunity to address the concerns and avoid potential complications following adoption of the Scoping Plan.

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<sup>81</sup> CAL. AIR RES. BOARD, CLIMATE CHANGE SCOPING PLAN 6 (Dec. 2008), [http://www.arb.ca.gov/cc/scopingplan/document/adopted\\_scoping\\_plan.pdf](http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf).

<sup>82</sup> *Id.* at 7.

<sup>83</sup> CAL. ENVTL. PROT. AGENCY, CLIMATE ACTION TEAM REPORT TO THE GOVERNOR AND LEGISLATURE 97 (Mar. 2006), [http://www.climatechange.ca.gov/climate\\_action\\_team/reports/2006report/2006-04-03\\_FINAL\\_CAT\\_REPORT.PDF](http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF).

<sup>84</sup> Health & Safety § 38561(g).

### c. Clear Metrics and a Unifying Goal

AB32 laid out clear metrics—returning to 1990 GHG levels by 2020<sup>85</sup>—that required all agencies to “speak the same language” and attack the same goal. The statute’s overall reduction obligations led to more easily defined goals for each agency. Where the tasks could not yet be clearly defined, the order and law granted the pertinent authority to an agency or committee—CAT under the E.O. and CARB under AB32—that might best facilitate implementation of the goal.

Because GHG reduction targets were set by a Republican Governor and confirmed by a Democratic legislature, there was no ambiguity that the state was unified in its commitment to meet the statute’s ambitious goals. Public interest also remained supportive throughout the process aided, perhaps, by the presence of a long drought during the 2006-2009 timeframe.<sup>86</sup>

### B. A New Challenge: Securing Interagency Cooperation in Improving Energy Efficiency in Existing Buildings Under AB758

Improved energy efficiency has been a priority in California for many years as part of the state’s push to reduce GHG emissions.<sup>87</sup> Several initiatives have been underway to facilitate more efficient use of energy in the state. In particular, in 2008, the California Public Utilities Commission (CPUC) drafted the California Long Term Energy Efficiency Strategic Plan, outlining a multi-year plan to achieve comprehensive statewide energy efficiency savings.<sup>88</sup> In 2012, the CPUC approved almost \$2 billion for 2 years’ worth of energy efficiency funding for various utilities, local governments, and implementers.<sup>89</sup> Municipal utilities, which are not regulated by the CPUC, also have devoted significant funding to the effort. And with the passage of Proposition 39 in 2012, an additional \$500 million has been dedicated annually to energy efficiency and clean energy for 5 years.<sup>90</sup>

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<sup>85</sup> Health & Safety § 38550.

<sup>86</sup> CAL. AIR RES. BOARD, FIRST UPDATE TO THE CLIMATE CHANGE SCOPING PLAN 10 (May 2014), [http://www.arb.ca.gov/cc/scopingplan/2013\\_update/first\\_update\\_climate\\_change\\_scoping\\_plan.pdf](http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf).

<sup>87</sup> See Cal. Exec. Order. No. B-30-15 (Apr. 29, 2015), available at [http://gov.ca.gov/docs/4.1.15\\_Executive\\_Order.pdf](http://gov.ca.gov/docs/4.1.15_Executive_Order.pdf) (calling Governor Jerry Brown’s plan the “most ambitious greenhouse gas reduction target in North America”).

<sup>88</sup> Jan. 2011 update, available at [http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CAEnergyEfficiencyStrategicPlan\\_Jan2011.pdf](http://www.cpuc.ca.gov/NR/rdonlyres/A54B59C2-D571-440D-9477-3363726F573A/0/CAEnergyEfficiencyStrategicPlan_Jan2011.pdf).

<sup>89</sup> CAL. ENERGY COMM’N, CALIFORNIA EXISTING BUILDINGS ENERGY EFFICIENCY ACTION PLAN DRAFT 22 (Mar. 10, 2015), [http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806\\_20150310T093903\\_California%E2%80%99s\\_Existing\\_Buildings\\_Energy\\_Efficiency\\_Action\\_Plan.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806_20150310T093903_California%E2%80%99s_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf) [hereinafter: DRAFT ACTION PLAN].

<sup>90</sup> CAL. LEGISLATIVE ANALYST’S OFFICE, *Proposition 39* (July 18, 2012), [http://www.lao.ca.gov/ballot/2012/39\\_11\\_2012.aspx](http://www.lao.ca.gov/ballot/2012/39_11_2012.aspx).

Existing buildings, which “represent the second largest source of statewide GHG emissions when accounting for electricity, natural gas, and water consumption,”<sup>91</sup> have been a particular target for energy efficiency initiatives. The CPUC, for example, included existing buildings in its 2008 Strategic Plan, and has directed hundreds of millions of dollars to improve energy efficiency in existing buildings.

In 2009, the California legislature upped the ante for energy efficiency in existing buildings by enacting AB758.<sup>92</sup> It requires the CEC, in collaboration with the CPUC, to develop a comprehensive plan for energy efficiency in all existing buildings. The ultimate goal is to double the state’s current goals for energy savings in existing buildings and thereby reduce statewide building energy use by 17% from 2014 levels by 2030,<sup>93</sup> a point that was emphasized by Governor Brown in his 2015 inauguration speech.<sup>94</sup>

The CEC now faces the question of how it can effectively engage with the CPUC and other state and local agencies, as well as private entities, to implement AB758’s and the Governor’s ambitious energy efficiency goals.

### **1. The CEC’s Proposed Implementation Approach**

The CEC is engaged in a phased implementation of AB758.<sup>95</sup>

Phase I is almost complete. During Phase I, the state directed American Recovery Reinvestment Act of 2009 (ARRA) funds for state and local energy efficiency and outreach programs. It also developed a staff draft Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report, which identified market needs and implementation barriers. Phase I’s last step was the CEC’s release of its draft Action Plan on March 15, 2015.<sup>96</sup>

The CEC’s draft Action Plan calls for the involvement of many state agencies, as well as local governments, private companies, and California citizens in the existing buildings energy efficiency initiative. Involving all of these stakeholders presents a challenge in terms of interagency cooperation, similar to what CARB faced under AB32. Arguably, however, the challenge is even more daunting, given the large number of governmental and non-governmental entities that are involved in owning or overseeing energy use in existing buildings.

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<sup>91</sup> *First Update to the Climate Change Scoping Plan: Building on the Framework*, CAL. AIR RES. BD. 81 (May 15, 2014),

[http://www.arb.ca.gov/cc/scopingplan/2013\\_update/first\\_update\\_climate\\_change\\_scoping\\_plan.pdf](http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf).

<sup>92</sup> [http://www.energy.ca.gov/AB758/documents/ab\\_758\\_bill\\_20091011\\_chaptered.pdf](http://www.energy.ca.gov/AB758/documents/ab_758_bill_20091011_chaptered.pdf)

<sup>93</sup> *Id.* at 21.

<sup>94</sup> Jerry Brown, Cal. Governor, Inauguration Speech (Jan. 5, 2015) (transcript available at <http://gov.ca.gov/news.php?id=18828>).

<sup>95</sup> *Comprehensive Energy Efficiency Program for Existing Buildings*, CAL. ENERGY COMM’N, <http://www.energy.ca.gov/ab758>.

<sup>96</sup> DRAFT ACTION PLAN, *supra* note 89.

The draft Action Plan presents a proposed ten-year roadmap for activating market forces and using all available tools to transform residential, commercial, and public buildings into high performing energy efficient buildings.<sup>97</sup> The draft Plan centers on five goals: (1) achieving proactive and informed government leadership in energy efficiency; (2) effectively utilizing data to drive informed decisions; (3) developing a building industry that delivers innovation and performance; (4) enabling Californians to recognize and benefit from efficiency upgrades; and (5) making energy efficiency solutions accessible and affordable for all Californians.

Each of the five goals is coupled with a series of strategies, and each strategy is linked to industry and/or government implementation partners. Each of these strategies and goals implicates a diverse array of state, local, and private actors who must coordinate and cooperate to varying degrees and on multiple levels. These key implementers range from the CEC to local educational agencies, private utilities to the Cal-EPA, and the CPUC to individual business owners. With such a broad spectrum of stakeholders and implementation partners, the CEC must determine how to most effectively collaborate with these various users at the appropriate levels.

Perhaps due to these disparate stakeholder interests, the first goal in the draft Action Plan is to elevate government leadership in energy efficiency. The State hopes to “lead by example” by working diligently to upgrade public buildings.<sup>98</sup> The objective is to enact “[p]olicies, initiatives and programs [that will] lead [to] a long-term commitment to achieve energy efficiency at large scales.”<sup>99</sup>

For California to achieve this goal, however, the various energy government agencies, particularly the CEC and CPUC, “must *continue to align* to drive the collection, organization and management of data resources focused on energy and buildings, which are vital to track progress, ensure accountability, and inform policy and programs.”<sup>100</sup> A united front by state agencies would particularly aid in garnering the support necessary from local jurisdictions, which must respond to the needs of their communities and which expect to have some meaningful input into the state-wide existing buildings initiative.

The need for effective interagency coordination is a key guiding principle that underpins the Plan. The Plan recognizes that while “oversight of energy efficiency efforts is primarily within the purview of the CEC and CPUC,” “[l]inking efficiency to climate goals and electric system operations also requires coordination with [CARB] and [the] Independent System Operator, respectively.”<sup>101</sup> Additionally, other state agencies such as the Department of General Services, Department of Education, and Division of State Architecture oversee specific aspects of existing building regulation, while the

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<sup>97</sup> DRAFT ACTION PLAN, *supra* note 89, at i.

<sup>98</sup> *Id.* at iii.

<sup>99</sup> *Id.* at ix.

<sup>100</sup> *Id.* at iii (emphasis added).

<sup>101</sup> *Id.* at 6.

Department of Water Resources and the Water Resources Control Board impact some aspects of water usage in these buildings.<sup>102</sup>

Unlike AB32's Scoping Plan, which CARB developed with input from the Climate Action Team and, through it, with many other agencies, the CEC has drafted its proposed Action Plan without a structured, publicly-recognized agency input team. The Plan involves many policies and programs the CEC has little funding or authority to implement. This presents some practical challenges for the CEC, particularly vis-à-vis the CPUC, insofar as the CPUC has not been formally engaged in the development of AB758's draft Action Plan, is constitutionally independent, and already has invested large amounts of money into existing buildings.

Identifying an effective mechanism to achieve interagency cooperation in implementing AB758 will be critical to the program's success.<sup>103</sup> Along with this collaboration, it also will be important for the CEC to establish a working relationship with the Governor and legislature, both of which will be looking to the CEC for accountability for the success of the AB758 initiative.<sup>104</sup>

## **2. Should the Existing Building Efficiency Collaborative Serve as the Primary Interagency Coordination Entity?**

The draft Action Plan proposes formation of an Existing Building Efficiency Collaborative (the EBEC or Collaborative) as a mechanism to achieve interagency cooperation in implementing AB758.<sup>105</sup> The draft Action Plan identifies the Collaborative as the highest priority strategy under the government leadership goal.<sup>106</sup> It is intended to provide AB758 implementation oversight by coordinating and aligning policy among agencies; overseeing, monitoring, and tracking implementation; facilitating industry engagement; and collecting and maintaining necessary and relevant data.<sup>107</sup>

Although the Plan only includes a high-level discussion of how the Collaborative might function, it identifies some basic parameters, including that it will be led by the CEC and the CPUC, with engagement from industry stakeholders, and engagement of other relevant agencies such as CARB, CAISO, and the Departments of Labor, Transportation, and Corrections,<sup>108</sup> as necessary.<sup>109</sup> In turn, high-level personnel from each of these relevant agencies are expected to contact and coordinate with other stakeholders, including local governments, water agencies, and industry representatives.

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<sup>102</sup> *Id.*

<sup>103</sup> *Id.* at 35.

<sup>104</sup> *Id.*

<sup>105</sup> *Id.* at 57.

<sup>106</sup> *Id.* at 93.

<sup>107</sup> *Id.*

<sup>108</sup> *Id.* at 57.

<sup>109</sup> *Id.* at x.

The CEC hopes that the Collaborative will encourage “real ownership of the plan” by the various agencies involved.<sup>110</sup> The Collaborative is envisioned as being the method for “manag[ing] the plan, rais[ing] issues to the Governor, [and] assess[ing] collaboration with state and local governments.”<sup>111</sup> The CEC will be responsible for primary staffing of the EBEC, since AB758 provides ten dedicated staff of the CEC to the Existing Building Energy Efficiency implementation.<sup>112</sup> The CEC also will update the Governor and legislature about barriers to implementation. A strong connection with the Governor’s Office is a key concern, in order to keep the Governor involved and to avoid any surprises.<sup>113</sup>

The draft Action Plan describes two strategies for how the EBEC expects to go about its business, including a “governance structure” strategy that seeks to optimize interagency communications by staffing the EBEC with senior individuals from both the CEC and the CPUC, who can then report back to the lead commissioners of those agencies.<sup>114</sup> It also envisions developing “a collaboration structure” that “incorporates active engagement of key agencies, coordinates across relevant rulemakings, and maintains consistency with agency roles and authorities.”<sup>115</sup>

The draft Action Plan also identifies an “Agency Coordination and Stakeholder Engagement” strategy that focuses on coordinated action by each agency, finding appropriate forums and methods to coordinate relevant analyses, identifying strategies for implementation, monitoring and reporting strategy effectiveness, and providing public feedback and soliciting input from various stakeholders when necessary.<sup>116</sup>

The draft Action Plan anticipates that the CEC’s biannual Integrated Energy Policy Report (IEPR)—which “provides a comprehensive assessment of essential energy issues in California along with recommendations for how to address market and regulatory challenges”—will provide the vehicle for reporting on the status and success of the AB758 program.<sup>117</sup> The CEC envisions that the IEPR will serve as a means of accountability for the Collaborative and the Plan as a whole.<sup>118</sup> The EBEC will play a key role in monitoring and evaluating the efficacy of the Action Plan and its implementation, using the IEPR, annual work plans crafted by CEC, and input from stakeholders and agencies throughout the process.<sup>119</sup>

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<sup>110</sup> Andrew McAllister, Lead Comm’r, Cal. Energy Comm’n, Existing Buildings Energy Efficiency Draft Action Plan Kickoff Workshop 5 (Apr. 7, 2015) (slides available at [http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN204070\\_20150406T162919\\_Existing\\_Buildings\\_Energy\\_Efficiency\\_Draft\\_Action\\_Plan\\_Kickoff.pptx](http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN204070_20150406T162919_Existing_Buildings_Energy_Efficiency_Draft_Action_Plan_Kickoff.pptx)).

<sup>111</sup> *Id.*

<sup>112</sup> DRAFT ACTION PLAN, *supra* note 89, at 94.

<sup>113</sup> McAllister, *supra* note 110, at 18.

<sup>114</sup> DRAFT ACTION PLAN, *supra* note 89, at 57.

<sup>115</sup> *Id.*

<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 29.

<sup>118</sup> McAllister, *supra* note 110, at 5.

<sup>119</sup> DRAFT ACTION PLAN, *supra* note 89, at 98.

## **C. Comparing AB32 and AB758's Proposed Implementation Approaches**

The CEC's proposed reliance on the Collaborative as the primary interagency implementation mechanism differs from the interagency approach taken by AB32. As discussed above, the AB32's Scoping Plan exercise was built around three principles: (1) strong leadership from the Governor's Office; (2) a single, empowered agency lead that oversees a structured interagency team; and (3) clearly defined metrics and a common goal for all agencies involved. It is instructive to review how those principles might apply to the AB758 implementation effort.

### **1. Governor's Office Involvement in AB758's Implementation**

It is not clear from AB758's history or the draft Action Plan itself whether the Governor and his senior staff will serve as strong a lead on AB758. As noted above, AB32 was the direct result of an initial Executive Order by the Governor and has been of particular interest to the Governor's Office for the past decade.

AB758's focus on energy efficiency is much narrower than AB32. As laid out in the Plan, the Collaborative seems to be built around a bottom up approach, with the CEC updating the Governor's Office on an as-needed basis. This approach is substantially different from that taken under AB32, where it was clear from the outset that the Governor was the voice and the power behind the project and that every agency had to get on board. Finally, AB32 was a comprehensive, critically important bill, whereas AB758 has received much less high-level attention. In particular, while the Governor explicitly referenced the importance of improving energy efficiency in existing buildings as part of his climate change agenda,<sup>120</sup> he has not been vocal about the importance of this particular program. If the Governor were to clearly prioritize this initiative—or at least push agencies to get on board with the EBEC and fully engage in the Collaborative—it would increase the Collaborative's chances of serving its envisioned function.

Some commentators have suggested in that regard that the Collaborative should consider expanding its goals to cover all of California's energy efficiency work.<sup>121</sup> Such an expansion might provide the Governor with a broader initiative that may merit more vigorous and sustained support from the Governor's Office. This option may be feasible, given the Collaborative engage with a very broad and diverse set of stakeholders and key agencies in connection with its focus on existing buildings.

### **2. An Authoritative Lead Agency Overseeing a Structured Interagency Team**

While the CEC proposes that it will be at the center of the Collaborative, the proposed involvement of the CPUC in the effort may convey the impression that the CEC and

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<sup>120</sup> Brown, *supra* note 94.

<sup>121</sup> DIAN GRUENEICH, PRECOURT ENERGY EFFICIENCY CENTER, STANFORD UNIVERSITY, OPPORTUNITIES, AND NEW TOOLS FOR THE NEXT LEVEL OF ENERGY EFFICIENCY DRAFT 66 (Apr. 4, 2015) (received from the author).

CPUC are jointly responsible for coordinating energy efficiency activities, rather than presenting the CEC as the initiative's clearly legitimized, authoritative coordinator. One key reason for this, according to members of the CEC, is that the CEC is not the clear "authority" on energy issues. Under AB32, CARB was the obvious leadership agency and was recognized as such in the legislation. This leadership position made sense, as CARB had direct regulatory authority over a significant portion of the emissions that would be addressed under AB32.

In the case of AB758, it is the CPUC, rather than the CEC, that controls much of the funding for energy efficiency in California and is a constitutionally independent entity. Municipal utilities, which also are major players in energy efficiency in California, also are independent of the executive branch.

In addition, the character of the problem is different—the need to engage diverse outside stakeholders including local and municipal governments, industry, and, perhaps most importantly, individual users means that all agencies will have a role in reaching out to appropriate stakeholders, and the CEC does not have a unique role in that process. Additionally, the tools of the implementation approaches in AB32 and AB758 will vary because a substantial regulatory target for AB758 is California citizens, in addition to other state agencies and industry stakeholders. One CEC employee recognized that the goals could not be reached by CEC alone and that the tools available to access existing buildings are multi-jurisdictional. Christine Collopy, the CEC's AB758 project manager, has summarized the challenge:

This program effort is going to take a massive amount of partnership and collaboration and, most important, it's going to take a lot of will. No entity is going to be able to accomplish this on their own; this is going to take all of us in the room, all of us on the phone. Resources are very scarce, so our goals are really quite common in this program, and we're going to really need to work together and collaborate and leverage.<sup>122</sup>

Even if CEC cannot take the sole lead, it is possible that CPUC and CEC could serve as dual leads. As in the AB32 context, the CPUC and CEC staffs have been working together on energy efficiency for several years, including specifically the use of ARRA funds for energy efficiency projects throughout Phase I of AB758's implementation.<sup>123</sup> Also, AB758 instructs the two agencies to work together to avoid overlap in existing

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<sup>122</sup> Christine Collopy, AB758 Project Manager, Cal. Energy Comm'n, Staff Workshops on the Comprehensive Energy Efficiency Program for Existing Buildings Draft Action Plan 30-31 (June 24, 2013) (transcript available at [http://www.energy.ca.gov/AB758/documents/2013-06\\_workshops/2013-06-24\\_Transcript.pdf](http://www.energy.ca.gov/AB758/documents/2013-06_workshops/2013-06-24_Transcript.pdf)).

<sup>123</sup> CAL. ENERGY COMM'N, COMPREHENSIVE ENERGY EFFICIENCY PROGRAM FOR EXISTING BUILDINGS SCOPING REPORT xvi (Aug. 2012), <http://www.energy.ca.gov/2012publications/CEC-400-2012-015/CEC-400-2012-015.pdf>.

programs and leverage existing programs, and the two agencies have had some success in jointly holding regular meetings with management and technical staff.<sup>124</sup>

However, the undeniable problem with having two leads manifests itself when the competing priorities of the agencies conflict. Because these two agencies have been given different statutory mandates,<sup>125</sup> the “lens” with which they will approach the problem varies.<sup>126</sup> Especially without leadership from the Governor’s Office, these conflicting aims may hinder other agencies’ adoption of “real ownership of the plan” as envisioned by the draft Action Plan.<sup>127</sup> Additionally, because the Collaborative only calls for the participation of high-level staff but not leaders of the organizations, as in AB32, the anticipated “buy-in” by key agencies seems even shakier.

So long as there is ambiguity about the overall agency lead for the existing building energy efficiency initiative, there is a concern that neither the CEC nor CARB will step up and assign responsibilities to specific agencies. As one commenter noted:

While we commend the CEC for identifying a lead entity or entities for the different strategies, the plan must clearly define involved entities’ responsibilities and hold lead(s) accountable in order to avoid lack of action by any of those involved. The draft Plan is silent on taking this step yet without it, successful implementation of the Plan is highly unlikely.<sup>128</sup>

Thus, if the implementation is going to be successful, it is important that there either be a lead agency or, at the very least, clearly defined mandates and responsibilities for other agencies.

Finally, many outside groups are calling for the EBEC to open its doors to direct stakeholder involvement in the Collaborative itself.<sup>129</sup> Although stakeholder involvement must play an important role in the overall process, it is unclear whether adding more stakeholders into a process that is not crisply defined or controlled by a strong agency will facilitate the Collaborative’s goal. Instead, the premature folding in of many stakeholders at an early stage could muddle the process with disparate voices and differing goals. The EBEC might be better served by having each agency coordinate directly with stakeholders related to that agency’s responsibilities under the Act. This appears to be the current practice.

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<sup>124</sup> Simon Baker, Manager, Cal. Pub. Utils. Comm’n, Staff Workshops on the Comprehensive Energy Efficiency Program for Existing Buildings Draft Action Plan 17-18 (June 28, 2013) (transcript available at [http://www.energy.ca.gov/ab758/documents/2013-06\\_workshops/2013-06-28\\_Transcript.pdf](http://www.energy.ca.gov/ab758/documents/2013-06_workshops/2013-06-28_Transcript.pdf)).

<sup>125</sup> 2009 Cal. Legis. Serv. Ch. 470 (A.B. 758) (West).

<sup>126</sup> Baker, *supra* note 124, at 22.

<sup>127</sup> McAllister, *supra* note 110, at 5.

<sup>128</sup> GRUENEICH, *supra* note 121, at 65.

<sup>129</sup> See LARA ETTENSON, NAT’L RES. DEF. COUNCIL, COMMENTS ON THE EXISTING BUILDINGS ENERGY EFFICIENCY DRAFT ACTION PLAN 13 (Apr. 21, 2015), [http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN204431\\_20150429T103134\\_Natural\\_Resources\\_Defense\\_Council\\_NRDC\\_Comments\\_Comments\\_on\\_Goa.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN204431_20150429T103134_Natural_Resources_Defense_Council_NRDC_Comments_Comments_on_Goa.pdf)

### 3. Clear Metrics and a Unifying Goal

The metrics for AB32 were clear and agency-focused. They asked a straightforward question: what can agencies do to decrease GHG emissions?

Here, AB758 requires agencies to look beyond policies and programs that they can implement and to engage with diverse stakeholder communities with potentially conflicting goals and persuade them to align in a common way. As a result, the existing buildings efficiency initiative necessarily must focus more strongly on stakeholder engagement, private companies, individual users, and the energy marketplace generally, rather than on explicit agency metrics and mandates. In fact, Andrew McAllister, the Lead Commissioner on Energy Efficiency at CEC has stated, “[A]t the end of the day it’s not the Energy Commission, or the PUC, or the CAISO, or any of the State agencies that are going to make this happen, it’s going to be the marketplace.”<sup>130</sup>

### 4. AB758’s Implementation Challenges

In summary, there is a question how relevant AB32’s framework for interagency cooperation is relevant to the more diffuse AB758 effort. However, it is possible that the problem is, in part, a framing issue. If AB758 could be framed in a similar way as AB32, it might be possible to imbue even more authority (at least on its face) to the CEC, allowing it to serve as the respected sounding board and feedback group for other agencies. Although the agencies themselves know how best to reach out to various stakeholders, the CEC could serve as the single point of contact to monitor these varying responsibilities, with the EBEC serving as the accountability mechanism.

AB758’s tools may not need to resemble AB32’s for the interagency collaboration to function in a similarly effective vein, especially given the constitutional independence of the CPUC and its very significant role in overseeing and funding much of the energy efficiency efforts in the state. Either way, the goals and the strategies of the CEC and CPUC will have to align for Plan implementation to move forward effectively. We have learned from AB32 that having a clear lead agency can help ensure the success of a complex interagency exercise, but the Governor would need to support and champion a more hierarchical structure in order for it to succeed.

There may be other ways of setting up the EBEC that may more closely reflect the goals of the program and the current structures and tools available to the state agencies. For one, the EBEC could function more like the Climate Action Team. Some commentators suggest that the EBEC have specific subgroups, as the CAT did.<sup>131</sup> This may be effective if the focus of the EBEC is expanded or if the subgroups center on particular stakeholders that must be engaged. However, it may be more difficult to make appropriate subgroups

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<sup>130</sup> Andrew McAllister, Lead Comm’r, Cal. Energy Comm’n, Staff Workshops on the Comprehensive Energy Efficiency Program for Existing Buildings Draft Action Plan 9-10 (June 28, 2013) (transcript available at [http://www.energy.ca.gov/ab758/documents/2013-06\\_workshops/2013-06-28\\_Transcript.pdf](http://www.energy.ca.gov/ab758/documents/2013-06_workshops/2013-06-28_Transcript.pdf)).

<sup>131</sup> GRUENEICH, *supra* note 121, at 67.

when the goal is a narrow one (versus the very broad goal of AB32). Additionally, the goal of the EBEC seems more focused on practical implementation than did the CAT, which was more policy-oriented. Still, this may be an effective means of structuring the EBEC, if enough buy-in can be gained from senior management at the relevant agencies.

Alternatively, because California is now so heavily focused on climate change and because the Governor's new energy efficiency goals are part of his climate goals, one commentator has suggested that CARB could oversee all of California's energy efficiency efforts—the CEC's AB 758, the CPUC's massive energy efficiency funding, and the programs and funding of other agencies. In essence, CAT's existing energy subgroup could function as the EBEC itself or the entity overseeing a stakeholder driven EBEC. This approach potentially could be effective, given strong track record of success in these arenas. The CEC could still play a major role by staffing a revitalized CAT energy efficiency subgroup.

### III. COORDINATING THE SITING OF MAJOR RENEWABLE ENERGY PROJECTS ON PUBLIC LANDS

#### Summary and Conclusions

When the Obama Administration took office in January 2009, the Department of Interior had not issued a single permit for a utility-scale solar project on its expansive public lands. Given the burgeoning interest in renewable energy, and the Southwest's powerful solar resource, a backlog of over four hundred renewable energy project applications had piled up. The new Administration wanted to move forward with clean energy projects on public lands, but because BLM's customary permitting process often took four or five years for large projects, Interior could not proceed in a "business as usual" manner and achieve its policy goals.<sup>132</sup>

Secretary Salazar and his senior team recognized that effective interagency coordination would be needed to implement a successful permitting strategy for utility-scale solar and other renewable energy projects on the public lands. Multiple bureaus in the Interior Department needed to sign off on renewable energy permits, including agencies that might be negatively impacted by major renewable energy projects, such as the U.S. Fish & Wildlife Service, the U.S. Park Service, and the Bureau of Indian Affairs. With these conflicting agency interests under one roof, Interior was in a unique position to experiment with new approaches for facilitating a more timely and effective interagency permitting process.

*Instead of the typical interagency challenge in which the White House oversees a process involving several different Departments with differing missions, the renewable energy context had the Secretary of the Interior acting in the White House role, overseeing an interagency coordination process involving several different bureaus with differing missions within the same Department. This section discusses the techniques the Interior Department used to improve the coordination of bureaus with different priorities and authorities in their joint review of important projects, with the goal of improving both the efficiency of the permitting process and the environmental result.*

The approach taken by Secretary Salazar and his team in addressing this interagency permitting challenge was very successful. DOI improved the pathway to solar and wind energy permit processing from an average of four years to one and a half years.<sup>133</sup> The Department achieved the 2005 Environmental Policy Act's goal of siting 10,000 megawatts of renewable energy three years ahead of schedule,<sup>134</sup> and to date has successfully approved fifty-two commercial scale projects.<sup>135</sup>

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<sup>132</sup> David J. Hayes, *Leaning on NEPA to Improve the Federal Permitting Process*, 45 *Env'tl. L. Rev.* 10018, 10018 (2015).

<sup>133</sup> U.S. Gov't Accountability Office, *GAO-13-189, Renewable Energy: Agencies Have Taken Steps Aimed at Improving the Permitting Process for Development on Federal Lands* 18 (2013) [hereinafter "GAO Report"].

<sup>134</sup> Black & Kemkar, *supra* note 136, at 1.

<sup>135</sup> Interior Secretary Sally Jewell on Energy and the Environment, C-SPAN (Mar. 17, 2015), <http://www.c-span.org/video/?324886-1/interior-secretary-sally-jewell-remarks-energy-agenda>.

The Interior Department’s successful interagency effort provides a blueprint for how to successfully engineer interagency initiatives that focus on the coordinated implementation of Administration priorities. Key take-aways include:

- **Leadership Mandate:** Early on, Interior Secretary Ken Salazar issued Secretarial Order 3285A1, which established renewable energy siting as a priority of the Department and established a new interagency approach to facilitate permitting decisions and improve environmental results.<sup>136</sup>
- **Top-Level, Hands-On Engagement:** The Interior Department formed a “Strike Team” made up of senior decision-makers from each bureau, and managed with a representative of the Secretary, to develop and manage an efficient permitting process that respects the interests of all of the impacted agencies and stakeholders. The hands-on coordination function by the Secretary’s office in demonstrating the priority of the interagency effort, and the office’s willingness to troubleshoot issues for the agencies, was a key to the effort’s success. (There are parallels to OMB’s involvement in the infrastructure permitting modernization effort, discussed below.)
- **Early Planning and Conflict Prevention:** Interior’s interagency permitting process also institutionalized early planning and conflict prevention by bringing in potentially impacted bureaus and key stakeholders to meet with project developers on the front end to identify potential fatal flaws in the project and provide an opportunity to revise the project to reduce or eliminate objections.
- **Finding Budget Support for Priority Needs:** The Secretary’s Office recognized that improved permitting would require more resources, and it maximized available financial tools to bring support to the effort. This contrasts with many interagency coordination efforts in which discussion of serious budget issues is taboo.
- **Focus on Implementation and Results:** This approach required an emphasis on implementation and decision-making by the principals involved. High-level individuals in the Secretary’s office and senior positions in the bureaus had to make commit to the process and be accountable for results. This was very different from the many interagency policy efforts that revolve around report writing and the chronicling of policy improvements. Here, the emphasis was on action-oriented implementation activities, proceeding in real time.<sup>137</sup>

The White House has applied some of the lessons learned from the Interior experience across the Administration through the President’s Modernizing Infrastructure Permitting

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<sup>136</sup> Secretarial Order No. 3285A1, Renewable Energy Development by the Department of Interior (2009); Steve Black & Neal Kemkar, *Obama Administration Efforts to Expand Domestic Energy Production: A View from Public Lands*, A.L.I. (Feb. 2013) at 6.

<sup>137</sup> See generally GAO Report, *supra* note 133.

Initiative. This is an ambitious and important interagency implementation effort. Important take-aways from the effort include:

- The Office of Management and Budget has invested significant White House resources in this interagency implementation effort. It is unusual for the White House to dedicate significant staff time to a project, but the benefits of the commitment have been substantial, enabling OMB to obtain a deeper understanding of permitting challenges.
- OMB has married its investment with a commitment to learn from, and adopt, best permitting practices employed by leading permitting agencies (e.g., Department of the Interior; Department of Transportation). This represents a commendable commitment by the White House in a challenging interagency implementation exercise.
- There is a significant question how the permitting reforms gained through the OMB-led infrastructure permitting effort can be institutionalized so they do not fall away as personnel and Administrations change. This is a serious issue for many interagency implementation efforts. In this case, there are viable legislative and regulatory actions that could be taken to lock in the operational approaches that have been piloted through the initiative.

## **A. Department of Interior’s Approach for Improving Interagency Coordination in Reviewing Large Scale Renewable Energy Projects**

### **1. Leadership Commitment: Establishing a High-Level “Strike Team”**

Secretarial Order 3285A1 set the tone for the Department in prioritizing the goal of siting renewable energy projects on the public lands by instituting an improved permitting process that would achieve environmentally sound results on a timely basis.<sup>138</sup> Pursuant to the Secretarial Order, Secretary Salazar formed a high-level “Strike Team” that includes motivated, senior-level representatives from each bureau. Composed of

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<sup>138</sup> The rapid deployment of utility-scale renewable energy projects on public lands also was supported by legislative actions that motivated the initial wave of applications and provided structured timelines for DOI’s permitting goals. In particular, the Energy Policy Act of 2005 (EPAAct) directed the Secretary of Interior to approve at least 10,000 megawatts of renewable generation capacity by 2015. *See* Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 660, § 211. Also, the American Recovery and Reinvestment Act (ARRA) provided funding for constructing renewable energy projects, with a deadline for projects permitted by December 2010. *See* American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 148. Additionally, state emissions reduction goals and Renewable Portfolio Standards (RPS) provided incentives for developers to submit applications. For example, California’s RPS goal of 33% renewable electricity by 2020 and goal of reducing carbon emissions to 1990 levels by 2020 created pressure to expand renewable energy projects. Governor Brown recently announced new, ambitious renewable energy goals for California and a goal to reduce carbon emissions by 80% below 1990 levels by 2050. *See* Jeff St. John, *California Governor Jerry Brown Calls for 50% Renewables by 2030*, Greentechmedia (Jan. 5, 2015) <http://www.greentechmedia.com/articles/read/calif.-gov.-jerry-brown-calls-for-50-renewables-by-2030>; Exec. Order No. S-3-05, available at <http://gov.ca.gov/news.php?id=1861>.

senior representatives from BLM, FWS, the Bureau of Indian Affairs, the National Park Service, and the Office of the Solicitor, the team members took it upon themselves to get their hands dirty figuring out how to solve the backlog of project applications. These representatives personally communicated with developers, experts, and agency staff to organize the initial pool of priority projects, and took responsibility for implementing reforms vertically through each of their departments.

Initially, the Strike Team conducted research, evaluating permit applications and meeting with developers, utilities and other agencies, to identify a list of twenty to thirty priority projects. The team then instituted weekly meetings to discuss the universe of priority renewable energy projects, holding bureaus accountable to permitting schedules, resolving inter-bureau conflicts, and making permitting decisions. The Strike Team focused on formalizing and institutionalizing coordination among bureaus, working “to ensure that officials across component agencies are aware of concerns that could affect the development of projects—including critical habitat, cultural or tribal issues, conflicts with national park boundaries or interests, and other environmental issues—and have a recurring forum where such concerns may be aired and resolved.”<sup>139</sup>

Following the leadership’s example, bureaus developed their own policies to improve renewable energy development permitting. For instance, BLM “developed and revised policies intended for improving renewable energy development on its lands by means of programmatic environmental impact statements, designation of priority projects, instruction memorandums, and rulemaking.”<sup>140</sup> These efforts are discussed further below.

## **2. Structured Accountability at the National and Field Office Levels**

The dual working group structure created by Interior facilitated leadership buy-in both at the top and at the field levels. Composed of senior decision-makers from each agency with permitting jurisdiction, the Strike Team was able to effectively deal with conflicts because its members had the authority to negotiate and make decisions on behalf of their bureau. Those senior representatives also had the capacity to implement initiatives within their own bureaus that would complement and improve interagency efforts.

At the field level, staffers from different states and bureaus communicated directly with each other to address project details. Staff members worked in regional groups through the Renewable Energy Coordination Offices in California, Nevada, Wyoming, and Arizona; through dedicated renewable energy teams in Colorado, Idaho, New Mexico, Utah, and Oregon/Washington; a FWS renewable energy office in California; and the Office of Solicitor’s renewable energy team.<sup>141</sup> The field level working groups facilitated discussion, collaboration, and co-equal working relationships across field-level experts who made the majority of decisions on permits. Staff participated in weekly phone calls to track progress on project schedules, permitting delays, and to identify conflicts early

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<sup>139</sup> GAO Report, *supra* note 133, at 29.

<sup>140</sup> *Id.* at 22.

<sup>141</sup> *Id.* at 5.

on. These staff worked out day-to-day decisions and then reported major project updates and conflicts to their respective Strike Team members. Accountability was funneled through the senior Strike Team representatives down to the field level.

### 3. Dedicating Additional Resources to the Effort

Agencies typically do not have adequate staff to process permit approvals, and agency missions rarely prioritize permitting. At the same time, it is well recognized that a “lack of adequate funding can both unnecessarily slow down the review process and can result in incomplete reviews,” thus jeopardizing both developers’ financing and environmental results.<sup>142</sup> Recognizing the need to provide incentives for staff to focus on permitting, Interior dedicated new resources to hiring additional staff to study issues and improve permitting.

DOI initially focused on providing the Strike Team and regional level, staff offices with additional resources that would enable staff to devote time to interagency communication.<sup>143</sup> Interior’s delegation of cost-recovery authority and subsequent cost-sharing agreements further institutionalized the ability of bureaus to devote staff to permitting.

Using cost-recovery mechanisms to enable agencies to recover costs from developers for expenses incurred while conducting individual reviews proved to be a particularly important funding source to cover administrative and programmatic costs. Individual permit review costs can be a huge burden on an agency—it can cost BLM between \$50,000 and \$400,000 to complete the permitting process for a single application.<sup>144</sup> The Secretary delegated his cost-recovery authority under the Federal Land Policy and Management Act, authorizing BLM and all other bureaus and offices “to receive reimbursement for all reasonable costs incurred in relation to the processing of applications and other documents relating to public lands,” thus alleviating the need for the government to fund project-specific costs.<sup>145</sup> Between 2009 and 2012, BLM

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<sup>142</sup> Keyes & Fox, *Recommendations to Western Governors’ Association: Transmission Siting Process Reforms* 3 (Apr. 27, 2012) available at [http://www.westgov.org/component/docman/doc\\_download/1591-siting-recommendation-2012?Itemid=](http://www.westgov.org/component/docman/doc_download/1591-siting-recommendation-2012?Itemid=).

<sup>143</sup> “In fiscal year 2009 the Department reprogrammed \$11 million to support this effort and in FY ‘10 the Department directed \$16.1 million to renewable energy permitting. The U.S. Fish and Wildlife Service (FWS) established a dedicated renewable energy team in Palm Springs, California, and the DOI Solicitor’s Office has reorganized to include a renewable energy practice group to complete thorough, expeditious, and timely reviews of the NEPA and other documents associated with renewable energy projects.” Black & Kemkar, *supra* note 136 at 6.

<sup>144</sup> *Id.* at 37.

<sup>145</sup> Dep’t of Interior, Secretarial Order No. 3327, Delegation of Authority for Cost Reimbursable Authority (Apr. 5, 2013) at § 1, available at [http://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/ib\\_attachments/2013.Par.0443.File.dat/IB2013-074\\_att1.pdf](http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/ib_attachments/2013.Par.0443.File.dat/IB2013-074_att1.pdf); see also *Nevada Power v. Watt*, 711 F.2d 913, 925 (10th Cir. 1983) (the FLPMA authorizes the Secretary of Interior to recover costs from private applicants to prevent the government from subsidizing land-use application costs).

collected \$16 million through cost recovery fees, totaling half of all funds received by BLM field offices.<sup>146</sup>

To further coordinate cost-recovery when bureaus work together to review projects, BLM implemented cost-sharing agreements. BLM and FWS entered into an MOU in 2013 which recognized that BLM's reviewing processes "benefit from technical expertise and skills FWS provides" and stipulated that BLM would reimburse FWS for costs incurred in completing reviews under the Endangered Species Act, Migratory Bird Act, or the Bald and Golden Eagle Protection Act.<sup>147</sup>

This influx of resources allowed BLM to triple its workforce devoted to wind and solar applications at renewable energy coordination offices at the national and state levels.<sup>148</sup> The National Park Service was also able to hire a permanent national renewable energy coordinator and six full-time equivalent coordination staff.<sup>149</sup> The FWS also benefited from increased funds, allowing them to expand staffing for technical reviews at the regional level.<sup>150</sup>

#### **4. Adopting Innovative Approaches to Improve the Permitting Process**

The success of an interagency coordination process will depend, to a large extent, on translating policy goals into implementation tools that are well conceived, sensible and workable. For the Interior Department's renewable energy permitting initiative, that meant regularizing a number of innovative approaches to improve the permitting process. Several of these innovations are reviewed briefly below.

##### **a. Initial Prioritization of Projects**

Faced with over four hundred permits, it would have been impossible for the Strike Team to simultaneously track and discuss the progress of all of the permits. Recognizing that prioritization can be an important ingredient in rationalizing the permit process, BLM moved to a model that sought to identify specific criteria for prioritization. The Strike Team's initial decision to focus on twenty to thirty "priority projects"<sup>151</sup> out of over four

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<sup>146</sup> GAO Report, *supra* note 133, at 31.

<sup>147</sup> Bureau of Land Mgmt., MOU-301-2013-06, Transmittal of National Memorandum of Understanding between the Bureau of Land Management and the Fish and Wildlife Service (May 30, 2013) § A, *available at*

[http://www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_information/2013/IB\\_2013-074.print.html](http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_information/2013/IB_2013-074.print.html).

<sup>148</sup> From fiscal year 2010 to 2012, BLM added sixty-four full time equivalent staff, tripling from thirty-two in 2010 to ninety-six in 2012. GAO Report, *supra* note 133, at 31-32.

<sup>149</sup> *Id.* at 32.

<sup>150</sup> In 2010 the Conservation Planning Assistance Program received \$1.5 million for technical assistance on renewable energy projects; in 2011 FWS received an additional \$2 million; and in 2012 FWS again received \$3.5 million. These funds allowed FWS to hire three full time equivalent staff to conduct regional project planning at the Pacific Southwest Regional Office. *Id.*

<sup>151</sup> Now called "active projects."

hundred total projects allowed DOI to “focus agency efforts and limited resources on those projects it believed had a greater likelihood of being approved.”<sup>152</sup>

To institutionalize this prioritizing mechanism, BLM issued an instruction memorandum establishing criteria for priority areas, incorporating participation of other bureaus and agencies in determining which projects would be priorities. Eligible projects would avoid sensitive areas, account for natural and cultural resources, and be nearing the environmental review stage.<sup>153</sup> Developers would compete to satisfy the criteria because priority project status would confer a much quicker timeline upon their project.<sup>154</sup>

### **b. Early Engagement with Stakeholders**

The Interior Department’s Strike Team facilitated early contact between developers, reviewing agencies and key stakeholders. This early outreach enabled developers to describe their projects to potential regulators and outside parties and, in turn, to receive early feedback from those parties regarding potential concerns with the nature or scope of the proposed project.

Early engagement with stakeholders enabled the parties to identify potential fatal flaws before the formal application and permitting process had begun, thereby enabling developers to consider retooling projects to avoid or mitigate concerns before making major investments in a specific project design and environmental and permitting reviews. Commentators have opined that this type of early engagement is a critically important innovation that opens lines of communication with stakeholders and greatly reduces the likelihood that unforeseen siting conflicts will arise late in the permitting process.<sup>155</sup>

BLM formalized its emphasis on early engagement by issuing an instruction memorandum that requires that all prospective applicants participate in at least two meetings with BLM before the agency accepts a solar or wind project application.<sup>156</sup> The

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<sup>152</sup> GAO Report, *supra* note 133, at 24.

<sup>153</sup> Bureau of Land Mgmt., Instruction Memorandum No. 2011-061, Solar and Wind Energy Applications—Pre-Application and Screening (2011); GAO Report at 24.

<sup>154</sup> Maintaining a cohort of priority projects over time is challenging, however. Once the initial round of projects is approved, leadership must take the initiative to designate more. BLM officials have also said that the priority system may have “encouraged officials to process the application faster than was appropriate, given that the necessary biological and cultural surveys had not been completed.” See GAO Report, *supra* note 133, at 38. Priority status does not substitute for NEPA review, and the pressure to meet strict deadlines should be balanced against agency responsibility to conduct comprehensive reviews.

<sup>155</sup> For example, when the Western Governors Association conducted a public workshop in 2012 discussing challenges to transmission siting, the number one recommendation that participants recognized was engaging in early public outreach. Keyes & Fox, *supra* note 142 at 2, Table 1, available at [http://www.westgov.org/component/docman/doc\\_download/1591-siting-recommendation-2012?Itemid=](http://www.westgov.org/component/docman/doc_download/1591-siting-recommendation-2012?Itemid=). See generally Dep’t of the Interior, Implementing Executive Order 13604 on Improving Performance of Federal Permitting and Review of Infrastructure Projects: A Federal Plan for Modernizing the Federal Permitting and Review Process for Better Projects, Improved Environmental and Community Outcomes, and Quicker Decisions (June 2012), at 28-29, available at [http://www.permits.performance.gov/sites/default/files/Federal\\_Infrastructure\\_Plan.pdf](http://www.permits.performance.gov/sites/default/files/Federal_Infrastructure_Plan.pdf).

<sup>156</sup> Bureau of Land Mgmt., Instruction Memorandum No. 2011-061, Solar and Wind Energy Applications—Pre-Application and Screening (2011).

first meeting is intended to familiarize applicants with BLM’s right-of-way process, and the second meeting is intended to involve the other stakeholders—federal agencies, state, local, and tribal governments—with authority over the permitting process.<sup>157</sup>

BLM officials have identified pre-application meetings with developers as particularly helpful efforts to “clarify[] expectations” for applicants and to “ensure that applicants understand BLM’s permitting process and required documentation, select appropriate locations to site projects (e.g. avoid areas with environmental or other constraints), and submit an adequate application.”<sup>158</sup>

Additionally, BLM has created comprehensive application toolkits that developers can use to improve their applications. Such toolkits include: examples of strong applications; planning tools to aid developers in conducting stakeholder outreach; definition of a “complete” application; explanation of tribal, state, and local government roles; estimated permit decision and review timelines; applicant trainings, webinars, and meetings; identification of resource areas potentially impacted; best management practices for that project and potential mitigation/avoidance measures; and a description of the application process from first notice to the final decision.<sup>159</sup> These toolkits “provide greater clarity and predictability to project sponsors and enable Federal agencies to begin permitting and review processes faster and with fewer delays.”<sup>160</sup>

### **c. Coordinating with State Permitting Authorities**

The Department of the Interior established a close working relationship with the state of California to ensure that federal permitting actions were coordinated with related state and local activities. In 2009, DOI signed an MOU with California in recognition of the shared priorities of the state and the federal government to facilitate the siting and development of renewable energy projects.<sup>161</sup> This allowed "DOI and California agencies with the permitting authority for renewable energy projects meet, identify and troubleshoot issues, and work together—functioning as one team—to shepherd projects

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<sup>157</sup> *Id.*; GAO Report, *supra* note 133, at 26.

<sup>158</sup> GAO Report, *supra* note 133, at 35.

<sup>159</sup> Dep’t of the Interior, Implementing Executive Order 13604 on Improving Performance of Federal Permitting and Review of Infrastructure Projects: A Federal Plan for Modernizing the Federal Permitting and Review Process for Better Projects, Improved Environmental and Community Outcomes, and Quicker Decisions (June 2012) at 14, *available at* [http://www.permits.performance.gov/sites/default/files/Federal\\_Infrastructure\\_Plan.pdf](http://www.permits.performance.gov/sites/default/files/Federal_Infrastructure_Plan.pdf).

<sup>160</sup> *Id.*

<sup>161</sup> Dep’t of Interior, Memorandum of Understanding Between the State of California and the Department of the Interior on Renewable Energy (Oct. 12, 2009), *available at* [http://www.blm.gov/style/medialib/blm/ca/pdf/pa/energy/mous.Par.91836.File.dat/2009-10-12\\_DOI\\_CA\\_MOU.pdf](http://www.blm.gov/style/medialib/blm/ca/pdf/pa/energy/mous.Par.91836.File.dat/2009-10-12_DOI_CA_MOU.pdf). Both California and the federal government faced ambitious deadlines to achieve renewable energy goals, spurring rapid development. For California, the goals of reducing greenhouse gas emissions to 1990 levels and increasing renewable energy to supply 33% of the state’s electricity by 2020 created high pressure to quickly expand renewable energy projects. For the Department of Interior, Secretarial Order 3285 was intensified in combination with the American Recovery and Reinvestment Act’s funding deadlines for projects that began construction by December 2010.

simultaneously through multiple permitting processes."<sup>162</sup> In some instances, this allowed projects to be approved as quickly as 12 months.<sup>163</sup>

Much like the Strike Team initiatives under the DOI, the MOU established a leadership-level Renewable Energy Policy Group (REPG)—comprised of senior policy representatives from DOI, California Governor’s office and California Natural Resources Agency and jointly led by high level designees of the Governor and the Secretary of Interior—and a staff level working group, the Renewable Energy Action Team (REAT)—comprised of FWS, BLM, California Energy Commission, Department of Fish and Game, and California Natural Resources Agency.

The REAT met weekly and created a list of joint projects, permitting schedules, and milestones. The REPG met monthly to oversee the implementation of this plan and to seek input from state, federal, and local stakeholders. This coordination of staff level and senior level working groups allowed for close coordination between staff on the ground and structured accountability for larger project goals.

#### **d. Using Landscape-Level Planning to Facilitate Project Permitting**

As noted above, when initially tackling the permitting challenge, the Strike Team sorted through already-filed permit applications and worked with stakeholders at the front end to evaluate projects, identify potential flaws, and adjust projects early in discussions before moving into NEPA reviews. It was necessary to take this ad hoc approach because BLM had not undertaken any large scale planning for how and where utility-scale renewable energy projects might be optimally sited on BLM lands.

As part of its permitting reform effort, the Department of the Interior introduced landscape-level planning to provide a clearer road map for developers and establish a sound framework to improve siting decisions.<sup>164</sup> Departmental leaders took advantage of

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<sup>162</sup> Black & Kemkar, *supra* note 136, at 7.

<sup>163</sup> *Id.*

<sup>164</sup> The Department has applied this landscape scale planning approach in other permitting contexts as well. For example, the Bureau of Ocean Management (BOEM) undertook an extensive, science and stakeholder-driven process to identify offshore areas in the Atlantic that are good candidates for wind energy development. *See generally* Bureau of Ocean Energy Mgmt., BOEM 2012-003, Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia: Final Environmental Assessment (2012), *available at* [http://www.boem.gov/uploadedFiles/BOEM/Renewable\\_Energy\\_Program/Smart\\_from\\_the\\_Start/Mid-Atlantic\\_Final\\_EA\\_012012.pdf](http://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf). Working with the Coast Guard, Department of Defense, and stakeholders, BOEM identified de-conflicted areas that would be preferable for offshore wind development, and did an Environmental Assessment to identify the areas appropriate for leasing. Because offshore wind was a young and emerging industry, the Wind Energy Areas drove the locations of future wind development. These landscape planning results are “not decisions but assessments that can *inform* decisions . . . [by providing] greater permitting efficiency and financial predictability for project proponents.” Marcilynn A. Burke, *Regional Mitigation on Public Lands*, American Bar Association Section of Environment, Energy, and Resources (Oct. 8-11, 2014) at 6, *available at* [http://www.americanbar.org/content/dam/aba/events/environment\\_energy\\_resources/2014/10/22nd-fall-conference/course\\_materials/18-burke\\_marcilynn-paper.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/events/environment_energy_resources/2014/10/22nd-fall-conference/course_materials/18-burke_marcilynn-paper.authcheckdam.pdf).

a Programmatic Environmental Impact Statement (PEIS) for solar energy that the prior Administration began and retooled to introduce the concept of “solar energy zones,” in which BLM would encourage the siting of future utility-scale solar energy projects in six southwestern states. The Record of Decision that followed completion of the PEIS—known as the “Western Solar Plan”—set forth criteria for establishing solar energy zones and explicitly identified an initial set of 17 solar energy zones in which permitting could proceed on an expedited basis.<sup>165</sup>

The Western Solar Plan embraced the concept that “[e]ngaging in thorough, science-based, landscape-level advance planning can help facilitate the review” of proposed projects and that “such efforts [can] steer project applicants to the best locations for siting projects.”<sup>166</sup> Rather than amending each land-use plan individually, the Western Solar Plan amended land use plans throughout the southwest to incorporate the solar energy zone concept. In addition to amending land-use plans, the environmental analysis included in the PEIS has provided basic impact analyses that individual projects may tier from when conducting NEPA analysis. The effectiveness of tiering off the Western Solar plan was recently demonstrated with the permitting of three new solar developments in solar energy zones. Because of the prior PEIS analysis, the NEPA process for the three new projects was completed in less than 10 months.<sup>167</sup>

Programmatic planning through the Western Solar Plan has also been used to identify comprehensive landscape-level mitigation strategies. For example, BLM piloted a regional compensatory mitigation scheme at the Dry Lake Solar Energy Zone to counter the unavoidable effects of development in that area. Rather than restricting mitigation measures to the project site, this initiative contemplated regional impacts of development and created landscape-level solutions to conserve desert tortoise habitat, conserve ecosystem services, and counter visual impacts.<sup>168</sup>

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<sup>165</sup> Bureau of Land Mgmt., Final Solar Energy Development Programmatic Environmental Impact Statement (Solar PEIS) (2012) at 2, available at <http://solareis.anl.gov/documents/fpeis/index.cfm> [hereinafter “Solar PEIS”].

<sup>166</sup> Dep’t of the Interior, Agency Plan Implementing Executive Order 13604 on Improving Performance of Federal Permitting and Review of Infrastructure Project (July 31, 2012) at 4, available at <http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&pageid=359605>.

<sup>167</sup> Scott Streater, *Interior OKs First Solar Projects through Streamlined Reviews*, E&E Publishing, June 1, 2015, <http://www.eenews.net/>. Note that conducting pre-planning does not entail shortcutting NEPA reviews, nor does it contemplate substituting for comprehensive site-specific NEPA analysis. See, e.g., Bureau of Land Mgmt., Policy Guidance for Use of Corridors Designated Pursuant to Section 368 of the Energy Policy Act of 2005 as Required by the Settlement Agreement in *Wilderness Society v. United States Department of the Interior*, No. 3:09-cv-03048-JW (N.D. Cal) (Apr. 7, 2014), available at [http://www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_instruction/2014/IM\\_2014-080.html](http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2014/IM_2014-080.html) (“[T]iering to the FPEIS cannot substitute for site-specific analyses in accordance with NEPA”). Instead, it represents early planning efforts to ensure that developers are making smart siting decisions from day one.

<sup>168</sup> Bureau of Land Mgmt., Regional Mitigation Strategy for the Dry Lake Solar Energy Zone: Technical Note 444 (Mar. 2014) at 2.5.1, available at [http://www.blm.gov/style/medialib/blm/wo/blm\\_library/tech\\_notes.Par.29872.File.dat/TN\\_444.pdf](http://www.blm.gov/style/medialib/blm/wo/blm_library/tech_notes.Par.29872.File.dat/TN_444.pdf).

## **B. OMB's Interagency Permitting Coordination Initiative for Major Infrastructure Projects**

Building on the success of the Interior Department's interagency permitting coordination effort, the White House has constructed a government-wide permitting coordination initiative for large infrastructure projects. The initiative arose out of the White House's frustration with disaggregated federal permitting responsibilities that have "resulted in more than 35 distinct permitting and review responsibilities across more than 18 Federal agencies and bureaus, implemented by staff at headquarters and hundreds of regional and field offices."<sup>169</sup> Permitting delays were limiting the Administration's ability to move forward with large infrastructure projects needed by communities around the country.

Accordingly, the President issued Executive Order 13604—"Improving Performance of Federal Permitting and Review of Infrastructure Projects"—in March 2012.<sup>170</sup> The E.O. established a Steering Committee to identify a "transparent, consistent, and predictable [permitting] path for both project sponsors and affected communities."<sup>171</sup>

The Steering Committee is co-chaired by the Chief Performance Officer, White House Office of Management and Budget, and the Chair of the Council on Environmental Quality and composed of committee members including deputy secretaries and their equivalents at the twelve federal agencies in charge of the effort.

President Obama followed up on his executive order with the issuance of a Presidential Memorandum which recognized that there was no "silver bullet" that would achieve the President's goals, but rather reforms that would institutionalize "sustained leadership focus, dedicated implementation capacity, and the development of performance indicators" were necessary.<sup>172</sup> The President challenged the Steering Committee, however, to cut permitting time in half for major federal infrastructure projects.<sup>173</sup> Based on these instructions, the Steering Committee prepared an "Implementation Plan for the Presidential Memorandum for Modernizing Infrastructure Permitting."<sup>174</sup>

### **1. Governance Structure for the Infrastructure Permitting Initiative**

Executive Order 13604 and the subsequent Implementation Plan for Modernizing Infrastructure Permitting worked to distill responsibilities into discrete structures with

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<sup>169</sup> *Id.* at 7. See also Exec. Order No. 13653, Improving Regulation and Regulatory Review (2011).

<sup>170</sup> Exec. Order No. 13604, Improving Performance of Federal Permitting and Review of Infrastructure Projects (2012), available at <http://www.gpo.gov/fdsys/pkg/FR-2012-03-28/pdf/2012-7636.pdf> [hereinafter Exec. Order 13604].

<sup>171</sup> *Id.*

<sup>172</sup> Steering Committee on Federal Infrastructure Permitting and Review Process Improvement, Implementation Plan for the Presidential Memorandum on Modernizing Infrastructure Permitting (2014) at 5 [hereinafter "Plan for Modernizing Infrastructure Permitting"].

<sup>173</sup> The White House, Report to the President: Rebuilding America's Infrastructure: Cutting Timelines and Improving Outcomes for Federal Permitting and Review of Infrastructure Projects (May 2013), available at <http://www.whitehouse.gov/sites/default/files/omb/reports/report-to-the-president-rebuilding-america-s-infrastructure.pdf>.

<sup>174</sup> See note 172, *supra*.

built-in accountability mechanisms. They aimed to “enable agencies to share priorities, work collaboratively and concurrently to advance reviews and permitting decisions, and facilitate the resolution of disputes at all levels of agency organization.”<sup>175</sup>

To help empower this permitting improvement effort, E.O. 13604 placed responsibility within the OMB-led Steering Committee. Some of the key governance features developed for the initiative include:

- OMB convened a staff level group of subject matter experts—the Interagency Infrastructure Permitting Improvement Center (IIPIC). The IIPIC reported to the Steering Committee and mirrored the accountability mechanisms of the dual working group structure in the DOI’s Strike Team and regional office coordination teams. The dual working groups allowed field staff to collaborate on day-to-day decision-making, and institutionalized accountability to the top levels of government.
- Pilot projects were identified to test the efficacy of this structure. The Department of Transportation (DOT) and OMB also convened a weekly tracking call, or “pacing call,” with representatives from every agency with project milestones on the dashboard to provide an “early warning system” about potential permitting conflicts.<sup>176</sup> In all, these structures enhanced collaboration and dispute resolution, and established vertical lines of accountability.
- OMB dedicated four full time staff to ensure that permitting improvement efforts were successful. This allocation of staff made it possible to move beyond simply formulating policy, and created forward momentum for the project as several staff members focused on implementation as their first priority. Because OMB staff has been directly involved in addressing project-specific implementation needs, they have learned the real-world challenges that pose barriers to interagency coordination on permitting matters.
- The Implementation Plan for Modernizing Infrastructure Permitting invests permitting review responsibilities within a single, clearly identified, NEPA lead agency. NEPA lead agencies are those with the most involved permitting responsibilities on a project. They are required to develop a Coordinated Project Plan, including synchronizing permitting milestones that incorporate concurrent rather than consecutive reviews. Lead agencies also are charged with planning public comment opportunities, collecting information from project applicants and agencies involved, and developing a mitigation hierarchy, among other responsibilities.<sup>177</sup>

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<sup>175</sup> Exec. Order No. 13604, *supra* note 170, at §1(a).

<sup>176</sup> The White House, Report to the President: Rebuilding America’s Infrastructure: Cutting Timelines and Improving Outcomes for Federal Permitting and Review of Infrastructure Projects (May 2013), at 10, available at <http://www.whitehouse.gov/sites/default/files/omb/reports/report-to-the-president-rebuilding-america-infrastructure.pdf>.

<sup>177</sup> Plan for Modernizing Infrastructure Permitting at 12-13.

- Having a “single point of contact promotes accountability, improves communication and coordination, and provides all stakeholders with a primary resource for information about project progress.<sup>178</sup> For example, during permitting reviews for the Whittier Bridge Replacement Project, DOT led schedules and convened weekly calls with coordinating agencies, ultimately enabling the Coast Guard to issue a final bridge permit within weeks of the original target.<sup>179</sup>

## 2. Adopting Innovative Approaches to Improve the Permitting Process

The Modernizing Infrastructure Permitting Initiative has incorporated many of the innovative approaches the Interior Department employs successfully in the renewable energy context. Some of these innovations are summarized briefly below.

### a. Developing Agency-Specific Permitting Plans

Executive Order 13604 required each member agency to submit a plan identifying processes and specific measurable actions that could be taken to improve permitting.<sup>180</sup> By conducting reviews, individual agencies were required to consolidate information about the way in which they conduct reviews, making the process more transparent to other agencies, developers, and stakeholders.<sup>181</sup>

### b. Developing Permitting Dashboards

Executive Order 13604 established a permitting dashboard to centralize information about project permitting for developers and stakeholders, and for agencies to use to track permitting schedules. The purpose of the dashboard was to “enable effective Government-Wide collaboration while continuing to provide public transparency through published project milestones and schedules” enabling team members from across agencies “to develop collaborative schedules, share project documents, and quickly communicate with each other.”<sup>182</sup> Project schedules and milestones are tracked online

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<sup>178</sup> *Id.* at 8.

<sup>179</sup> *Id.*

<sup>180</sup> Exec. Order 13604, *supra* note 169, at § 3.

<sup>181</sup> For example, the National Oceanic and Atmospheric Association inventoried information on guidance documents and practices for conducting reviews under the Endangered Species Act, Magnuson Stevens Act, National Marine Sanctuaries Act, and Marine Mammal Protection Act. Similarly, the Advisory Council on Historic Preservation and the Council on Environmental Quality began developing a handbook on Section 106 of the National Historic Preservation Act and NEPA, helping to expedite reviews without duplicating efforts. The White House, Report to the President: Rebuilding America’s Infrastructure: Cutting Timelines and Improving Outcomes for Federal Permitting and Review of Infrastructure Projects (May 2013) at 4-5, available at <http://www.whitehouse.gov/sites/default/files/omb/reports/report-to-the-president-rebuilding-americas-infrastructure.pdf>.

<sup>182</sup> The White House, Report to the President: Rebuilding America’s Infrastructure: Cutting Timelines and Improving Outcomes for Federal Permitting and Review of Infrastructure Projects (May 2013) at 3, available at <http://www.whitehouse.gov/sites/default/files/omb/reports/report-to-the-president-rebuilding-americas-infrastructure.pdf>.

with the Federal Infrastructure Permitting Dashboard, increasing data accessibility for reviewing agencies and public accountability mechanisms when delays arose.

### **c. Developing Common Data Bases**

The Modernizing Infrastructure Initiative increases the pool of data available to reviewing agencies. One example is the effort to create a federal database of historic places, enabling lead agencies to assist project applicants in selecting potential sites in areas in which environmental and other impacts may best be avoided, minimized, or otherwise mitigated.<sup>183</sup>

### **d. Encouraging Early Coordination**

OMB created Integrated Project Plan (IPP) guidance to help set schedules based on early coordination and collaboration among federal agencies and developers. Early coordination is critical to permitting efficiency, as “investing this time at the beginning of the project, before fully committing to a particular course of action, facilitates more informed decision-making during project design and the permitting and review phases.”<sup>184</sup>

### **e. Utilizing Landscape-Scale Planning to Improve Permitting**

The initiative recognizes that infrastructure permitting can move forward more efficiently when project siting decisions are viewed within a broader, landscape planning context. The Steering Committee has endorsed the development of “innovative, science-based roadmaps” that can help to identify optimal locations for different types of infrastructure project development. These tools can “equip product developers to make better siting decisions, enable Federal agencies to make quick decisions, and create the opportunity to engage the appropriate stakeholders and enhance environmental outcomes.”<sup>185</sup>

Landscape-level planning also can improve permitting by identifying project mitigation opportunities that provide measurable, regional benefits. Taking a landscape and watershed-level approach to mitigation “allow[s] project applicants to identify the most ecologically-effective mitigation measures in the project-planning phase.”<sup>186</sup>

## **3. The Challenge of Institutionalizing Interagency Permitting Coordination Reforms**

So far, the Steering Committee’s efforts to improve interagency coordination for infrastructure permitting have been very successful. Based on reviews for over fifty

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<sup>183</sup> Plan for Modernizing Infrastructure Permitting at 23.

<sup>184</sup> The White House, Report to the President: Rebuilding America’s Infrastructure: Cutting Timelines and Improving Outcomes for Federal Permitting and Review of Infrastructure Projects (May 2013) at 8, available at <http://www.whitehouse.gov/sites/default/files/omb/reports/report-to-the-president-rebuilding-america-infrastructure.pdf>.

<sup>185</sup> *Id.* at 10.

<sup>186</sup> *Id.* at 12.

selected major infrastructure projects on the permitting dashboard, “[e]stimated [permitting] time savings range from several months to several years.”<sup>187</sup>

Many observers, however, are concerned about whether the progress made by the infrastructure permitting initiative can be institutionalized, or whether a change in Administration will have the agencies reverting to their former, inefficient ways of doing business. These concerns are well founded. Already, changes in agency leadership have diluted some of the top-level support that can be so important to successful interagency implementation efforts. Also, funding has been a problem. Congress has not appropriated new monies to support this effort, and agencies have been straining to devote resources to the effort.

#### **a. Congressional Assistance in Institutionalizing Permitting Reforms**

Congress can help institutionalize the infrastructure permitting initiative by providing ongoing funding to the agencies and OMB for the effort, pursuant to the budget request that President Obama included in his 2015 budget.

A bipartisan bill that would statutorily institutionalize interagency permitting reforms could also be considered. The Federal Permitting Improvement Act of 2015 (the “Portman-McCaskill bill”) provides a good example of what such legislation might look like. Building off of concepts including infrastructure permitting initiatives, the Portman-McCaskill bill would create a permanent Federal Permitting Improvement Council, chaired by a Federal Chief Permitting Officer (CPO) who is an officer of OMB.<sup>188</sup> The CPO would establish an inventory of projects, create performance schedules, and track progress on a permitting dashboard. The bill also would require each agency with major permitting duties to designate a Chief Permitting Officer, and lead agencies would be responsible for creating plans to coordinate public and agency participation, tracking permitting deadlines, and creating a process to consult with agencies early in the process to identify concerns.

#### **b. Updating NEPA to Institutionalize Permitting Reforms**

NEPA often is viewed as an impediment to permitting reform because multiple agencies rarely coordinate their permitting responsibilities, leading to elongated NEPA reviews.<sup>189</sup>

While NEPA tends to get unfairly blamed for permitting delays more commonly due to agencies’ failures to coordinate their permit reviews, NEPA’s regulations could be updated in a way that would help to institutionalize many of the permitting reforms that the Interior Department and OMB and the White House have been implementing.

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<sup>187</sup> *Id.* at 4-5.

<sup>188</sup> Federal Permitting Improvement Act of 2015, S. 280, 114th Cong.

<sup>189</sup> John D. Porcari, *Environmental Reviews: Undo the Do-Over Loop*, ENR.com (Apr. 7, 2014), <http://enr.construction.com/opinions/viewpoint/2014/0407-project-environmental-reviews-undo-the-doover-loop.asp>.

As noted above, when permitting agencies work together on the front end of a project, the permitting process goes more smoothly and better environmental results are achieved. Early outreach to the relevant regulatory agencies, and to stakeholders, can identify potential project flaws and provide an opportunity to make changes in the project that will facilitate NEPA-required environmental reviews and potential permit approvals.

Unfortunately, NEPA's regulations were adopted many years ago, at a time when projects typically were overseen by a single federal reviewing agency. As a result, the regulations do not impose requirements on a lead agency to contact the project proponent, other agencies and key stakeholders before beginning the NEPA process. Likewise, the regulations encourage – but do not require -- non-lead agency to be involved in the NEPA process. As a result, the regulations endorse the very practices that have caused many of today's permitting problems: reviewing agencies hang back and fail to participate in the NEPA process, or in any permit review activities, until very late in the process, after the NEPA work has been completed and after the lead agency has made a permitting decision.

Updating the NEPA regulations to mandate the responsibility of a lead agency to reach out and have early engagement with other agencies and stakeholders along the lines discussed above could be transformative. Similarly, updating the NEPA regulations to *require* non-lead agencies to be responsive to early outreach efforts involving all relevant agencies, the project proponent and key stakeholders could be transformative.<sup>190</sup>

It is noteworthy in this regard that, when it enacted NEPA, Congress intended NEPA to provide the primary framework around which project reviews and permitting would revolve. In recent years, NEPA reviews have become more and more ancillary to the permitting process. By updating NEPA's regulatory requirements to mandate that all reviewing federal agencies work together on the front end to coordinate their environmental reviews and related permitting processes, NEPA would once again become an important organizing force around federal review and approval of major projects impacting the environment.

To better coordinate these efforts and ease some of the burden on lead agencies, NEPA regulations also could be updated to create an Interagency Permitting and Review Council to (1) act as clearinghouse to facilitate early outreach among the relevant agencies, project proponent and interested stakeholders; (2) conduct a formal scoping process to help identify issues early and prioritize among those issue; (3) use new tools and data—such as dashboards—to facilitate environmental reviews; (4) provide training programs for applicants and agency reviewers; and (5) regularize EAs and categorical exclusions under NEPA.<sup>191</sup> Dedicating staff and resources to a centralized clearing house would promote accountability for dispersing information, could help reduce interagency conflicts, and would drive continued improvement in permitting processes.

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<sup>190</sup> Hayes, *supra* note 132, at 10022.

<sup>191</sup> *Id.* .

#### IV. FEDERAL INTERAGENCY EFFORTS TO ADDRESS CLIMATE IMPACTS TO CRITICAL INFRASTRUCTURE

##### Summary and Conclusions

The Nation's critical infrastructure provides the foundation for essential services—such as water, energy, transportation, communications, and emergency services—that underpin American society and sustain our way of life. Today, a variety of hazards, including climate change and extreme weather, threaten this critical infrastructure. And while discussions of climate change often focus on impacts to natural environments, climate change and extreme weather events can also directly affect the infrastructure systems upon which our daily lives, economic vitality, and national security rely.

Critical infrastructure is typically designed to withstand the weather-related stressors of a particular locality. But shifts in climate patterns increase the range of potential risks that critical infrastructure faces. The projected impacts of climate change, including sea level rise and increasing severity and frequency of extreme weather events, can cause damage or disruptions to critical infrastructure that result in cascading effects across our communities. The potential for cascading effects is exacerbated by the increasingly interconnected nature of infrastructure systems. For example, in 2011, high temperatures and high demand tripped a transformer and transmission line in Yuma, AZ, starting a chain of events that shut down the San Onofre nuclear power plant, leading to a large scale power outage across the entire San Diego distribution system.<sup>192</sup> This example highlights how the interplay between climate-related stressors and interconnected systems can lead to new vulnerabilities and opportunities for disruption across communities and supply chains. As such, the infrastructure-related impacts of the shifting climate have the real potential to lead to significant costs in lives lost, property damage, and wide-ranging effects to the national economy.

In the face of these risks, policymakers across all levels of government are increasingly viewing adaptation to projected impacts of climate change as a risk management strategy necessary to protect vulnerable infrastructure and the communities it supports. While uncertainty still exists regarding the nature and magnitude of climate impacts on infrastructure systems, adaptation is gradually being accepted as a necessary insurance policy against the risks climate change poses to the effective operation of American society.

*Managing these risks requires deliberate preparation, close cooperation, and coordinated planning to facilitate Federal, State, local, tribal, private sector, and non-profit-sector efforts to improve climate preparedness and resilience. Because the majority of the Nation's infrastructure is owned and operated by the private sector, the federal government must work with owners and operators on a primarily voluntary basis to incorporate climate change resilience into infrastructure operation. This work involves*

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<sup>192</sup> FEDERAL ENERGY REGULATORY COMMISSION, FACT SHEET: SEQUENCE OF EVENTS: SOUTHWEST POWER OUTAGE (2011), available at <https://www.ferc.gov/media/headlines/2012/2012-2/05-01-12-factsheet-sequence-of-events.pdf>.

*efforts to understand evolving threats and hazards, share information, promote best practices, engage in training exercises, and provide risk and vulnerability assessment tools.*

A number of federal departments and agencies are involved in the effort to increase infrastructure resilience in the face of climate change. These agencies include the Department of Energy, Department of Homeland Security, Department of Transportation, and the Environmental Protection Agency, among others. The agencies operating in this sphere have not only overlapping jurisdictions, but also different missions, priorities, and resources that push them toward agency-specific policies and programs and away from crosscutting, government-wide initiatives.

The discussion below highlights five interagency initiatives, components of which sought to marshal federal agencies with infrastructure-related missions toward a coordinated approach for enhancing the resilience of the critical infrastructure community to climate change. Three of the efforts are complete, and two are ongoing. Key conclusions include:

- Significant progress has been made in incorporating infrastructure resilience principles and policies into agency operations. However, the implementation of these principles and policies has moved forward primarily through a piecemeal, agency-by-agency approach, rather than through a true joint implementation effort.
- Recent interagency efforts have used the right words in emphasizing the importance of cross-agency collaboration, but meaningful interagency coordination has been elusive, with significant effort being focused on cataloging agency actions, rather than attempting to work jointly. Likewise, there has been an unfortunate proliferation of duplicative infrastructure resilience guidance and programs. In many ways this duplication has resulted from ad hoc reactions to Executive orders, directives, and memorandum.
- As the Executive Branch has continued to push resilience principles, agencies have often responded by hastily enacting a confusing and duplicative array of guidance and programs. Opportunities for improvement abound. Recommendations for the design of future interagency initiatives to enhance resilience in the face of climate change include the following features:
  - Interagency efforts should work to move beyond merely developing policies and cataloging efforts that tout increased collaboration, to actually structuring joint implementation initiatives.
  - To effectively consolidate and streamline the current array of infrastructure resilience efforts, departments and agencies leading the effort will need support, pressure, and focus from the White House. But, rather than continuing to issue new directives to agencies, the White

House might endow a single group, like the Federal Senior Leadership Council (FSLC), with the stature and authority to pursue a unified interagency approach to infrastructure resilience.

- Recent efforts to consolidate differing agency initiatives, like the Federal Resource Guide for Infrastructure Planning and Design, indicate that the White House may be aware of the redundancy and confusion created by disparate federal policies and programs in the arena. However, a more holistic focus is necessary to continue to detangle the patchwork system and move toward a simplified, unified approach to infrastructure resilience to the risks posed by climate change.

## **A. CASE 1: The Interagency Climate Change Task Force**

### **Overview**

As discussed above, in 2009, Executive Order 13514, “Federal Leadership in Environmental and Energy Performance,” directed the Interagency Climate Task Force to recommend ways that federal policies and programs could better prepare the Nation for the impacts of climate change. This effort was one of the first concerted interagency attempts to focus on and develop a coordinated policy around climate change impacts.

Analysis of this effort reveals the following insights, discussed in detail below:

- The effort was largely a policy development exercise, focused on convening agency representatives for dialogue.
- While the Task Force recommended cross-agency integration and collaboration to address the impacts of climate change to infrastructure, it provided minimal tactical guidance to support agencies in implementing coordinated approaches.
- In the absence of tactical guidance, agencies defaulted to siloed implementation approaches, using the Task Force as an outlet primarily to catalogue individual agency efforts.

### **1. The 2010 Progress Report of the Interagency Climate Change Adaptation Task Force: Recommended Actions in Support of a National Climate Change Adaptation Strategy**

In 2010, the Task Force released an interagency report in response to the directive of the Executive Order. The Task Force articulated a strategic vision to guide its work, namely, “a resilient, healthy, and prosperous Nation in the face of a changing climate.”<sup>193</sup> The goal of the report was to recommend how federal department and agency policies and

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<sup>193</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, PROGRESS REPORT OF THE INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE: RECOMMENDED ACTIONS IN SUPPORT OF A NATIONAL CLIMATE CHANGE ADAPTATION STRATEGY 4 (2010), *available at* <https://www.whitehouse.gov/sites/default/files/microsites/ceq/Interagency-Climate-Change-Adaptation-Progress-Report.pdf>.

practices could be made compatible with and supportive of a comprehensive national climate change adaptation strategy. Both the strategic vision and the goal encompassed adaptation strategies for critical infrastructure as a part of ensuring resilience in the face of a changing climate. To address the directive of the President’s Executive Order, the 2010 Report laid out eight Guiding Principles for Adaptation, several of which were particularly relevant to infrastructure, including:

- **Prioritize the Most Vulnerable:** Adaptation plans should prioritize helping people, places and infrastructure that are most vulnerable to climate impacts and be designed and implemented with meaningful involvement from all parts of society . . .
- **Build Strong Partnerships:** Adaptation requires coordination across multiple sectors and scales and should build on the existing efforts and knowledge of a wide range of public and private stakeholders.
- **Apply Risk-Management Methods and Tools:** Adaptation planning should incorporate risk management methods and tools to help identify, assess, and prioritize options to reduce vulnerability to potential environmental, social, and economic implications of climate change.<sup>194</sup>

The Task Force also developed a set of Policy Goals and Recommended Actions for the federal government to advance national climate change adaptation. The goals and recommended actions with the closest nexus to the federal government’s coordinating role in the infrastructure community included:

- **Improve Integration of Science into Decision-Making:** See Section VI below for a discussion of interagency challenges in providing easy access to relevant data and mapping tools.
- **Address Key Cross-Cutting Issues:** Because the impacts of climate change create challenges that cut across the jurisdictions and missions of individual federal agencies, the Task Force recommends focusing on a set of cross-cutting issues, including building resilience to climate change in communities.
- **Coordinate Capabilities of the Federal Government to Support Adaptation:** Because of the range of data, services, and assessments offered by the federal government, the Task Force recommends enhanced coordination to better support stakeholders. The Task Force specifically recommends, among other things:
  - Building and maintaining strong partnerships to increase responsiveness of Federal Government activities to support local, state, and Tribal needs.<sup>195</sup>

### **Analysis of the 2010 Report**

More detailed descriptions of the recommendations above revealed that the infrastructure-related aspects of the Task Force’s recommendations were generally structured around the idea of building community resilience through two primary, though interrelated mechanisms: (1) ensuring that federal programs incorporate infrastructure

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<sup>194</sup> *Id.* at 10.

<sup>195</sup> *Id.* at 11-12.

resilience (e.g., through grant guidance, program requirements, etc.) in a coordinated manner; and (2) ensuring that effective federal partnerships with state, local, tribal, territorial, and private sector actors support locally based efforts.

Because this preliminary effort was largely focused on making recommendations, the initial 2010 report was primarily a policy document, rather than a detailed or tactical strategy for how agencies could and should implement the goals and recommended actions the report described. For example, as a part of “Building resilience to climate change in communities,” the Task Force recommended agencies jointly integrate adaptation considerations into those federal programs that affect communities. While the Task Force described some basic possibilities for integration, minimal tactical implementation guidance was provided, leaving agencies to devise their own strategies for making recommendations a reality. Specifically, the report stated:

The Federal agencies should coordinate planning processes and programs that determine Federal investments in housing, transportation, environmental protection, and hazard mitigation in metropolitan areas. They should also integrate adaptation measures into these processes and programs. To facilitate interagency cooperation on community adaptation, grant programs could be jointly issued or reviewed by multiple agencies. Coordination could be supported through an interagency Memorandum of Understanding or by designating an entity to oversee coordination.<sup>196</sup>

Additionally, the report revealed what could be seen as conflicting guidance. As a component of “Building resilience to climate change in communities,” the report recommended agencies work together to ensure that federal regulations, policies, and guidance demonstrate leadership on community adaptation. The Task Force recommended several potential agency actions, such as expanding the tools, services, and training that the National Oceanic and Atmospheric Administration provided to coastal communities and updating the Federal Emergency Management Agency flood insurance maps to reflect climate change projections. However, only one of six suggested agency actions was an interagency initiative; the rest were agency specific.<sup>197</sup> Thus, while the Task Force (later in the report) recommended increased coordination of such services, the report itself suggested that agencies undertake update efforts independently. This conflicting guidance highlights the struggle the federal government faces in moving from an agency-based approach to a true joint effort. While coordination was touted, the default still seemed to be reliance on agency-by-agency initiatives.

## **2. The 2011 Progress Report of the Interagency Climate Change Adaptation Task Force: Federal Actions for a Climate Resilient Nation**

In 2011, the Task Force released a new report, which outlined progress made by agencies in response to the goals and recommendations promulgated in the 2010 report. As a

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<sup>196</sup> *Id.* at 40.

<sup>197</sup> *Id.*

general matter, the 2011 report mapped agency efforts against the policy recommendations that had been discussed in the 2010 report. It provided progress updates on those areas recommended for federal action in 2010, such as building resilience into communities and providing climate information and tools. For example, in terms of integrating adaptation into federal planning and activities, the report noted that agencies were in the process of adopting climate change adaptation plans, which would address climate change impacts on agency operations and missions. The report stated:

Each adaptation plan will reflect the agency's core mission. For example, agencies with emergency management and health missions will likely focus on planning that reduces climate change risks to communities; those with infrastructure responsibilities will emphasize planning that enhances resilience and minimizes disruption; and agencies that support particular sectors (e.g. agriculture, energy) will focus on climate risks to production and security. The plans will help agencies integrate climate considerations into their existing planning and risk management processes.<sup>198</sup>

### **Analysis of the 2011 Report**

The 2011 Report explained how interagency collaboration had fostered the adaptation planning process by noting, "Federal agencies are at different stages of adaptation planning. Those with more experience are sharing lessons learned with their counterparts in other agencies."<sup>199</sup> This information sharing is certainly laudable. However, as the above excerpt demonstrates, agency adaptation plans were focused on each agency's individual core mission, rather than addressing mission overlap and coordination among agencies.

The report also listed a number of implemented efforts across various agencies supporting community resilience in the infrastructure arena, such as EPA's Water/Wastewater Agency Response Network (WARN), which sought to help water utility personnel manage emergencies that affect water systems.<sup>200</sup> The listed efforts demonstrate that agencies made real progress in incorporating resilience principles into policies and programs. However, the majority of initiatives cited were agency-specific, involving minimal cross-agency coordination, despite clear areas of potential overlap in mission space. For example, the report discussed the Department of Interior's (DOI) WaterSmart program, which sought to provide support to help states deal with "rapid population growth, climate change, aging infrastructure, and land use changes."<sup>201</sup> This program worked to fund water conservation and energy efficiency projects. The report then went on to reference EPA's WaterSense program, which "provides tools to decrease indoor and outdoor residential water use through more efficient products and

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<sup>198</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION: PROGRESS REPORT OF THE INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE 6 (2011), *available at*

[https://www.whitehouse.gov/sites/default/files/microsites/ceq/2011\\_adaptation\\_progress\\_report.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_adaptation_progress_report.pdf).

<sup>199</sup> *Id.* at 6.

<sup>200</sup> *Id.* at 9.

<sup>201</sup> *Id.* at 18.

practices.”<sup>202</sup> The overlap between these initiatives is manifest, yet the report contained no mention of attempted coordination.

Feedback on the overall effectiveness of the effort described the task force as having “largely been confined to convening representatives of relevant agencies and programs for dialogue, without mechanisms for making or enforcing important decisions and priorities.”<sup>203</sup> Yet, others noted that agency adaptation plans and other planning efforts represented real progress in agency implementation of resilience principles.<sup>204</sup>

As mentioned above, the Task Force primarily served as a policy development initiative. As such, Task Force meetings assisted agencies in coalescing around guiding principles (laid out in the 2010 report) for agency adaptation to climate change. However, tactical guidance for implementing recommended policies was lacking. The 2011 report took pains to map the agency initiatives into the policy recommendations made in 2010; however, the report seemed primarily to be a cataloging exercise of agency-specific efforts. While agencies progressed in developing and improving internal initiatives to address climate impacts to infrastructure, the report evinced minimal meaningful agency coordination across mission spaces. The catalog of agency initiatives demonstrates that in the absence of a clear implementation guidance or structure for cross-agency coordination, agencies defaulted to a siloed approach.

## **B. CASE 2: Council on Climate Preparedness and Resilience: Infrastructure Resilience Working Group**

### **Overview**

In 2013, Executive Order 13653, “Preparing the United States for the Impacts of Climate Change,” ended the term of the Interagency Climate Change Adaptation Task Force. The Executive Order replaced the Task Force with the Council on Climate Preparedness and Resilience, one component of which is the Infrastructure Resilience working group. The Department of Homeland Security (Office of Infrastructure Protection) and the Department of Energy chair the working group. No additional funding is provided to the agencies for this effort.

While it is too early to tell precisely how this effort will unfold, preliminary analysis reveals the following insights, discussed in detail below:

- Like its predecessor, the Council and working group emphasize interagency collaboration.
- Although the effort is in its infancy, the current emphasis appears to be on sharing information, rather than seeking to reduce the proliferation of agency-based efforts.

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<sup>202</sup> *Id.* at 18-19.

<sup>203</sup> U.S. GOV’T ACCOUNTABILITY OFFICE. GAO-13-242, FUTURE FEDERAL ADAPTATION EFFORTS COULD BETTER SUPPORT LOCAL INFRASTRUCTURE DECISION MAKERS 68 (2013), *available at* <http://www.gao.gov/products/GAO-13-242>.

<sup>204</sup> *Id.*

- Opportunities exist for the Council and working group to deploy a truly collaborative effort by moving beyond dialogue and focusing on implementation early in the process.

### 1. Analysis on the Working Group Approach

As the new incarnation of the Task Force, the Council generally and Infrastructure Resilience Working Group specifically have the opportunity to learn from the successes and challenges of their predecessor. The purpose of the working group is to develop, recommend, and coordinate interagency efforts on climate preparedness and resilience for the Nation’s infrastructure and to track implementation of interagency actions.<sup>205</sup> The group intends to focus on innovative solutions to addressing the infrastructure impacts of climate change.<sup>206</sup>

The Infrastructure Resilience Working Group aims to conduct a broad, high-level assessment across critical infrastructure sectors and pursue a “deep dive” on the energy sector. The assessment and deep dive are oriented toward characterizing and prioritizing infrastructure vulnerabilities and interdependencies, identifying current resilience activities and barriers to success, determining research and policy opportunities for enhancing resilience, and articulating metrics for success.<sup>207</sup>

The group also aims to “forge new interagency partnerships where appropriate.” Neither the Council nor the Working Group, however, articulated a specific mechanism for addressing jurisdictional overlaps. In its Climate Change Adaptation Plan, the Department of Energy (DOE) states that, through its participation in the Council on Climate Preparedness and Resilience and other interagency working groups, it will share “best practices” with other federal departments and agencies.

DOE’s statement reveals an important element of participating agencies’ current conception of the Council—namely, that the Council is a means through which an agency can share information about its best practices and initiatives. Doubtless, this exchange of expertise is crucial if agencies are to understand the efforts of their peers. However, this conception runs the risk of having the Council become what its predecessor was—primarily an opportunity for dialogue, rather than a means to develop structures and mechanisms through which lasting joint efforts might be undertaken or coordinated. The Council and the Working Group should take the opportunity to gear their efforts toward providing real implementation guidance and structure, so the agencies avoid defaulting to a siloed approach.

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<sup>205</sup> *Extreme Weather Events: The Cost of Not Being Prepared: Hearing Before the S. Comm. on Homeland Sec. and Governmental Affairs*, 113th Cong. 5 (2014) [hereinafter *Cost*] (joint statement of David Heyman, Assistant Secretary, Office of Policy, U.S. Dep’t of Homeland Sec. and Caitlin Durkovich, Assistant Secretary, Office of Infrastructure Protection, U.S. Dep’t of Homeland Sec.).

<sup>206</sup> U.S. DEP’T OF ENERGY, DOE CLIMATE CHANGE ADAPTATION PLAN 17 (2014), available at [http://energy.gov/sites/prod/files/2014/10/f18/doe\\_ccap\\_2014.pdf](http://energy.gov/sites/prod/files/2014/10/f18/doe_ccap_2014.pdf).

<sup>207</sup> *Id.*

### C. CASE 3: The Hurricane Sandy Rebuilding Task Force's Infrastructure Resilience Guidelines

#### Overview

On October 29, 2012, Hurricane Sandy made landfall on the east coast of the United States. The storm took a path through one of the country's most densely populated areas, wreaking extensive property damage, sweeping economic consequences, and significant loss of life. The storm's impacts were exacerbated by a nor'easter, which struck the area nine days following Sandy's landfall, undermining initial recovery efforts.<sup>208</sup>

The extent of the damage caused by Hurricane Sandy presented immense rebuilding challenges for the region almost immediately following the storm. Notably, one major challenge was the imperative of quickly rebuilding the region's infrastructure and economic foundation, while ensuring that rebuilt structures and systems were more resilient to current and future risks, particularly from climate change impacts. As such, in December 2012, President Obama signed an Executive Order establishing the Hurricane Sandy Rebuilding Task Force to lead the long-term rebuilding effort in the region.<sup>209</sup>

In an unusual move, the President did not designate a White House office or offices as the lead for the Task Force. Instead, he designated the Secretary of Housing and Urban Development, Shaun Donovan, as the Task Force chair. The President charged the Task Force with working across the Administration, and closely with the affected states and local jurisdictions, to identify and work to remove obstacles to resilient rebuilding in a manner that addressed current and future risks and promoted the long-term sustainability of communities and ecosystems in the affected region. The President directed the Task Force to deliver a rebuilding strategy within six months of the Executive Order.<sup>210</sup>

In January 2013, Congress passed a supplemental appropriations act, which provided approximately \$50 billion to support recovery and rebuilding in the Sandy-affected region. In August 2013, the Task Force released the Hurricane Sandy Rebuilding Strategy, which established a set of guidelines for investing the appropriated funds to ensure, among other things, that the region was rebuilt with better resiliency to future risks, including climate change.<sup>211</sup>

The Task Force was charged with two primary infrastructure-related goals: (1) ensuring that federal actions, policies, and resources work collectively to foster swift and effective Sandy recovery; and (2) encouraging investment in infrastructure assets and systems so as to better prepare the region to sustain and recover from future events.<sup>212</sup> The Task

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<sup>208</sup> Exec. Order No. 13632; 3 CRF 13632 (2012).

<sup>209</sup> *Id.*

<sup>210</sup> *Id.*

<sup>211</sup> HURRICANE SANDY REBUILDING TASK FORCE, HURRICANE SANDY REBUILDING STRATEGY 14 (2013) [hereinafter SANDY 2013], available at

<http://portal.hud.gov/hudportal/documents/huddoc?id=hsrebuildingstrategy.pdf>.

<sup>212</sup> *Id.* at 49.

Force recommended initiatives concerning the full spectrum of infrastructure sectors and sector-specific areas.

This discussion focuses on one facet of the Task Force’s infrastructure-related work: development of Infrastructure Resilience Guidelines. Analysis of the Guidelines reveals the following insights, discussed in detail below:

- Focused on the disaster at hand, the Task Force developed a single, central set of Guidelines that were used by all agencies in distributing Sandy recovery funds. This represents a major accomplishment.
- Each federal agency, with its distinct mission, focused on different parts of the Guidelines, resulting in some confusion among funding recipients.
- Confusion regarding disparate agency treatment of the Guidelines was exacerbated by other overlapping sets of guidance, executive orders, frameworks, and plans related to resilience promulgated by the executive branch over the last ten years.
- Opportunities exist following this effort to integrate the Guidelines with other existing federal efforts into a streamlined, comprehensive set of resilience strategies for application to disaster and non-disaster scenarios.

### **1. The Infrastructure Resilience Guidelines**

In discussing the challenge of resilient rebuilding, the Task Force report confirmed the conclusion noted above in connection with the Interagency Climate Change Task Force Case #1)—namely, that federal agencies were not coordinated and had not adopted consistent building resilience guidelines:

Many of the agencies involved in the unified Sandy recovery effort have done extensive work studying the effects of climate change on structures, administered pilot programs to analyze adaptation efforts, and revised building practices to incorporate modern standards; however, early meetings of the Task Force revealed that *Federal agencies lacked a consistent approach to building resilience.*<sup>213</sup>

The Hurricane Sandy Task Force determined that this lack of consistency posed a significant obstacle to resilient rebuilding and elected to develop a central standard to guide Sandy rebuilding efforts. As such, the Task Force set up an interagency working group, which developed the Infrastructure Resilience Guidelines. The Task Force noted, “To the extent feasible and allowable by law and regulation, these guidelines will apply to all infrastructure construction, including projects performed by Federal agencies and their contractors, as well as by State and local entities utilizing Federal funding.”<sup>214</sup>

The Guidelines aimed to (1) ensure a consistent federal approach to building resilience; and (2) align investment criteria with national policy goals to ensure that decision-making

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<sup>213</sup> *Id.* (emphasis added).

<sup>214</sup> *Id.*

better protects communities through wise investment of scarce public resources.<sup>215</sup> The seven guidelines articulated were as follows:

1. Comprehensive analysis: use future-looking, science-based analysis to assess risk across the full range of impacts.
2. Transparent and inclusive decision processes: strengthen relationships with Federal, State, local, and private sector partners.
3. Regional resilience: promote a regional resilience approach to minimize cascading impacts from infrastructure dependencies and interdependencies.
4. Long-term efficacy and fiscal sustainability: help ensure plans are in place to maintain resilient investments over the full life of an asset.
5. Environmentally sustainable and innovative solutions: consider ways to promote innovative solutions, natural infrastructure, and environmentally sustainable options.
6. Targeted financial incentives: reward effective, innovative and creative solutions through investment.
7. Adherence to resilience performance standards: support development of resilience performance standards.<sup>216</sup>

The Guidelines encompassed the idea that certain considerations—such as incorporating evolving climate patterns, making risk-based decisions, and evaluating approaches throughout a project lifecycle—would encourage more resilient investments.<sup>217</sup>

In addition to recommending the Guidelines be applied to all Sandy recovery efforts, the Task Force also recommended the Guidelines be applied in a whole-of-government manner nationally, and beyond disaster recovery.<sup>218</sup> To implement this goal, the Department of Homeland Security’s National Protection and Programs Directorate, with support from White House National Security Staff, initiated an interagency process to assess the value and feasibility of expanding the Guidelines’ use.<sup>219</sup> This effort was led by an independent evaluation of the Guidelines’ implementation by the RAND Corporation.<sup>220</sup>

## 2. Analysis of the Infrastructure Resilience Guidelines

RAND’s analysis covered the federal agencies’ implementation of the Guidelines to post-Sandy recovery efforts and the potential applicability of the Guidelines to national infrastructure investments in non-disaster situations. In terms of implementation of the

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<sup>215</sup> MELISSA L. FINUCANE, ET AL., RAND CORP. THE HURRICANE SANDY REBUILDING TASK FORCE’S INFRASTRUCTURE RESILIENCE GUIDELINES, AN INITIAL ASSESSMENT OF IMPLEMENTATION BY FEDERAL AGENCIES xi (2014) [hereinafter RAND].

<sup>216</sup> HURRICANE SANDY REBUILDING TASK FORCE, HURRICANE SANDY REBUILDING STRATEGY: PROGRESS UPDATE 20 (2014) [hereinafter SANDY 2014] *available at* <http://portal.hud.gov/hudportal/documents/huddoc?id=sandy-rebuilding-0614.pdf>.

<sup>217</sup> *Id.* at 21.

<sup>218</sup> SANDY 2013, *supra* note 211 at 53.

<sup>219</sup> SANDY 2014, *supra* note 216 at 23.

<sup>220</sup> *Id.*

Guidelines to Sandy recovery, the report noted some key findings.<sup>221</sup> In particular, the report confirmed that the Guidelines were generally incorporated into agency Requests for Proposal (RFPs) and *Federal Register* notices.<sup>222</sup> Additionally, most federal agencies relied on existing programs to distribute funds. Although the programs were modified in some respects to accommodate the Guidelines, each program required qualitatively different approaches to implement the Guidelines.<sup>223</sup>

Those agencies already familiar with resilience had an easier time incorporating the Guidelines than those that had not previously addressed resilience issues. The RAND report noted that many federal initiatives had encouraged adoption of an integrated, interagency approach to resilience principles in the years leading up to and following Sandy, including:

- Executive Order 13514, Federal Leadership in Environmental, Energy and Economic Performance (2009) (discussed above)
- Presidential Policy Directive 8: National Preparedness (2011)
- Executive Order 13653, Preparing the United States for the Impacts of Climate Change (2013) (discussed above)
- President Obama's Climate Action Plan (2013)
- Presidential Policy Directive 21: Critical Infrastructure Security and Resilience (2013)
- Department of Homeland Security's National Infrastructure Protection Plan 2013: Partnering for Critical Infrastructure Security and Resilience (2013) (discussed below)<sup>224</sup>

The federal focus on infrastructure resilience created by these initiatives facilitated implementation of the Guidelines for many agencies.<sup>225</sup> Notably, the Guidelines were reported to have sharpened the focus for many agencies. However, in some ways, they suffered from their broad applicability across all departments and agencies involved in Sandy rebuilding. The Guidelines were devised to be flexible to different agency mission spaces. Some agencies struggled with their vagueness, hoping for more concrete guidance for implementation and success measurement.<sup>226</sup>

The consistent resilience messaging provided by the Guidelines represented a significant step forward. However, the report noted that agencies and their stakeholders hoped for a reduction in complexity and redundancy in the federal infrastructure resilience arena. Each federal agency, with its distinct mission, focused on different parts of the Guidelines in distributing funding to the Sandy-affected region. The report stated:

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<sup>221</sup> Notably, the Guidelines were released after some initial Sandy supplemental funding had been distributed and some previously initiated projects had to be reviewed and revised in light of the principles. RAND, *supra* note 215, at 13.

<sup>222</sup> *Id.* at 19.

<sup>223</sup> *Id.* at 13.

<sup>224</sup> *Id.* at xi.

<sup>225</sup> *Id.* at 25.

<sup>226</sup> *Id.* at 27.

For grantees, each pot of federal funding . . . comes with a different set of criteria that reflect[sic] similar but distinct guidance. Some interviewees noted that attending to multiple sets of guidance has shifted resources toward coordinating among the various requirements in the allocation and planning processes, rather than toward the infrastructure itself.<sup>227</sup>

This issue is prototypical for complex interagency initiatives. Nonetheless, the report revealed that agencies were eager to apply the guidelines to non-disaster situations, believing that such applications would heighten the focus on resilience and help it become a “standard operating procedure for federal agencies.”<sup>228</sup> To address the complexity and redundancy issues in initial implementation, the RAND report recommended streamlining resilience requirements articulated in overlapping sets of guidance, executive orders, frameworks, and plans related to resilience.<sup>229</sup> The report made other recommendations for future implementation of the Guidelines, including complementing the Guidelines with a streamlined, comprehensive set of strategies for achieving resilience.<sup>230</sup>

The Rebuilding Task Force was established to ensure that the Sandy rebuilding effort benefitted from joint focus across federal departments and agencies.<sup>231</sup> The Infrastructure Resilience Guidelines were developed to present the federal government’s shared understanding of how Sandy recovery funding should be spent. As the RAND report revealed, federal departments and agencies have been inundated with White House guidance stressing the importance of incorporating resilience into infrastructure-related mission areas. However, each agency essentially went its own way with these directives.

Focused by the disaster at hand, the Task Force developed a central set of resilience Guidelines. This single set of guidance represented a major improvement. While all agencies implemented the Guidelines for post-Sandy recovery, implementation varied across the agencies, resulting in confusion and additional work for federal stakeholders. Overall, the Guidelines represented a worthy pursuit that could be applied more broadly. However, this would require the streamlining of competing and conflicting guidance related to infrastructure resilience. This work could be undertaken by an existing cross-agency coordinating structure, articulated in the National Infrastructure Protection Plan. The discussion below highlights challenges associated with the approach, but also opportunities for addressing such challenges.

#### **D. CASE 4: National Infrastructure Protection Plan**

##### **Overview**

The Homeland Security Act of 2002, which established the Department of Homeland Security (DHS), was the first document to identify DHS’s responsibilities related to

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<sup>227</sup> *Id.* at 30.

<sup>228</sup> *Id.* at 36.

<sup>229</sup> *Id.* at 41.

<sup>230</sup> *Id.* at 42.

<sup>231</sup> SANDY 2013, *supra* note 211, at 13.

critical infrastructure security and resilience.<sup>232</sup> The Act directed DHS to develop a comprehensive plan for ensuring the security of the Nation’s critical infrastructure. In response to this directive, DHS released the first National Infrastructure Protection Plan (NIPP) in 2006. The Department updated the plan in 2009.<sup>233</sup> In 2013, President Obama issued Presidential Policy Directive 21 (PPD-21), Critical Infrastructure Security and Resilience, which directed DHS to update the NIPP once again. PPD-21 directed DHS to update the NIPP in coordination with Sector Specific Agencies (defined below); other relevant Federal departments and agencies; state, local, tribal, and territorial entities; and critical infrastructure owners and operators.<sup>234</sup>

Analysis of the NIPP reveals the following insights, discussed in detail below:

- The NIPP and its Supplemental Tools significantly overlap with other federal materials, serving as further redundant and confusing input from the federal government for infrastructure stakeholders.
- While the NIPP provides an ongoing interagency coordinating structure, the structure’s current makeup seems to suffer from a lack of necessary political stature to effectively carry out its broad and sweeping goals.
- Opportunities exist for coordinating bodies laid out in the NIPP, like the Federal Senior Leadership Council, to lead an effort to streamline cross-agency infrastructure resilience initiatives. Strong White House backing is likely necessary to capitalize on this opportunity.

### **1. The National Infrastructure Protection Plan 2013: Partnering for Critical Infrastructure Security and Resilience**

In December 2013, DHS released the latest update to the NIPP, which is intended to guide the national effort to manage risk to the Nation’s critical infrastructure, in conjunction with national preparedness policy.<sup>235</sup> The NIPP 2013 was developed through a process that included private sector entities, State and local governments, Federal departments and agencies, non-governmental organizations, and academia.<sup>236</sup>

The NIPP envisions “[a] Nation in which physical and cyber critical infrastructure remain secure and resilient, with vulnerabilities reduced, consequences minimized, threats identified and disrupted, and response and recovery hastened.”<sup>237</sup> According to the Department, the NIPP provides the structure for integrating the critical infrastructure security and resilience initiatives into a coordinated effort across all stakeholders

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<sup>232</sup> U.S. DEP’T OF HOMELAND SEC., NIPP 2013: PARTNERING FOR CRITICAL INFRASTRUCTURE SECURITY AND RESILIENCE 8 (2013) [hereinafter NIPP], *available at* [http://www.dhs.gov/sites/default/files/publications/NIPP%202013\\_Partnering%20for%20Critical%20Infrastructure%20Security%20and%20Resilience\\_508\\_0.pdf](http://www.dhs.gov/sites/default/files/publications/NIPP%202013_Partnering%20for%20Critical%20Infrastructure%20Security%20and%20Resilience_508_0.pdf).

<sup>233</sup> *Id.* at 9.

<sup>234</sup> Presidential Directive on Critical Infrastructure Security and Resilience; DCPD-201300092 (2013).

<sup>235</sup> NIPP, *supra* note 232, at 1.

<sup>236</sup> *Id.* at i.

<sup>237</sup> *Id.* at 5.

(including federal departments and agencies).<sup>238</sup> The NIPP states:

The heart of the National Plan is the Call to Action, which guides the collaborative efforts of the critical infrastructure community to advance security and resilience under three broad activity categories: building upon partnership efforts; innovating in managing risk; and focusing on outcomes. The Call to Action provides strategic direction for the national effort in the coming years through coordinated and flexible implementation by Federal departments and agencies—in collaboration with SLTT, regional, and private sector partners, as appropriate.<sup>239</sup>

As such, the NIPP is intended to provide a central policy to guide efforts related to infrastructure security and resilience across federal departments and agencies. To implement this policy, the NIPP establishes a coordinating structure. The NIPP organizes critical infrastructure into 16 sectors and designates a federal department or agency as the lead for each sector. These lead agencies are referred to as sector-specific agencies.<sup>240</sup> The figure below, excerpted from the NIPP, depicts the partnership coordinating structure.<sup>241</sup>

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<sup>238</sup> *Cost*, *supra* note 205, at 3.

<sup>239</sup> NIPP, *supra* note 232, at 2.

<sup>240</sup> *Id.* at 10.

<sup>241</sup> *Id.* at 11.

		Critical Infrastructure Partnership Advisory Council		
Critical Infrastructure Sector	Sector Specific Agency	Sector Coordinating Councils (SCCs)	Government Coordinating Councils (GCCs)	Regional Consortia
Chemical	Department of Homeland Security	✓	✓	
Commercial Facilities <sup>i</sup>		✓	✓	
Communications <sup>i</sup>		✓	✓	
Critical Manufacturing		✓	✓	
Dams		✓	✓	
Emergency Services <sup>i</sup>		✓	✓	
Information Technology <sup>i</sup>		✓	✓	
Nuclear Reactors, Materials & Waste		✓	✓	
Food & Agriculture	Department of Agriculture, Department of Health and Human Services	✓	✓	
Defense Industrial Base <sup>i</sup>	Department of Defense	✓	✓	
Energy <sup>i</sup>	Department of Energy	✓	✓	
Healthcare & Public Health <sup>i</sup>	Department of Health and Human Services	✓	✓	
Financial Services <sup>i</sup>	Department of the Treasury	Uses separate coordinating entity	✓	
Water & Wastewater Systems <sup>i</sup>	Environmental Protection Agency	✓	✓	
Government Facilities	Department of Homeland Security, General Services Administration	Sector does not have an SCC	✓	
Transportation Systems <sup>i</sup>	Department of Homeland Security, Department of Transportation	Various SCCs are broken down by transportation mode or subsector.	✓	

<sup>i</sup> Indicates that a sector (or a subsector within the sector) has a designated information-sharing organization.

In addition to the sector-specific agencies, the primary federal components of the partnership structure detailed above are as follows:

- Federal Senior Leadership Council (FSLC): includes officials from each sector-specific agency and other Federal departments and agencies with a role in critical infrastructure security and resilience.
- Government Coordinating Councils (GCCs): includes representatives from various levels of government to enable “interagency, intergovernmental, and cross-jurisdictional coordination within and across sectors and partner with SCCs

on public-private efforts.”<sup>242</sup>

The coordinating structure laid out in the NIPP provides the framework for ongoing federal interagency collaboration. In terms of federal infrastructure resilience efforts, the FSLC is the primary coordinating body. The purpose of the FSLC is “to drive enhanced communications and coordination with respect to critical infrastructure security and resilience matters among Federal departments and agencies.”<sup>243</sup> The FSLC is to be composed of agency officials who “have sufficient seniority and authority to make decisions and commit resources on behalf of their Federal department or agency with respect to the broad range of issues brought before the FSLC.”<sup>244</sup> The chairperson of the FSLC is the Assistant Secretary of the Department of Homeland Security Office of Infrastructure Protection. The FSLC is intended to use a consultative process to share information and reach consensus on important infrastructure security and resilience issues.<sup>245</sup>

## 2. Analysis of the NIPP 2013

While the FSLC lists a number of primary activities in its charter (signed in February 2015), streamlining the complex federal infrastructure resilience approach is not among those activities.<sup>246</sup> The NIPP development experience demonstrates that neither FSLC nor any other federal body is effectively serving this purpose. For example, the NIPP includes a “Supplemental Tool: Incorporating Resilience into Critical Infrastructure Projects,” which recommends steps decision makers can take to promote resilience in infrastructure projects.<sup>247</sup> This list is more comprehensive than the Infrastructure Resilience Guidelines that emerged from the Hurricane Sandy process, but it overlaps with the Guidelines in many ways, serving as yet another redundant and confusing set of guidelines regarding infrastructure resilience. If the FSLC were being used to streamline the federal government’s approach to infrastructure resilience, perhaps this duplicative effort might have been avoided.

The development and implementation of the Infrastructure Resilience Guidelines benefitted from the intense political and social focus associated with Hurricane Sandy. Without a similar focal point, the complex and confusing array of federal infrastructure resilience activities may continue to proliferate in the background until the next major disaster strikes. However, FSLC might be used to halt this relapse into multifarious agency approaches, if it were to focus its attention on simplifying the federal approach to infrastructure resilience. While agency-specific tailoring might be necessary, the FSLC

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<sup>242</sup> *Id.* at 12.

<sup>243</sup> U.S. DEP’T OF HOMELAND SEC., CHARTER OF THE FEDERAL SENIOR LEADERSHIP COUNCIL 1 (2015) *available at* <http://www.dhs.gov/sites/default/files/publications/FSLC-Charter-2015-508.pdf>.

<sup>244</sup> *Id.* at 2.

<sup>245</sup> *Id.* at 3.

<sup>246</sup> *Id.* at 1.

<sup>247</sup> U.S. DEP’T OF HOMELAND SEC., SUPPLEMENTAL TOOL: INCORPORATING RESILIENCE INTO CRITICAL INFRASTRUCTURE PROJECTS 2 (2013), *available at* <http://www.dhs.gov/sites/default/files/publications/NIPP-2013-Supplement-Incorporating-Resilience-into-CI-Projects-508.pdf>.

could work to simplify the basic federal landscape and operating environment for infrastructure stakeholders.

One method for achieving a more streamlined approach would be to ensure that all departments and agencies consistently apply the NIPP framework and principles. Unfortunately, it seems that DHS is not currently well positioned to effectively lead this effort. The Government Accountability Office (GAO) released a report in September 2014 regarding interagency coordination of infrastructure vulnerability assessment efforts. It candidly stated that “DHS is not positioned to manage an integrated and coordinated government-wide approach for assessments as called for in the NIPP because it does not have sufficient information about the assessment tools and methods conducted or offered by federal entities external to DHS with [critical infrastructure] responsibilities.”<sup>248</sup>

As a further illustration of this point, the GAO asked DHS officials in 2013 to identify vulnerability assessment approaches and tools used by other sector-specific agencies. The results were revealing:

DHS officials identified 13 assessment tools and methods using a combination of DHS officials’ knowledge and familiarity with the sectors, consultation with some SSA officials, and research. After receiving this information from DHS, [GAO] contacted the SSAs and other federal agencies to discuss the tools and methods DHS identified. Of the 13 tools and methods identified by DHS, 7 were no longer being used or supported. The [sector-specific agencies] also reported offering 2 additional assessment tools that DHS did not identify.<sup>249</sup>

This information failure shows that departments and agencies leading and participating in the NIPP coordinating structure have not truly put in place a fully integrated approach called for in the NIPP. In addition to creating inefficiencies for the departments and agencies, this situation risks stakeholder confusion. Moreover, “this would hinder DHS’s ability to integrate assessments from other [sector-specific agencies] to prioritize actions, as called for by the Homeland Security Act of 2002, and enable national-level, comparative risk assessments, as called for by the NIPP.”<sup>250</sup>

The GAO recommended that DHS explore the viability of using a single assessment methodology to consolidate its assessment tools and methods with those of other agencies.<sup>251</sup> This recommendation is consistent with that made in the RAND report, which called for the streamlining of federal approaches to infrastructure resilience.

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<sup>248</sup> U.S. GOV’T ACCOUNTABILITY OFFICE. GAO-14-506, DHS ACTION NEEDED TO ENHANCE INTEGRATION AND COORDINATION OF VULNERABILITY ASSESSMENT EFFORTS 37 (2014), *available at* <http://www.gao.gov/products/GAO-14-507>.

<sup>249</sup> *Id.* at 40.

<sup>250</sup> *Id.*

<sup>251</sup> *Id.* at 41

With its articulated interagency structure, the FSLC could lead this effort. However, it is unclear whether the FSLC, as currently structured, will be able drive effective change. The DHS Office of Infrastructure Protection leads the FSLC and NIPP implementation efforts, which are purely interagency initiatives without White House oversight. The Office is a third tier DHS subcomponent, which, without White House attention, may not have the political stature to effectively push for toward a comprehensive, cross-agency, streamlined federal approach to infrastructure resilience.

Furthermore, in the past, DHS has not had the same expertise in the climate change arena enjoyed by agencies such as EPA and NOAA. This likely undercuts its credibility among other departments and agencies, and decreases its ability to effectively lead the effort. Finally, while the FSLC charter calls for executive-level agency participants, anecdotal evidence suggests that current participants do not have the necessary decision-making authority within their own agencies to effectively push for change. Thus, while the FSLC may be senior-level interagency coordinating structure on paper, cooperation across peer agencies is unlikely to materialize without any White House involvement or authority.

Given the federal government's recent focus on infrastructure resilience (see list of federal initiatives passed since 2009 in the Infrastructure Resilience Guidelines),<sup>252</sup> this DHS subcomponent likely needs to be endowed—through both organizational changes and funding—with additional muscle if it is to successfully carry out the extensive coordinating mission with which it has been entrusted. Further, if the FSLC is going to effectively push for reform, some White House involvement may be necessary to provide the appropriate degree of urgency for FSLC participants. White House pressure might further encourage agencies to send high-level participants to the FSLC who have the ability to actually foster institutional change.

## **E. CASE 5: Federal Resource Guide for Infrastructure Planning and Design**

### **Overview**

Incorporation of climate change resilience principles into infrastructure is most effective in the early design phases of a project, before an asset is actually built. However, in the face of fiscal constraints and risk aversion, public and private actors pursuing infrastructure projects tend to focus on responding to current needs with conventional mechanisms, rather than investing in innovative, forward-looking approaches. In recognition of this situation, in January 2015, President Obama issued a Presidential Memorandum entitled “Expanding Federal Support for Predevelopment Activities for Nonfederal Domestic Infrastructure Assets” as a complement to his Build America Investment Initiative, which had been launched in July 2014. The Build America effort called on the federal departments and agencies to find new ways to increase non-federal investment in infrastructure. This interagency effort identified the lack of funding for “pre-development” (or pre-construction) phases of infrastructure development as a major

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<sup>252</sup> RAND, *supra* note 215, at xi.

challenge to innovative, resilient projects, including those that effectively reflect the implications of a changing climate.<sup>253</sup>

The January 2015 Presidential Memoranda called on the Departments of Agriculture, Commerce, Labor, Housing and Urban Development, Transportation, Energy, and Homeland Security, and the Environmental Protection Agency to educate grantees and the public on the benefits of predevelopment and on Federal resources available to support pre-development activities.<sup>254</sup> In May 2015, this interagency group released the Federal Resource Guide for Infrastructure Planning and Design (the Guide).

Analysis of this effort reveals the following insights, discussed in detail below:

- While the Guide may help certain stakeholders specifically seeking federal pre-development funding and technical support, it adds to the current array of disparate resilience-focused guidelines and literature.
- The Guide represents a missed opportunity to add clarity to the current patchwork of federal resilience efforts.
- The Guide highlights how the proliferation of Executive orders, directives, and memorandum can exacerbate the problem of redundant federal guidance by encouraging reactive agency approaches to meet executive mandates.

### **1. The Federal Resource Guide for Infrastructure Planning and Design**

The Guide includes principles for predevelopment, case studies highlighting federal partnerships with stakeholders in the infrastructure community, and federal agency resources that support predevelopment through funding and technical assistance.<sup>255</sup>

#### **Analysis of the Guide**

The predevelopment principles articulated in the Guide overlap significantly with the Hurricane Sandy Infrastructure Resilience Guidelines, as well as those articulated in the NIPP Supplemental Tool discussed above. Yet, neither of these resources is mentioned in the Guide. Thus, the Guide essentially adds to the already confusing array of uncoordinated infrastructure resilience guidance provided by the federal government. The Guide may serve as a helpful resource to some stakeholders, given its consolidation of potential sources for federal pre-development funding and technical support.

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<sup>253</sup> BUILD AMERICA INVESTMENT INITIATIVE INTERAGENCY WORKING GROUP, RECOMMENDATIONS OF THE BUILD AMERICA INVESTMENT INITIATIVE INTERAGENCY WORKING GROUP 7 (2015) *available at* <http://www.treasury.gov/resource-center/economic-policy/Documents/Build%20America%20Recommendation%20Report%201-15-15%20FOR%20PUBLICATION.pdf>.

<sup>254</sup> Presidential Memorandum on Expanding Federal Support for Predevelopment Activities for Nonfederal Domestic Infrastructure Assets; DCPD-201500034 (2015).

<sup>255</sup> BUILD AMERICA INVESTMENT INITIATIVE, FEDERAL RESOURCE GUIDE FOR INFRASTRUCTURE PLANNING AND DESIGN 1 (2015) *available at* <http://portal.hud.gov/hudportal/documents/huddoc?id=BAInfraResGuideMay2015.pdf>.

However, it also seems to represent a missed opportunity to add some clarity to the current patchwork of agency-by-agency efforts.

Yet participating departments and agencies do not bear the full blame for this duplicative effort. The Guide is directly responsive to the Presidential Memorandum, which called on the group to provide best practices in the area of infrastructure predevelopment. As the RAND analysis suggested above, an excess of White House mandates on a particular subject can aggravate already superfluous and incongruent agency efforts. These mandates quickly lead to reactive agency attempts to fulfill presidential requirements on paper, without taking broader stock to the larger landscape of an issue. If departments and agencies are going to move beyond reactive, ad hoc, and siloed approaches, rather than ask for new reports, the White House should clearly require departments and agencies to detangle, consolidate, and streamline current guidance and efforts.

## V. RESPONDING TO CLIMATE IMPACTS ON NATURAL RESOURCES MANAGED BY THE FEDERAL GOVERNMENT

### Summary and Conclusions

Climate change already is affecting our nation's natural resources due to warmer temperatures, shifts in participation patterns, rising sea levels, and more frequent and intense extreme weather events. Current and future impacts include droughts and wildfires; loss of snow cover and melting glaciers; flooding, erosion, and inundation of coastal areas; coral bleaching; insect infestations; and changes in habitats and species loss.<sup>256</sup> Many of these impacts will have broad, negative consequences on a wide range of ecosystem services, including access to clean water and healthy forests and rangelands.

The federal government has a major role in addressing climate change-related impacts on our natural resources because it has direct stewardship responsibility over a major proportion of our natural resources. By way of example, the federal government has direct responsibility for managing approximately 650 million acres of land—or about 30 percent of the nation's total acreage—along with offshore marine resources.<sup>257</sup> These responsibilities implicate water supplies, coastal resources, threatened and endangered wildlife, and fishery and marine resources in offshore waters. The federal government is also in a unique position to assist state and private natural resource managers in addressing climate impacts by sharing information about the nature and scope of expected impacts on resources and potential response strategies.

*Because the federal government's wide-ranging resource management responsibilities are divided among a number of agencies, there is a premium on developing effective interagency coordination mechanisms to address climate impacts efficiently and effectively.* The Department of the Interior has the largest role as a federal resource manager, as it is home to a number of land, wildlife and water management agencies, including the U.S. Fish and Wildlife Service (FWS), the National Park Service (NPS), the Bureau of Land Management (BLM), the Bureau of Reclamation, and the Bureau of Ocean Energy Management (BOEM).<sup>258</sup> Other agencies with major natural resource management responsibilities include the Department of Agriculture's Forest Service (USFS) and Natural Resources Conservation Service (NRCS), the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), and the Department of Defense's Army Corps of Engineers.

This section reviews the federal government's recent efforts to develop interagency coordination mechanisms to address climate impacts on natural resources. During the first term of the Obama Administration, a White House-led Climate Change Adaptation

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<sup>256</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-253, CLIMATE CHANGE: VARIOUS ADAPTATION EFFORTS ARE UNDER WAY AT KEY NATURAL RESOURCES MANAGEMENT AGENCIES 7-8 (2013), <http://www.gao.gov/assets/660/654991.pdf>.

<sup>257</sup> *Id.* at 2.

<sup>258</sup> *Bureaus and Offices*, U.S. DEPARTMENT OF THE INTERIOR, <http://www.doi.gov/bureaus/index.cfm> (last visited May 29, 2015).

Task Force was the primary interagency effort utilized to address climate impacts on natural resources. It triggered an offshoot interagency effort focused on addressing freshwater resources. Two other resource-specific interagency efforts also moved forward in the first term, including the White House-led National Oceans Council and the Congressionally-directed National Fish, Wildlife and Plants Climate Adaptation Strategy.

After the President issued his Climate Action Plan in June 2013, the Administration decided to “reboot” its interagency climate adaptation activities in the second term, leading to the issuance of a 2014 report entitled *Priority Agenda: Enhancing the Climate Resilience of America’s Natural Resources*.<sup>259</sup>

Lessons learned from these efforts can inform the Administration’s current framework for addressing natural resource impacts, while also providing more general insights into the ingredients of successful interagency coordination initiatives. Key lessons from the first term’s climate change adaptation efforts include:

- The Climate Change Adaptation Task Force was staffed by the White House’s CEQ. It focused on developing general, high-level policy approaches to adaptation; it did not seriously address implementation issues raised by the multiple federal agencies that were confronting common climate impact issues affected shared natural resources.
  - By failing to engage the leadership of the natural resource agencies in a focused coordination effort, the Task Force stood by as virtually all of the federal natural resource agencies developed their own stove-piped adaptation and resilience programs during the first term of the Obama Administration. This unfortunate situation recently prompted the Advisory Committee on Climate Change and Natural Resource Science to observe that “the rapid development of these [natural resource agency climate change] programs, and the ever-expanding list of potential partners in these endeavors, suggests a pressing need for significant investments in coordination.”<sup>260</sup> See Attachment A.
- The three resource-specific interagency efforts touching on climate change also had limited effectiveness, for a variety of reasons:
  - Two agencies with a major stake in freshwater issues—the Interior Department and EPA—took the lead in developing an interagency approach to addressing climate impacts on freshwater resources. Because

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<sup>259</sup> COUNCIL ON CLIMATE PREPAREDNESS AND RESILIENCE CLIMATE AND NATURAL RESOURCES WORKING GROUP, PRIORITY AGENDA: ENHANCING THE CLIMATE RESILIENCE OF AMERICA’S NATURAL RESOURCES (2014) [hereinafter PRIORITY AGENDA], [https://www.whitehouse.gov/sites/default/files/docs/enhancing\\_climate\\_resilience\\_of\\_americas\\_natural\\_resources.pdf](https://www.whitehouse.gov/sites/default/files/docs/enhancing_climate_resilience_of_americas_natural_resources.pdf).

<sup>260</sup> Advisory Committee on Climate Change and Natural Resource Science, “Report to the Secretary of Interior,” at 16 (Mar. 30, 2015).

the project was being led by two agencies with significant expertise and experience, the freshwater interagency workgroup focused on implementation issues and identified a series of practical deliverables and outcomes. Unfortunately, however, because the workgroup was a subset of the low-wattage White House-led Climate Change Task Force, it did not receive top-level budget or implementation attention from the White House or the Departments.

- The National Ocean Council is a White House-led interagency effort that focuses on climate change and other impacts on oceans. Most observers commented that the NOC effort has been disappointing. Key concerns have been the sprawling and somewhat disorganized nature of the effort, with the relatively weak White House engagement loosely overseeing more than twenty-five agencies and offices that had widely varying levels of commitment to the effort. Without strong leadership in the White House or at top levels of the key agencies, the exercise produced lengthy documents that tended to chronicle what individual agencies were doing and did not tackle difficult interagency overlap and implementation issues.
- The National Fish, Wildlife and Plants Climate Adaptation Strategy, like the freshwater interagency initiative, was largely driven by the key federal wildlife agencies (e.g., the U.S. Fish & Wildlife Service) and by companion state agencies. The White House only had nominal involvement in the initiative. The primary focus of the exercise was policy development and the participants were largely pleased with the results. A coordinating body has been established to help with implementation, but the effort is proceeding at a lower-level, and without significant funding support.
- The Administration's efforts over the past two years to adopt a new framework for better interagency cooperation in the area of climate impacts on natural resources holds more promise for successful integration of cross-agency efforts. The framework builds on existing agency priorities, draws input from a Task Force of state, local, and tribal stakeholders, and is a clear Presidential priority—features that position it well for success. Of special note is the fact that an agency-led Climate and Natural Resources Working Group has been set up under E.O. 13653. By entrusting the agencies to take ownership of the issues, a much more ambitious model for potential interagency action has emerged in the report that the interagency agency working group released in October 2014.

#### **A. Initial Interagency Coordination Efforts**

As noted above, the White House's Climate Change Adaptation Task Force was the primary interagency exercise that sought to address climate impacts on natural resources

during the first term of the Obama Administration. In addition, there were three resource-specific interagency efforts. They are reviewed below.

### 1. The White House's Climate Change Adaptation Task Force

The Interagency Climate Change Adaptation Task Force (Task Force) began meeting in spring 2009 to help develop administration-wide responses to climate impacts on natural resources, infrastructure, and other interests.<sup>261</sup> The Task Force was led by two White House offices, CEQ and OSTP, and one resource agency, NOAA.<sup>262</sup> Members of the Task Force included more than twenty federal agencies and executive branch offices, which were in turn organized into nine workgroups.<sup>263</sup>

On October 5, 2009, President Obama issued Executive Order 13514, entitled “Federal Leadership in Environmental, Energy and Economic Performance,” which called on CEQ to consult with agencies and the Task Force to provide, within one year, “a progress report on agency actions in support of the national adaptation strategy and recommendations for any further such measures as the CEQ Chair may deem necessary.”<sup>264</sup> That charge led to the Task Force’s October 5, 2010 Report, which “outlined a set of guiding principles, strategic priorities, and near-term actions” to address climate impacts and adaptation strategies.<sup>265</sup>

Although the October 2010 Report explicitly involved an interagency effort to help understand and coordinate appropriate responses to climate impacts on a number of affected interests—including natural resources—it focused primarily on identifying broad policy goals and gave relatively little attention on how to efficiently implement such goals across overlapping agency programs. The policy goals identified in the October 2010 Report included:

1. Encourage and streamline adaptation planning across the Federal Government.
2. Improve integration of science into decision-making.
3. Address key cross-cutting issues.
4. Enhance efforts to lead and support international adaptation.
5. Coordinate capabilities of the Federal Government to support adaptation.<sup>266</sup>

Natural resources impacts were addressed primarily in Goal 3 of the October 2010 Report. Under Goal 3, the Report identified several “cross-cutting” issues related to natural resources, including: (1) improve water use efficiency to reduce climate change

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<sup>261</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, PROGRESS REPORT OF THE INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE: RECOMMENDED ACTIONS IN SUPPORT OF A NATIONAL CLIMATE CHANGE ADAPTATION STRATEGY 9 (2010) [hereinafter OCTOBER 5, 2010 REPORT],

<https://www.whitehouse.gov/sites/default/files/microsites/ceq/Interagency-Climate-Change-Adaptation-Progress-Report.pdf>.

<sup>262</sup> *Id.*

<sup>263</sup> *Id.* at B-1 (listing the nine workgroups, along with their agency and executive branch office members).

<sup>264</sup> Exec. Order No. 13,514, *supra* note 1.

<sup>265</sup> OCTOBER 5, 2010 REPORT, *supra* note 261, at 14.

<sup>266</sup> *Id.* at 25.

impacts; (2) develop a national action plan to strengthen climate change adaptation for freshwater resources; (3) develop a strategic action plan focused on strengthening the resilience of coastal, ocean, and Great Lakes communities and ecosystems to climate change; and (4) develop a strategy for reducing the impacts of climate change on the Nation’s fish, wildlife, and plant resources and their habitats.<sup>267</sup> Various actions in Goal 3 also referenced the need to strengthen data and information systems as a key ingredient to effectively respond to climate impacts on natural resources.<sup>268</sup>

One year later, on October 28, 2011, the Task Force issued another report to provide an “update on progress in five key areas at the core of Federal efforts to advance a national climate adaptation strategy and build a climate resilient Nation.”<sup>269</sup> The 2011 Report focused on five areas, which were described as “aligned” with the October 2010 Report’s policy goals:

1. Integrating adaptation into federal government planning and activities.
2. Building resilience to climate change in communities.
3. Improving accessibility and coordination of science for decision-making.
4. Developing strategies to safeguard natural resources in a changing climate.
5. Enhancing efforts to lead and support international adaptation.<sup>270</sup>

The October 28, 2011 Report identified specific actions that agencies were taking to prepare for climate impacts on natural resources, but it again failed to address whether or how resource agencies were developing joint programs to address climate impacts on shared resources. Most of the initiatives referenced as accomplishments in the natural resources arena were agency-specific undertakings that did not appear to cross agency boundaries, such as DOI’s WaterSMART program, USDA’s Environmental Quality Incentives Program, NOAA’s Lake Champlain Sea Grant Program, and EPA’s Climate Ready Estuaries Program.<sup>271</sup>

Under Area 4 of the October 2011 Report, which covered natural resource impacts, the Task Force concluded that the federal government had made “significant progress *in developing strategies* to safeguard natural resources as recommended under the Task Force’s policy goal to address key cross-cutting issues.”<sup>272</sup> It cited progress toward completing three plans – those discussed above from Goal 3 of the October 2010 report—

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<sup>267</sup> *Id.* at 34-44.

<sup>268</sup> *See id.* at 35-42.

<sup>269</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, PROGRESS REPORT OF THE INTERAGENCY CLIMATE ADAPTATION TASK FORCE: FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION 4 (2011) [hereinafter OCTOBER 28, 2011 REPORT], [https://www.whitehouse.gov/sites/default/files/microsites/ceq/2011\\_adaptation\\_progress\\_report.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_adaptation_progress_report.pdf).

<sup>270</sup> *Id.* at 4.

<sup>271</sup> OCTOBER 28, 2011 REPORT, *supra* note 269, at 17-20.

<sup>272</sup> *Id.* at 17 (emphasis added). The three plans are all cited with approval by a 2013 GAO report in support of the conclusion that “federal natural resource agencies have collaborated on national strategies to address climate change adaptation and climate assessments.” GAO-13-253, *supra* note 255, at 64-65. Beyond describing the strategies, however, GAO does not comment on the depth or quality of the collaborations.

and the “regular[] convening” of the groups charged with the development of these strategies to “foster collaboration and to ensure that the plans are complementary.”<sup>273</sup>

Developing strategies to address natural resource impacts is different, of course, from addressing how agencies might coordinate their activities to avoid duplication and jointly address climate impacts on shared resources. Ironically, two of the “cross-cutting” focal areas already were being addressed under preexisting initiatives that were moving forward outside the purview of the Task Force.<sup>274</sup>

The following section reviews the three resource-specific “cross cutting” initiatives that were referenced by the Task Force, and that were the focus of separate attention by relevant agencies. The initiatives have fostered some important interagency collaborations but, for a variety of reasons, they have had limited success in creating and implementing effective and integrated cross-agency programs for shared natural resources.

## **2. National Action Plan: Priorities for Managing Freshwater Resources in a Changing Climate (2011)**

As noted above, the Task Force’s October 5, 2010 Report recommended the development of “a national action plan to strengthen climate change adaptation for freshwater resources.”<sup>275</sup> A Water Resources Workgroup was subsequently established and co-chaired by DOI, CEQ, and EPA.<sup>276</sup> One year later in October 2011, the Workgroup produced a document entitled *The National Action Plan: Priorities for Managing Freshwater Resources in a Changing Climate (Freshwater Action Plan)*. The report set out recommendations intended to achieve the lofty goal that “[g]overnment agencies and citizens collaboratively manage freshwater resources in response to a changing climate in order to ensure adequate water supplies, to safeguard human life, health and property, and to protect water quality and aquatic ecosystems.”<sup>277</sup>

Unlike the Task Force’s report, the *Freshwater Action Plan* was primarily an implementation exercise, rather than a policy-setting exercise. It was driven largely by work undertaken by the two lead agencies (DOI and EPA) and, perhaps reflecting those agencies’ practical focus, it outlined six priority recommendations:

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<sup>273</sup> OCTOBER 28, 2011 REPORT, *supra* note 269, at 17.

<sup>274</sup> In contrast, the third report, which addressed freshwater resources, appears to have resulted directly from one of the 2010 report’s recommendations, which explicitly charged Task Force with developing a strategy to strengthen climate change adaptation for freshwater resources. OCTOBER 5, 2010 REPORT, *supra* note 5, at 36. However, the general scope of that report – freshwater resources – overlaps considerably with the other two strategies already in development. The Task Force’s report includes no discussion of concrete ways for the agencies responsible for these plans to coordinate with each other, and address their overlapping jurisdiction over these shared resources.

<sup>275</sup> OCTOBER 5, 2010 REPORT, *supra* note 261, at 36.

<sup>276</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, NATIONAL ACTION PLAN: PRIORITIES FOR MANAGING FRESHWATER IN A CHANGING CLIMATE 1 (2011) [hereinafter *Freshwater Action Plan*], [https://www.whitehouse.gov/sites/default/files/microsites/ceq/2011\\_national\\_action\\_plan.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_national_action_plan.pdf).

<sup>277</sup> *Id.* at i.

1. Establish a Planning Process to Adapt Water Resources Management to a Changing Climate.
2. Improve Water Resources and Climate Change Information for Decision-Making.
3. Strengthen Assessment of Vulnerability of Water Resources to Climate Change.
4. Expand Water Use Efficiency.
5. Support Integrated Water Resources Management.
6. Support Training and Outreach to Build Response Capability.<sup>278</sup>

Each recommendation spawned specific action steps, and each step was assigned a lead agency or agencies and an implementation status (“now” or “further development”).<sup>279</sup> Each action step was further linked to one of the five goals outlined in the Task Force’s October 2010 report.<sup>280</sup>

The Workgroup’s implementation has been robust, well documented, and dynamic, reflecting its continued progress and its direct engagement with high-level directives that came down after the *Freshwater Action Plan* was first issued. Since 2011, it has released the following reports:

- March 2013: *Highlights of Progress: 2012, Report on the Implementation of the National Action Plan, and 2013 Implementation Plan for the National Action Plan*. For each recommendation, the Workgroup summarized key accomplishments, identified whether progress was “on track,” “delayed” or “complete,” and identified future actions to help full implementation.<sup>281</sup> Of the twenty-four supporting actions, the Workgroup found that one was complete, nineteen were on track, and four were delayed.<sup>282</sup> The *2013 Implementation Plan* then identified specific tasks and target completion dates necessary in order to achieve completion of the twenty-four supporting actions.<sup>283</sup>
- March 2014: *2013 Highlights of Progress and 2014 Implementation Plan for the National Action Plan*.<sup>284</sup> The report concluded that seven actions were complete, and that two had been stopped for feasibility reasons.<sup>285</sup> It also explicitly addressed the release of President Obama’s 2013 Climate Action Plan and Executive Order 13653, noting that the Workgroup would continue its work and

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<sup>278</sup> *Id.* at ii.

<sup>279</sup> *Id.* at 45 (Appendix B: Table of Recommendations and Supporting Actions).

<sup>280</sup> *Id.*

<sup>281</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE WATER RESOURCES WORKGROUP, HIGHLIGHTS OF PROGRESS: 2012, REPORT ON THE IMPLEMENTATION OF THE NATIONAL ACTION PLAN 4 (2013), [https://www.whitehouse.gov/sites/default/files/2012\\_progress\\_report.pdf](https://www.whitehouse.gov/sites/default/files/2012_progress_report.pdf).

<sup>282</sup> *Id.* at 5.

<sup>283</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE CLIMATE CHANGE AND WATER RESOURCES WORKGROUP, 2013 IMPLEMENTATION PLAN FOR THE NATIONAL ACTION PLAN (2013), [http://acwi.gov/climate\\_wkg/nap\\_2013\\_implementation\\_plan\\_final.pdf](http://acwi.gov/climate_wkg/nap_2013_implementation_plan_final.pdf).

<sup>284</sup> INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE WATER RESOURCES WORKGROUP, 2013 HIGHLIGHTS OF PROGRESS AND 2014 IMPLEMENTATION PLAN FOR THE NATIONAL ACTION PLAN (2014) [http://acwi.gov/climate\\_wkg/NAP\\_2014\\_implementation\\_plan&2013\\_highlights\\_final3-24-14a.pdf](http://acwi.gov/climate_wkg/NAP_2014_implementation_plan&2013_highlights_final3-24-14a.pdf).

<sup>285</sup> *Id.* at 2-3.

inform both the Council on Climate Preparedness and Resilience and its subgroup, the Climate and Natural Resources Working Group (CNRWG).<sup>286</sup>

- April 2014: *Next Steps for Managing Freshwater Resources in a Changing Climate*.<sup>287</sup> The report was prepared to provide input to the development of the document specified under section 3 of Executive Order 13653, which eventually became the 2014 *Priority Agenda*. See *discussion below*.
- April 2015: *2014 Highlights of Progress and 2015 Implementation Plan for the National Action Plan*.<sup>288</sup> The report concluded eight actions were complete or substantially implemented, and three were deferred due to difficult budget circumstances.<sup>289</sup> Moreover, in its 2015 work plan, the Workgroup explicitly connects its tasks to CNRWG priorities (outlined in the *Priority Agenda*) and recommendations by the State, Local and Tribal Leaders Task Force.

Overall, the *Freshwater Action Plan* initiative has been a productive and collaborative exercise:

- Agencies involved were enthusiastic about the effort, believed in its importance, and had a major stake in its implementation.
- The Task Force mandate required agencies to sit down at the same table, talk across agency boundaries, and leverage each other's capabilities, leading to a plan that reflected their existing priorities and realistic implementation goals.
- Unfortunately, the *Freshwater Action Plan* initiative was nested within the broader framework of the Task Force, which was not viewed by many as a top Administration priority.
- In addition, budget constraints and sequestration were practical obstacles that limited agencies' ability to effectuate interagency recommendations through new or expanded work.

The Workgroup is currently considering updating the *Freshwater Action Plan*, as many of the goals have been accomplished.

### 3. National Ocean Policy Implementation Plan (2013)

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<sup>286</sup> *Id.* at 1-2.

<sup>287</sup> WATER RESOURCES ADAPTATION TO CLIMATE CHANGE WORKGROUP, NEXT STEPS FOR MANAGING FRESHWATER RESOURCES IN A CHANGING CLIMATE 1-2 (2014), [http://acwi.gov/climate\\_wkg/climate\\_water\\_recommendations\\_report\\_4\\_21\\_14\\_final\\_draft.pdf](http://acwi.gov/climate_wkg/climate_water_recommendations_report_4_21_14_final_draft.pdf).

<sup>288</sup> WATER RESOURCES AND CLIMATE CHANGE ADAPTATION WORKGROUP, 2014 HIGHLIGHTS OF PROGRESS AND 2015 IMPLEMENTATION PLAN FOR THE NATIONAL ACTION PLAN (2015), [http://acwi.gov/climate\\_wkg/nap\\_fy1415-version9\\_hw\\_clean\\_final508c.pdf](http://acwi.gov/climate_wkg/nap_fy1415-version9_hw_clean_final508c.pdf).

<sup>289</sup> *Id.* at 4-5.

On July 19, 2010, President Obama issued Executive Order 13547, entitled “Stewardship of the Ocean, Our Coasts, and the Great Lakes.”<sup>290</sup> The E.O. established the National Ocean Council (NOC), a White House-led effort co-chaired by CEQ and OSTP and including representatives from more than twenty agencies and offices.<sup>291</sup> The goal of the Executive Order was to “establish a national policy to ensure the protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources, enhance the sustainability of ocean and coastal economies, preserve our maritime heritage, support sustainable uses and access, provide for adaptive management to enhance our understanding of and capacity to respond to climate change and ocean acidification, and coordinate with our national security and foreign policy interests.”<sup>292</sup>

Three years later in 2013, the NOC published a *National Ocean Policy Implementation Plan* to “provide clear direction to Federal agencies and increased specificity to partners and stakeholders,” and aimed to translate policy goals into “on-the-ground change.”<sup>293</sup> The Plan set out implementation goals for a broad range of sectors, including “Ocean and Coastal Resilience.” Included within that section are three specific goals: (1) reducing adverse conditions; (2) preparing for change; and (3) recovering and sustaining ocean health.<sup>294</sup> The Appendix to the Plan outlined specific action steps for each of the three goals, with each linked to a specific responsible agency or agencies and a target year of completion (mostly 2013, 2014, 2015, or 2016).<sup>295</sup>

Two years later in March 2015, the NOC released its *Report on the Implementation of the National Ocean Policy*, in which the Council concluded that federal agencies have made “tremendous progress” and that agencies have “either completed or are making significant progress” on most of the actions laid out in the Plan.<sup>296</sup> The Appendix listed the 214 actions set forth in the plan and a percentage completion value.<sup>297</sup> The NOC concluded that one third of actions had been completed and about four percent had not yet started.<sup>298</sup>

Despite the NOC’s self-congratulatory report, most Administration observers interviewed for this report did not consider the National Ocean Council to be among the Administration’s more successful interagency initiatives. Primary concerns identified with the initiative included:

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<sup>290</sup> Stewardship of the Ocean, Our Coasts, and the Great Lakes, Exec. Order 13,547, 75 Fed. Reg. 43,023, 43,023 (July 19, 2010), <http://www.gpo.gov/fdsys/pkg/FR-2010-07-22/pdf/2010-18169.pdf>

<sup>291</sup> *Id.* at 43,024.

<sup>292</sup> *Id.* at 43,024-25.

<sup>293</sup> NATIONAL OCEAN COUNCIL, NATIONAL OCEAN POLICY IMPLEMENTATION PLAN 2-3 (2013), [https://www.whitehouse.gov/sites/default/files/national\\_ocean\\_policy\\_implementation\\_plan.pdf](https://www.whitehouse.gov/sites/default/files/national_ocean_policy_implementation_plan.pdf).

<sup>294</sup> *Id.* at 14-18.

<sup>295</sup> NATIONAL OCEAN COUNCIL, NATIONAL OCEAN POLICY IMPLEMENTATION PLAN APPENDIX (2013), [https://www.whitehouse.gov/sites/default/files/national\\_ocean\\_policy\\_ip\\_appendix.pdf](https://www.whitehouse.gov/sites/default/files/national_ocean_policy_ip_appendix.pdf).

<sup>296</sup> NATIONAL OCEAN COUNCIL, REPORT ON THE IMPLEMENTATION OF THE NATIONAL OCEAN POLICY 1 (2015), [https://www.whitehouse.gov/sites/default/files/docs/nop\\_highlights\\_annual\\_report\\_final\\_-\\_150310.pdf](https://www.whitehouse.gov/sites/default/files/docs/nop_highlights_annual_report_final_-_150310.pdf).

<sup>297</sup> *Id.* at 26.

<sup>298</sup> *Id.*

- The Council involved more than twenty-five agencies and offices, creating a sprawling and over-structured effort in which agencies were not clearly invested. White House leadership was viewed as relatively weak, leading to a lengthy, prescriptive document that largely reflected what individual agencies—to cede authority – pushed to include. In this sense, the Plan primarily constituted a long list of agencies’ existing priorities and activities; there was little focus on how agencies with overlapping jurisdictions would engage in joint implementation efforts.
- Many involved agencies did not view the National Ocean Policy as a clear Presidential priority and were disinclined to prioritize it given budgetary constraints. The 2010 Deepwater Horizon oil spill also diverted attention from the initiative.

Despite these shortcomings, some commentators noted that the National Ocean Council was successful in heightening awareness about the state of the nation’s oceans. Government officials who were hoping that the Council might trigger major institutional commitments to jointly implement ocean policies across jurisdictional lines were generally disappointed; those with more modest goals were not.

#### **4. National Fish, Wildlife and Plants Climate Adaptation Strategy (2013)**

A partnership of federal, state and tribal agencies released the *National Fish, Wildlife and Plants Climate Adaptation Strategy (FWP Strategy)* in 2013.<sup>299</sup> It was produced in response to a 2009 request from Congress that CEQ and DOI develop a national strategy to assist fish, wildlife and plants in becoming more resilient, as part of the 2010 appropriations bill for Interior and related agencies.<sup>300</sup>

Unlike the Task Force and the National Ocean Council, this effort was agency-led. The development of the *FWP Strategy* was co-chaired by USFWS, NOAA, and the New York Division of Fish, Wildlife and Marine Resources.<sup>301</sup> The chairs were assisted by a management team, which included representatives from the Association of Fish and Wildlife Agencies (AFWA) and the Great Lakes Indian Fish and Wildlife Commission.<sup>302</sup>

The purpose of the *FWP Strategy* is to “inspire and enable natural resource administrators, elected officials, and other decision makers to take action to adapt to a changing climate.”<sup>303</sup> The *FWP Strategy* outlined seven broad goals, each of which includes specific actions that should be taken or initiated within five to ten years, along

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<sup>299</sup> NATIONAL FISH, WILDLIFE AND PLANTS CLIMATE ADAPTATION PARTNERSHIP, NATIONAL FISH, WILDLIFE AND PLANTS CLIMATE ADAPTATION STRATEGY (2012) [hereinafter Strategy], <http://www.wildlifeadaptationstrategy.gov/pdf/NFWPCAS-Final.pdf>.

<sup>300</sup> *Id.* at 8; H.R. REP. NO. 111-316, AT 76-77 (2010).

<sup>301</sup> FWP STRATEGY, *supra* note 299, at 8.

<sup>302</sup> *Id.* at 8-9.

<sup>303</sup> *Id.* at ii.

with short-term progress checklists that are intended to offer milestones for achieving each goal.<sup>304</sup> The goals are:

1. Conserve habitat to support healthy fish, wildlife, and plant populations and ecosystem functions in a changing climate.
2. Manage species and habitats to protect ecosystem functions and provide sustainable cultural, subsistence, recreational, and commercial use in a changing climate.
3. Enhance capacity for effective management in a changing climate.
4. Support adaptive management in a changing climate through integrated observation and monitoring and use of decision support tools.
5. Increase knowledge and information on impacts and responses of fish, wildlife, and plants to a changing climate.
6. Increase awareness and motivate action to safeguard fish, wildlife, and plants in a changing climate.
7. Reduce non-climate stressors to help fish, wildlife, plants, and ecosystems adapt to a changing climate.<sup>305</sup>

The *FWP Strategy* was overall more of a policy-setting exercise than an implementation exercise. In developing the *FWP Strategy*, the responsible group considered two primary options: developing a handbook for natural resource project managers in charge of budgets and outcomes on the ground, and developing a document to set higher level policy. The group decided on the latter approach, after realizing that the natural resources field lacked consensus on a set of tangible priorities.

Given its focus, the *FWP Strategy* provided only two implementation goals, discussed briefly on five pages of the more than 100-page report:

1. Federal, state, and tribal governments and conservation partners should incorporate appropriate elements of the Strategy (goals, strategies, and actions) into their plans and actions at national to local levels (e.g., development of implementation plans by federal, state, and tribal governments).
2. An inter-jurisdictional coordinating body with policy maker representation and staff support from federal, state, and tribal governments should be established. This body should meet biannually to monitor performance and evaluate implementation of the Strategy and report its findings to the public.<sup>306</sup>

The second implementation led to the development of the Joint Implementation Working Group (JIWG), which has been charged with promoting implementation of the Strategy and facilitating its use to guide future climate science and adaptation efforts.<sup>307</sup> The

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<sup>304</sup> *Id.* at 54.

<sup>305</sup> *Id.*

<sup>306</sup> *Id.* at 91.

<sup>307</sup> U.S. Fish and Wildlife Service, *Joint Implementation Working Group*, NATIONAL FISH, WILDLIFE AND PLANTS CLIMATE ADAPTATION STRATEGY, <http://www.wildlifeadaptationstrategy.gov/jiwig.php> (last visited May 21, 2015).

JIWG is co-chaired by USFWS, NOAA, the California Department of Fish and Wildlife, and the Great Lakes Indian Fish and Wildlife Commission.<sup>308</sup>

The JIWG published its first report, *Taking Action: A Progress Report*, in 2014.<sup>309</sup> That report highlighted fifty projects to document progress toward the *FWP Strategy's* recommendations. The authors noted, “While many of the activities described here were initiated by proactive agencies and managers before the Strategy was developed, all are consistent with the Strategy and illustrate the innovative and collaborative ways in which agencies and partners can work together to advance the adaptation efforts recommended by the Strategy.”<sup>310</sup> The report thus explicitly recognized that the cited accomplishments cannot necessarily be credited to policies articulated in the *FWP Strategy*.

Overall, while the policy exercise was a useful lower-level effort, it lacked the higher-level investment in implementation needed to maximize success. Key observations about the process include:

- The collaboration among the agencies and with the White House has been excellent. Interior has been an effective leader, and CEQ has functioned effectively as a facilitator rather than a top-down leader. USFWS has taken ownership and responsibility for the work.
- The JIWG has been more loosely defined and less rigorous than the original *Strategy* group. Its subgroups—staffed by AFWA—lack the high level leadership required to keep efforts on track.
- The JIWG’s work parallels a similar effort underway at the National Climate Change and Wildlife Science Center (NCCWSC), a group housed in DOI’s USGS whose mission is to “provide natural resource managers with the tools and information they need to develop and execute management strategies that address the impacts of climate change on fish, wildlife, and their habitats.”<sup>311</sup> These overlapping objectives will need to be addressed in a way that avoids unnecessary redundancy and makes each group’s role clear to stakeholders.

The JIWG Next Steps Subgroup plans to release another report in summer 2015 to describe climate adaptation projects at JIWG member agencies and hopes to “quantify the areas of strong collaboration and cooperation in implementation of the *Strategy* and point to areas of the *Strategy* that are not yet being address[ed].”<sup>312</sup> JIWG also hopes to release, within a couple years, a more robust report targeted at natural resource managers

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<sup>308</sup> *Id.*

<sup>309</sup> NATIONAL FISH, WILDLIFE AND PLANTS CLIMATE ADAPTATION JOINT IMPLEMENTATION WORKING GROUP, NATIONAL FISH, WILDLIFE AND PLANTS CLIMATE ADAPTATION STRATEGY: TAKING ACTION (2014) [hereinafter TAKING ACTION], <http://www.wildlifeadaptationstrategy.gov/pdf/Taking-Action-progress-report-2014.pdf>.

<sup>310</sup> *Id.* at 4.

<sup>311</sup> ADVISORY COMMITTEE ON CLIMATE CHANGE AND NATURAL RESOURCE SCIENCE, *supra* note 260, at 12.

<sup>312</sup> U.S. Fish and Wildlife Service, *Subgroups of JIWG*, NATIONAL FISH, WILDLIFE AND PLANTS CLIMATE ADAPTATION STRATEGY, <http://www.wildlifeadaptationstrategy.gov/subgroups-jiwg.php> (last visited May 21, 2015).

to provide concrete guidance for setting priorities and taking new, independent actions for resilience.

## **B. The White House’s Rebooted Climate Impact Interagency Coordination Effort**

President Obama followed up on the issuance of his “Climate Action Plan” in June 2013 by releasing an aggressive new Executive Order 13653 on November 1, 2013, entitled “Preparing the United States for the Impacts on Climate Change.”<sup>313</sup> This executive order amounted to a “reboot” of the first term’s interagency climate impacts efforts described above.

E.O. 13653 replaced the former Interagency Climate Change Task Force with a new Council on Climate Preparedness and Resilience that is co-chaired by three White House offices—CEQ, OSTP, and the Assistant to the President for Homeland Security and Counterterrorism—and includes representatives from thirty departments, agencies and offices.<sup>314</sup> The Order also established a State, Local and Tribal Leaders Task Force to issue recommendations to the President remove barriers, provide tools, and otherwise provide support to state, local and tribal entities to encourage preparedness and resilience.<sup>315</sup>

Broadly, the Order asks the Council to develop, recommend, coordinate, and track implementation of interagency efforts to address climate preparedness; support regional, State, local and tribal action to achieve the same; and facilitate integrating science in policy and planning, both for government agencies and the private sector.<sup>316</sup> In general, these goals appear significantly more geared toward implementation than the work of the Task Force, which was focused on providing general recommendations and guidance. The language of the Executive Order is strong and outcome-focused.

Second, in the area of natural resources, the Executive Order explicitly called for various federal agencies and departments to work with CEQ and OMB to “complete an inventory and assessment of proposed and completed changes to their land- and water-related policies, programs, and regulations necessary to make the Nation’s watersheds, natural resources, and ecosystems, and the communities and economies that depend on them, more resilient in the face of a changing climate,” and to include in the assessment “a timeline and plan for making changes to policies, programs, and regulations.”<sup>317</sup> It also called on agencies to build on recent interagency climate adaptation strategies such as the

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<sup>313</sup> Preparing the United States for the Impacts on Climate Change, Exec. Order 13,653, 78 Fed. Reg. 66,819, 66,819 (Nov. 6, 2013), <http://www.gpo.gov/fdsys/pkg/FR-2013-11-06/pdf/2013-26785.pdf>.

<sup>314</sup> *Id.* at 66,822. CEQ provides administrative support and other resources, with agencies expected to assist and provide information to the Council as necessary to carry out the Council’s functions, and to bear their own expenses for Council participation. *Id.*

<sup>315</sup> *Id.* at 66,823-24.

<sup>316</sup> *Id.* at 66,823.

<sup>317</sup> *Id.* at 66,820.

resource-specific undertakings discussed above: the *Freshwater Action Plan*, the *FWP Strategy*, and the *National Ocean Policy Implementation Plan*.<sup>318</sup>

The agency-led Climate and Natural Resources Working Group (CNRWG), which includes the Departments of Defense, Interior, and Agriculture, EPA, NOAA, FEMA, and USACE,<sup>319</sup> was formed in response to E.O. 13653. In October 2014, the CNRWG released *Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources*. The *Priority Agenda* identifies four priority strategies to increase the resilience of America's natural resources in the face of climate change.<sup>320</sup> For each strategy, the report documents progress and identifies key action steps moving forward to implement the four strategies. The strategies are:

1. Foster climate-resilient lands and waters.
2. Manage and enhance U.S. carbon sinks.
3. Enhance community preparedness and resilience by utilizing and sustaining natural resources.
4. Modernize Federal programs, investments, and delivery of services to build resilience and enhance sequestration of biological carbon.<sup>321</sup>

The CNRWG is charged with tracking implementation of the *Priority Agenda* in coordination with the *National Ocean Policy*, the *Freshwater Action Plan*, and the *FWP Strategy*.<sup>322</sup> Federal agencies are scheduled to conduct a 12-month appraisal of implementation this year.<sup>323</sup>

Overall, the *Priority Agenda*, and the work of the Council more broadly, appear to be better positioned than previous efforts for successful implementation in upcoming years:

- The *Priority Agenda* builds on existing agency priorities, drawing selectively from the sea of existing plans to address climate impacts on natural resources. It deliberately focuses on recommendations that its architects believe have the most traction, and can be prioritized to get over the “finish line.”
- The involvement of OMB as a key player is helpful from both a leadership and policy perspective: OMB's role in funding resilience efforts has drawn in Cabinet officials that otherwise might not be involved.
- The Council's activities build on some of the agencies' prior interagency activities, including the three resource-specific interagency efforts described above.
- The Council explicitly engaged with a formal Task Force of state, local and tribal partners to understand how the federal government could be most responsive. Moreover, the agencies that would be responsible for implementing reforms were

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<sup>318</sup> *Id.* at 66,820-21.

<sup>319</sup> PRIORITY AGENDA, *supra* note 258, at 2.

<sup>320</sup> *Id.* at 5.

<sup>321</sup> *Id.* at 5-6.

<sup>322</sup> *Id.* at 6.

<sup>323</sup> *Id.*

directly involved in those conversations, laying the groundwork for strong partnerships.

- The effort is widely perceived among agencies as the Administration’s “operative” guidance on climate change, and as a Presidential priority. It also benefits from the inherent urgency of the President’s final 1.5 years in office.

Although observers are optimistic about the *Priority Agenda*’s promise, some of its goals calling for a coordinated, collaborative response from multiple agencies will continue to face challenges. Three of the proposed deliverables are highlighted below:

- a. **Ecosystem Resilience Index**<sup>324</sup>: Under Goal 1, DOI, NOAA, FEMA, USACE, and DOT are to design in 2015 an Ecosystem Resilience Index, “a framework for a decision-support tool that will provide baseline resilience data and measure the progress of restoration, conservation and other resilience-enhancing management approaches.” The Index is intended to be coordinated with other federal projects such as the Community Resilience Index, the Climate Resilience Toolkit, and the Disaster Resilience Framework.
- b. **Fight the Introduction and Spread of Invasive Species**<sup>325</sup>: Also under Goal 1, DOI—working with other members of the National Invasive Species Council, including NOAA, EPA and USDA—is charged with working with states and tribes to “develop a framework for a national Early Detection and Rapid Response (EDRR) program that will build on existing programs to assist states and tribes in forestalling the stress caused by the establishment and spread of additional invasive species populations, thereby improving the resilience of priority landscapes and aquatic areas.” It also calls for a plan for an emergency response fund to increase capacity to address emerging invasive species issues.
- c. **Promote Drought Resilience and Enhance Water Use Efficiency, and Water Supply**<sup>326</sup>: Under Goal 4, federal agencies are called on to work with communities to protect and extend limited water supplies, in light of the \$30 billion cost of the 2012 drought. The *Priority Agenda* outlines specific steps, each to be performed or continued by a specific agency, including USDA, EPA, USACE, the Bureau of Reclamation, USGS, and NOAA. It also calls on the National Integrated Drought Information System (NIDIS) to ensure its early warning information capabilities, in partnership with federal, state, local and tribal entities.

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<sup>324</sup> *Id.* at 19.

<sup>325</sup> *Id.* at 20.

<sup>326</sup> *Id.* at 42-43.

The three proposed deliverables have key differences that shed light on their likely success. First, the leadership structures vary:

- The Ecosystem Resilience Index calls on five different agencies to work together to produce a single deliverable that can then provide baseline resilience data on a common set of metrics.
- The EDRR charges DOI with developing a national program, but instructs DOI to draw on input from other stakeholders—including agencies and states—in the invasive species space.
- The Drought Resilience recommendation calls on agencies to undertake their own individual actions, each intended to contribute to enhancing community drought resilience.

Second, the nature of the three deliverables varies. While the Ecosystem Resilience Index seems to be an entirely new venture specifically driven by the Council's work, both the EDRR and the Drought Resilience actions are intended to build on existing programs and partnerships. The National Invasive Species Council was first established in 1999,<sup>327</sup> and published National Invasive Species Management Plans in 2001 and in 2008.<sup>328</sup> The administration launched the National Drought Resilience Partnership in 2013 to integrate federal activities to promote drought resilience and leverage the capacity of the National Integrated Drought Information System.<sup>329</sup> That partnership involves USDA, NOAA, DOI, USACE, FEMA, EPA and DOE with help from NASA.<sup>330</sup>

Based on these key differences, the Ecosystem Resilience Index seems the most challenging from an implementation perspective. Without providing additional funding or specifying a clear agency lead, the goal calls on two departments and three agencies to develop a new tool that may fall outside their core functions. As previous efforts have shown, these can be significant hurdles.

Developing an Early Detection and Rapid Response Program for invasive species seems better situated in comparison because an expert agency with a major stake in the issue—the Interior Department—has formally been put in charge of producing the final product, after being required to actively solicit input from key stakeholders.

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<sup>327</sup> Invasive Species, Exec. Order 13,112, 64 Fed. Reg. 6,183 (Feb. 3, 1999), <http://www.gpo.gov/fdsys/pkg/FR-1999-02-08/pdf/99-3184.pdf>.

<sup>328</sup> NATIONAL INVASIVE SPECIES COUNCIL, MEETING THE INVASIVE SPECIES CHALLENGE: NATIONAL INVASIVE SPECIES MANAGEMENT PLAN (2001), <http://www.doi.gov/invasivespecies/upload/2001-Invasive-Species-National-Management-Plan.pdf>; NATIONAL INVASIVE SPECIES COUNCIL, 2008-2012 NATIONAL INVASIVE SPECIES MANAGEMENT PLAN (2008), <http://www.doi.gov/invasivespecies/upload/2008-2012-National-Invasive-Species-Management-Plan.pdf>.

<sup>329</sup> Press Release, U.S. Department of Agriculture, No. 0214-13, Obama Administration's National Drought Resilience Partnership to Help Communities Prepare for Drought (Nov. 15, 2013), [http://www.usda.gov/wps/portal/usda/usdahome?contentid=2013/11/0214.xml&navid=NEWS\\_RELEASE&navtype=RT&parentnav=LATEST\\_RELEASES&edeployment\\_action=retrievecontent](http://www.usda.gov/wps/portal/usda/usdahome?contentid=2013/11/0214.xml&navid=NEWS_RELEASE&navtype=RT&parentnav=LATEST_RELEASES&edeployment_action=retrievecontent).

<sup>330</sup> PRIORITY AGENDA, *supra* note 259, at 36.

Finally, the Drought Resilience action, while specific in its recommendations to key agencies, seems to essentially call on agencies to expand on work they are already doing independently. No mechanism has been identified under the initiative to engage in more interagency cooperation and collaboration, should agency-specific planning exercises and implementation activities prove to be inefficient and/or ineffective.

## VI. USING GEOGRAPHIC MAPPING TOOLS TO MAKE CLIMATE CHANGE IMPACT DATA AVAILABLE ACROSS AGENCIES AND WITH STAKEHOLDERS

### Summary and Conclusions

The previous section of this report focused on steps that the federal government can take to better manage its resources in the face of climate change. While careful stewardship of federally managed natural resources is important in its own right, the federal government also is uniquely positioned to assist local and state authorities who are attempting to understand and deal with climate impacts on properties and infrastructure for which they are responsible. Those impacts already are affecting many key sectors, including vulnerable coastal infrastructure and regional water supplies and a variety of land uses, ranging from our coasts, floodplains, forests, farms and wildlife.<sup>331</sup> As a result, state, regional and local officials are particularly eager to have access to authoritative information about impacts so that they can respond by developing sensible adaptation and resilience strategies.<sup>332</sup>

As alluded to in the Section V, the federal government currently has available data that are potentially valuable for state and local decision makers, and it is developing new tools—such as the “ecosystem resilience index,” discussed above—to help land and water managers make good decisions. In particular, a number of federal agencies have developed sophisticated maps that are populated by robust data sets compiled and curated by government scientists and which can provide a visual window into how climate change–related impacts are affecting local resources. Google Maps™ and other private services have popularized these GIS (Geospatial Information System) tools for every-day use. When it comes to depicting climate impacts on infrastructure and resources, however, GIS mapping services need to draw upon reliable and constantly updated scientific data sets that can be “mashed together” on GIS-based maps.

*Coordinating the collection of diverse data sets in a common format, and developing standards and protocols to ensure their integrity presents a classic case example in which interagency coordination and cooperation is needed.* For example, the Census Bureau has sophisticated population-based data; the Department of Transportation and Department of Energy have important infrastructure-related data sets; the USGS, NOAA and other Interior Department agencies have data regarding water supplies, coastal impacts, and many other natural resource-related issues; the U.S. Forest Service and Bureau of Land Management have data on fire impacts, etc. GIS maps are particularly

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<sup>331</sup> U.S. Fish & Wildlife Service. *Rising to the Urgent Challenge: Strategic Plan for Responding to Accelerating Climate Change*. (Nov. 2012) at 7. (available online at: <http://www.fws.gov/home/climatechange/pdf/CCStrategicPlan.pdf>). USDA Forest Service. *USDA Forest Service Climate Adaptation Plan*. (2014) at 61. (available online at: [http://www.usda.gov/oce/climate\\_change/adaptation/Forest\\_Service.pdf](http://www.usda.gov/oce/climate_change/adaptation/Forest_Service.pdf)).

<sup>332</sup> *Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources*. Council on Climate Preparedness and Resilience (Oct. 2014) at 4. See generally, ESRI, *GIS for Federal Government: Building a National GIS Community*. (available online at <http://www.esri.com/library/brochures/pdfs/federalbro.pdf>).

important in the context of emergency and disaster relief, as agencies like the Federal Emergency Management Agency (FEMA) need to have high-resolution data on land elevation or land use to deploy resources during an operation.<sup>333</sup>

This section of the report reviews the interagency coordination mechanism—the Federal Geographic Data Committee (FGDC)—that has been utilized since 1990 to develop common standards and protocols for GIS-based data and mapping products. In the last two years, in connection with the President’s Climate Action Plan, the Administration has initiated a new effort to provide easier access to GIS-based data and mapping services through its “Climate Data Initiative” and the development of a related “Climate Resilience Toolkit.”

Lessons learned from the FGDC’s longstanding interagency efforts, and the Administration’s more recent climate-related data initiatives, provide insights into the ingredients of successful interagency coordination initiatives. Key take-aways learned from efforts to coordinate GIS-based data and mapping products across the federal government, include:

- While it has operated relatively well, the great acceleration in technology and data is beginning to overwhelm the lower-level and low-key FGDC interagency effort. The new demand for GIS mapping services, fueled by the need for climate impact information and other landscape-level informational needs, has triggered largely uncoordinated, agency-by-agency investments in IT and mapping software and services—leading to large expenditures and a poor user experience, as users typically must search for relevant data inefficiently, on an agency-by-agency approach.
- Because the FGDC governance structure relies on volunteer help from the relevant agencies, and does not have a history of commanding buy-in from cabinet and White House office leaders, the FGDC does not appear to have the institutional heft to force more interagency coordination in providing GIS data and mapping services.
- The Administration’s Climate Data Initiative and Resilience Toolkit are intended to provide centralized, easy access to key GIS mapping tools, but the Administration has not identified a governance structure that will accomplish that difficult interagency coordination task.
  - Current participants in the effort describe the Climate Data Initiative as being run by a “coalition of the willing.” Turnover among key volunteers could significantly set back progress on the initiative.
  - The Administration had not explained how its new climate data initiative—which is being loosely overseen by Council on Climate

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<sup>333</sup> Craig, W. *Governance of the NSDI*, ArcNews Online (Fall 2009). (available online at <http://www.esri.com/news/arcnews/fall09/articles/governance-of-nsdi.html>).

Preparedness and Resilience—relates to the long-established, interagency Federal Geographic Data Committee. Disconnected interagency efforts around closely aligned issues create confusion and weaken the effectiveness of interagency efforts.

- Experts indicate that the federal government’s push to develop more customer-friendly access to helpful climate-related GIS-based data and mapping tools through *Geoplatform.gov* and *Data.gov* (enhanced by the Climate Data Initiative and the Resilience Toolkit), will likely require full-time database management staff, operating with state-of-the-art software and IT tools. This points to the need to put a shared services model in place. To do so will require a strong interagency governance structure that will marry on-going, agency-specific data generation and curation activities, with a government-wide center of excellence that will use modern IT tools, and a dedicated staff, to provide efficient access to useful data and analysis. Neither the FGDC nor the more recent Administration climate data initiative has the type of strong interagency governance structure to address this need.

#### **A. The Federal Geographic Data Committee as an Interagency Coordinating Mechanism**

The Office of Management and Budget (OMB) established the FGDC with a revision to OMB Circular A-16 in 1990.<sup>334</sup> The purpose of revised A-16 was to develop “a national digital spatial information resource, with the involvement of Federal, state and local governments, and the private sector.”<sup>335</sup> A-16 established the Department of the Interior as the Chair of the FGDC and assigned numerous executive departments and agencies to the Committee. The OMB Circular states irreconcilable disagreements between agencies on the Committee should “be referred in writing by the head of any agency concerned to the Director of the OMB with copies of such referrals provided to the Chair and Vice Chair of the FGDC and to the heads of those agencies directly involved or affected by the outcome of the decision.”<sup>336</sup>

In 2002, A-16 was revised to reinforce the federal government’s commitment to the development of geospatial data and to implement a national data project that was, by 2002, called the National Spatial Data Infrastructure (NSDI).<sup>337</sup> The 2002 revision appointed the Deputy Director for Management of OMB as the Vice Chair of the FGDC, to give NSDI more vertical structure and implementation muscle.<sup>338</sup>

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<sup>334</sup> Office of Management and Budget. *Circular No. A-16 Revised*, Section 1. Oct. 19, 1990. (available online at [https://www.whitehouse.gov/omb/circulars\\_a016/#1](https://www.whitehouse.gov/omb/circulars_a016/#1)).

<sup>335</sup> *Id.*

<sup>336</sup> *Id.* § 6.

<sup>337</sup> *See generally*, Office of Management and Budget. *Circular No. A-16 Revised*. Aug. 19, 2002. (available online at [https://www.whitehouse.gov/omb/circulars\\_a016\\_rev#2](https://www.whitehouse.gov/omb/circulars_a016_rev#2)).

<sup>338</sup> *Id.*

NSDI is comprised of four major parts: data themes (“records and coordinates for a topic or subject, such as elevation or vegetation”), metadata (information describing the dataset), the National Spatial Data Clearinghouse (the avenue through which NSDI makes datasets public), and standards for the data collection, documentation, and exchange. Through *voluntary* consensus standards bodies, “[the] FGDC works to link its standardization activities to the work of those standards bodies and thereby create an integrated suite of standards for the NSDI.”<sup>339</sup>

## 1. The FGDC’s Track Record on Standards and Protocols

The FGDC has successfully shepherded an interagency effort to foster data collection and digitization efforts across the federal government. Over the last 25 years, the federal government has amassed many thousands of datasets that fulfill the requirements of OMB Circular A-16. Of these datasets, GIS data maps are housed on over 4000 federal websites that are publicly accessible. Each of these sites requires curation by specialists who ensure that the data are accurate. Agencies curate their own data, and some also engage in one-on-one coordination with their state and local counterparts to help them use the data effectively.<sup>340</sup> The rapid increase in GIS database implementation over the last few decades is a commendable feat given the FGDC’s lack of express enforcement power under OMB Circular A-16, and the voluntary nature of the standard development process.

## 2. Tackling the “Too Many Datasets” Issue: The FGDC’s “Geoplatform.gov” Initiative

While the FGDC has had success in setting GIS data standards and protocols, the burgeoning interest in GIS mapping tools over the past few years has triggered development of a “single agency, stovepipe model” of GIS services, with agencies focused on data sets they have developed, rather than adopting an federal enterprise-wide approach that makes all relevant datasets readily available to interested users.

To address this issue, the FGDC recently initiated a three-year planning process called the National Geospatial Data Asset Management Plan (NGDA). The NGDA seeks to take a “portfolio management” approach to coordinating GIS data activity by establishing a “robust and accessible set of core geospatial datasets” that are centrally tracked, maintained, aligned and made readily available to customers through a single portal.<sup>341</sup>

Of the thousands of data sets in the FGDC’s purview, these core data sets will provide clarity for parties interested in leveraging the vast GIS resources of the federal government into tangible climate adaptation projects. The data sets selected for the

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<sup>339</sup> *Id.*

<sup>340</sup> One specific example is how the National Oceanic and Atmospheric Administration teams up with state agencies to facilitate use of their GIS databases for policymaking and climate adaptation planning.

<sup>341</sup> Federal Geographic Data Committee. *National Geospatial Data Asset Management Plan*, at 1 (Mar. 2014) (available online at <https://www.fgdc.gov/policyandplanning/a-16/ngda-management-plan>).

NGDA will be integrated into *GeoPlatform.gov*, a website dedicated to the easy accessibility of key GIS data for relevant stakeholders.<sup>342</sup>

The NGDA goal of highlighting a core set of priority GIS data assets is commendable, because it can potentially help alleviate the “data inundation” problem facing so many private and public entities engaged in the Big Data sphere. Data inundation refers to the overwhelming wealth of digital information available today which can sometimes cause confusion and inaction on the part of stakeholders because of the intimidatingly large amount of data that must be parsed to find relevant information.

The NGDA priority data sets will be selected based on criteria outlined in a Supplemental Guidance OMB released in 2010 for Circular A-16. A GIS data asset must be approved by the FGDC Steering Committee and meet “at least one of the following criteria: (1) supports mission goals of multiple Federal agencies, (2) statutorily mandated; or (3) support Presidential priorities as expressed by Executive Order or OMB.”<sup>343</sup> The FGDC Steering Committee is responsible for broad policy decisions, and it is evaluating over 190 criteria in determining which data should be designated as prioritized NGDA Assets.<sup>344</sup> The priority data sets may even be highlighted in the “Climate” section of Data.gov, the federal government’s central search engine for all federal data sets.<sup>345</sup>

### **3. FGDC Organizational and Technical Challenges**

Although the FGDC has worked hard to promote the proliferation of GIS technology across the federal government, and *Geoplatform.gov* represents a step in the right direction, the FGDC has encountered significant challenges in coordinating interagency efforts to make the available data useful, updated, and easily accessible to the non-technical public. Greatest among these challenges has been keeping member agencies engaged and active in implementing policies developed by the FGDC.

On the plus side, the FGDC’s legitimacy as an interagency organization has been refreshed and moved forward by OMB Circular Revision and Supplemental Guidance. These documents, however, have not given the FGDC the power to ensure satisfactory execution of its policies. The members of the FGDC who tend to be more engaged in the implementation process are often lower-level, technical-oriented personnel who typically do not have decision-making authority in their agencies. Despite the 2002 revision to OMB Circular A-16, and subsequent Supplemental Guidance issued in 2010, the FGDC has lacked the ability to force agencies to work together. Agencies can simply downgrade their involvement in the FGDC, or even ignore it, without consequence.

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<sup>342</sup> *Id.* at 3.

<sup>343</sup> *Id.* at 36.

<sup>344</sup> These criteria have yet to be made public.

<sup>345</sup> Data.gov is the federal government’s central search hub for any and all federal data sets, including those pertaining to climate change. Many of these data sets are viewable in GIS map form, as well as downloadable as raw data for analysis. For more information on the “Climate” section Data.gov, skip to the section entitled “The Climate Data Initiative and the Climate Resilience Toolkit” below.

As a result of these institutional constraints, interagency coordination of GIS mapping activity has been sub-optimal. Agencies have developed their own mapping and service capabilities. This means that customers must inefficiently shop around a variety of agency websites in the hope of finding relevant maps and related data sets. The Administration's collection of a large volume of data on the *data.gov* website does not provide a solution to the problem, as illustrated in the search example described in the text box below.

### **Locating GIS Maps with Flood Risk Data: An Instructive Example**

An example of a search for land elevation GIS data for flood-planning purposes illustrates some of the problems associated with the current way in which the federal government organizes and curates relevant GIS data.

A typical user would begin at Data.gov, the federal government's flagship page for its fledgling open data initiative. A search using search terms "flood land elevation" yields over 1800 results, ranging from individual state level GIS maps to maps curated by FEMA.

Using the search filter tag labeled "Disasters," the search results are narrowed to 13 links to data sets and/or GIS maps. Several of the links appear to provide similar information about coastal land elevation and, without any guidance, a user would not know whether to try using FEMA's GIS resources, or maps curated by the National Oceanic and Atmospheric Administration (NOAA, which works in conjunction with Department of Commerce and FEMA to manage its data sets), or another agency altogether.

Also, the Data.gov search engine does not order search results. The only way to find out whether a particular map will provide the information a user needs is to follow each sequence of links to separate agency websites, load the maps, run the specifications needed on the maps, and see the results. This trial-and-error process is both costly for the user's time, and costly for the federal government's reputation as an organization that struggles to provide 21<sup>st</sup> century services in a fast-paced world.

Other maps are hosted on agency sites that have instructive links for video tutorials and further documentation that explain how to use their maps. NOAA's LIDAR data is a good example of an agency that has stayed current with up-to-date introductory information for users. Not all agencies, however, have been able to do the same. Broken and misdirected links are not uncommon, and a first-time user of federal open GIS data could easily be discouraged from trying to use it in the future.

The agency-by-agency approach to providing GIS mapping services presents additional technical and financial challenges. Of special note, many agencies use online GIS software that was procured in the mid-1990s, and have not updated their systems since.

The older systems that many agencies continue to rely on operate painfully slowly because they were designed to run on hardware with limited computing power. Updating agencies' mapping GIS software will require a substantial investment.

It could be both financially and organizationally prudent to select specific agencies that would invest in updated GIS software to run mapping services that could be made available to other agencies as a shared service. The FGDC does not appear to have the institutional heft, however, to develop and implement a shared service model to provide GIS mapping services among the federal agencies, and for the benefit of non-federal customers interested in easy access to valuable GIS-based tools.

## **B. The Administration's Launch of Its Climate Data Initiative and Climate Resilience Toolkit**

Shortly after issuing an Executive Order on Open Data in May 2013,<sup>346</sup> the President announced his Climate Action Plan in June 2013. The Climate Action Plan included a Climate Data Initiative (CDI) that seeks "to leverage extensive federal climate-relevant data to stimulate innovation and private-sector entrepreneurship in support of national climate-change preparedness."<sup>347</sup> More specifically, the Climate Data Initiative is intended to provide the public with easy access to the federal government's myriad data sets – including the GIS-based mapping tools discussed above, which can present data in customer-friendly formats. The CDI has close ties to *Data.gov*.<sup>348</sup> It intends to populate *Data.gov* with climate data sets from several agencies and to experiment with new mechanisms of data delivery to make currently available data more useful to end-users.

Governance of the CDI initiative has been nested under Executive Order 13653, which the President issued on November 1, 2013. That E.O. established the Council on Climate Preparedness and Resilience (CCPR), a body co-chaired by the Chair of the Council on Environmental Quality, the Director of the Office of Science and Technology Policy, the Assistant to the President for Homeland Security and Counterterrorism, and senior officials from 29 agencies.<sup>349</sup> Section 6(e) of E.O. 13653 gives CCPR the responsibility of facilitating

integration of climate science in policies and planning of government agencies and the private sector, including by promoting the development of innovative, actionable, and accessible Federal climate change related

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<sup>346</sup> See generally, *Executive Order -- Making Open and Machine Readable the New Default for Government Information*. (May 2013) (available online at: <https://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government->).

<sup>347</sup> Executive Office of the President, "The President's Climate Action Plan" (Jun. 2013) (available online at: <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>).

<sup>348</sup> See generally, *Data.gov: The Home of the U.S. Government's Open Data*. Date accessed: Jun. 5, 2015. (<http://www.data.gov/>).

<sup>349</sup> White House Office of the Press Secretary. *Executive Order 13653: Preparing the United States for the Impacts of Climate Change*, §6(b) (Nov. 1, 2013) (available online at <https://www.whitehouse.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change>).

information, data, and tools at appropriate scales for decision makers and deployment of this information through a Government-wide web-based portal . . . .<sup>350</sup>

The E.O.'s commitment to enhancing access to government data to assist in addressing climate impacts is significant.

The Council on Climate Preparedness and Resilience convened a Climate and Natural Resources Working Group (CNRWG), which is made up of officials from six federal agencies that share natural resource responsibilities. The CNRWG released a report in October 2014 entitled *Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources* (Priority Agenda).<sup>351</sup> The Priority Agenda report references the Climate Data Initiative and it noted that “[f]ederal agencies are working together to develop a Toolkit for Climate Resilience that centralizes access to new and existing data-driven resilience tools, services, and best practices, including those developed through the Climate Data Initiative.”<sup>352</sup> Elsewhere, the Administration has described the current undertakings of its Climate Data Initiative and Climate Resilience Toolkit, as follows:

- The Climate Data Initiative is currently focused on a “Climate Front Door Concept,” which aims to engage the General Services Administration (GSA), and various agencies like NOAA and NASA, to vet and prioritize agency data for easy-to-understand presentation to the end user. This process mirrors the aims of the Geoplatform.gov site launched by the FGDC to find the very most well-recorded, “useful” climate data (in the sense that it is either the most salient information, or the most commonly-needed), for presentation in a palatable online format. The CDI’s goal is to maintain federated content where agencies curate their own resources with the “front door” helping to lead users to those data.
- The Administration has described the “Climate Resilience Toolkit” (Resilience Toolkit) as a step-by-step guide to climate change planning and adaptation for lay users of federal GIS data.<sup>353</sup> Modeled after the user interface of Cal-Adapt, California’s climate change adaptation webpage, the Resilience Toolkit seeks to present users with a set of instructive story-maps which guide users to the important information embedded within a particular GIS map. Users of the Resilience Toolkit would begin with step one, “Identify the Problem,” and continue through a series of steps to reach the end step, “Take Action.”<sup>354</sup> These steps are designed to help a non-expert of GIS understand the climate change problems facing them and what the costs and benefits of specific, concrete planning and adaptation would be.

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<sup>350</sup> *Id.* at §6(e)(iii).

<sup>351</sup> available online at:

[https://www.whitehouse.gov/sites/default/files/docs/enhancing\\_climate\\_resilience\\_of\\_americas\\_natural\\_re  
sources.pdf](https://www.whitehouse.gov/sites/default/files/docs/enhancing_climate_resilience_of_americas_natural_resources.pdf).

<sup>352</sup> *Id.* at 48.

<sup>353</sup> The U.S. Climate Resilience Toolkit. Date accessed: Jun. 5, 2015. (<https://toolkit.climate.gov/>).

<sup>354</sup> *Id.*

- The Climate Data Initiative’s Resilience Toolkit also is developing a map mash-up tool that will enable users to share their experiences with GIS maps and combine maps that they find to be useful in their own respective planning processes. The feature seeks to use crowdsourcing techniques to tackle the problem of identifying which data sets should be given priority and which should be developed into narrative story-maps. Instead of expending the valuable time and resources required to choose the best data to story-map, selection of the best data through this grassroots process would lower overhead and preclude the need for interagency data selection. The CDI and its Resilience Toolkit would monitor what maps are the most viewed and seek to provide more maps of that kind to the public.

While the Priority Agenda report includes a general reference to the Climate Data Initiative and its Resilience Toolkit, it then details agency-specific adaptation and resilience initiatives, including several that have strong ties to GIS databases. Examples include NOAA’s Ocean Climate Web Portal, an information system on past and projected changes in ocean condition;<sup>355</sup> the USDA’s COMET-Farm tool, “a tool to assess the greenhouse gas impacts of forest and agricultural practices;”<sup>356</sup> and other “regional climate science and service approaches for delivering information, tools, and training to better serve state, local, tribal, and regional needs.”<sup>357</sup>

Thus, while the Climate Data Initiative and Resilience Toolkit are intended to provide centralized, easy access to key GIS mapping tools, the current reality is that customers seeking access to the large majority of climate adaptation and resilience data sets must continue to search for such data through *Data.gov*, which typically will in turn inefficiently direct customers to agency-specific websites.

### **C. Governance Challenges Associated with the Administration’s Data Initiatives**

It is not clear how the federal government will migrate from its current reliance on agency-by-agency GIS data and mapping tools to a more centralized *Geoplatform.gov* portal—which is being developed by the FGDC—or a more centralized Climate Data Initiative and Resilience Toolkit—which is being developed under the auspices of the Council on Climate Preparedness and Resilience.

The Priority Agenda report references the Climate Data Initiative and Climate Resilience Toolkit as interagency efforts that may help to unify other projects, but it does not identify a governance structure that will accomplish that difficult interagency coordination task. Current participants in the effort describe the Climate Data Initiative as being run by a “coalition of the willing,” with interested Geospatial Information

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<sup>355</sup> *Id.* at 37.

<sup>356</sup> *Id.* at 24.

<sup>357</sup> *Id.* at 49.

Officers working with staff in the White House's Office of Science and Technology Policy and OMB build GIS tools for end-users.

The informal governance structure being used for the Climate Data Initiative and Climate Resilience does not seem sustainable. Its success appears to be heavily reliant on a handful of key individuals in a few agencies and the White House complex who have volunteered to help with the effort. Turnover among some of these key staff could significantly set back progress on the initiative.

In addition, and perhaps most troubling, there is no apparent connection between the current work being loosely overseen by Council on Climate Preparedness and Resilience and the Federal Geographic Data Committee's closely related *Geoplatform.gov* initiative. E.O. 13653's failure to even mention the FGDC, much less explain how its well-established jurisdictional responsibilities should mesh with the E.O.'s governance structure and data initiatives, provides little confidence that these important initiatives will become successfully institutionalized in the federal government.

These concerns are heightened by the Priority Action report's recognition that many of the federal government's key data and mapping capabilities are tied to agency-specific programs. As discussed above, the Administration has not come to grips with the underlying challenges presented by the agency-specific programs that have developed around GIS data and mapping tools, including on-going investments in duplicative software and other upgrades, and the failure to push toward a more cost-effective and user-friendly shared services model.

Experts indicate the federal government's push to develop more customer-friendly access to helpful climate-related GIS-based data and mapping tools through *Geoplatform.gov* and *Data.gov* (enhanced by the Climate Data Initiative and the Resilience Toolkit) will likely require full-time database management staff, operating with state-of-the-art software and IT tools. This points to the need to put a shared services model in place. To do so will require a strong interagency governance structure that will marry on-going, agency-specific data generation and curation activities, with a government-wide center of excellence that will use modern IT tools, and a dedicated staff, to provide efficient access to useful data and analysis.

## ATTACHMENT A

While individual natural resource agencies can and should tailor climate change programs to meet their special mission requirements, climate change is impacting shared resources on a regional—and not an agency-specific—basis. It would make good sense that federal resource agencies would pool their knowledge of how climate change is impacting shared resources in a region, and how the agencies, and other partners, might develop resilience strategies and adapt to those impacts.

Unfortunately, as noted above in Section V, the Climate Change Adaptation Task Force focused on developing general, high-level policy approaches to adaptation. The Task Force did not seriously address implementation issues raised by the multiple agencies that were confronting common climate impact issues affecting shared natural resources. By failing to engage the leadership of the natural resource agencies in a focused coordination effort, the Task Force stood by as virtually all of the federal natural resource agencies developed their own stove-piped adaptation and resilience programs.

While some agency leaders developed programs that sought broad participation among resource agencies, the agencies constructed their own programs, typically without regard to how they would relate to programs that their sister natural resource agencies also were developing. A quick review of major climate impact programs developed by the four major cabinet departments that manage natural resources—the Interior Department; the Department of Agriculture; the Commerce Department (which includes the National Oceanic and Atmospheric Administration); and the Environmental Protection Agency—illustrates the phenomenon.

The proliferation of programs led a distinguished outside review panel to lament this state of affairs when issuing a report to the Secretary of the Interior. More specifically, the Advisory Committee on Climate Change and Natural Resource Science observed that “[w]ith so many science and decision-support providers, there is a great need to clarify the roles and strengths of various federal programs, coordinate efforts, minimize the potential for redundancy, and identify and address unmet stakeholder needs.”<sup>358</sup> It noted that “the rapid development of these programs, and the ever-expanding list of potential partners in these endeavors, *suggests a pressing need for significant investments in coordination.*”<sup>359</sup>

### **The Interior Department**

The Interior Department has a number of agencies that have natural resource management responsibilities, including three land management agencies (the Bureau of Land Management, the National Park Service, and the Fish & Wildlife Service), two water management agencies (the Bureau of Reclamation and the Bureau of Ocean Energy Management) and a science agency (the United States Geological Survey).

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<sup>358</sup> Advisory Committee on Climate Change and Natural Resource Science, “Report to the Secretary of Interior,” at 17 (Mar. 30, 2015).

<sup>359</sup> *Id.* at 16 (emphasis added).

Each of these agencies has developed their own climate change policies and planning practices. Most pertinently to this discussion, the Department also has developed two important cross-agency programs that focus on natural resource management issues, and seek to provide relevant data and stakeholder outreach to key constituencies inside and outside the federal government.

The first is the Landscape Conservation Cooperative program, which has set up 22 regional bodies to develop and share climate change-related information to assist land, water and wildlife managers in responding to climate impacts and other resource stressors.<sup>360</sup> The Fish and Wildlife Service has been a primary funder of the LCC network, but the LCCs are intended to have participation from all relevant Interior and other federal and state agencies. While some other Interior and other resource agencies are participating in some LCCs, there has not been broad-based support across the resource agencies for these collaborative efforts.

The second cross-cutting program involves the formation of eight regional Climate Science Centers, which are intended to work closely with natural resource managers and provide them with climate change-related scientific information and analysis that will assist them in developing appropriate adaptation and resilience strategies.<sup>361</sup> This program is led by the USGS but, like the LCC program, the hope was that it would provide services to a variety of natural resources managers/customers. Like the LCCs, the regional science centers are doing excellent work, but for a limited number of resources managers/customers.

### **The Department of Agriculture**

The USDA has developed its own program to share relevant data and provide outreach on climate impacts to key stakeholders. More specifically, it has set up seven regional climate “hubs” that are intended to deliver science-based knowledge and practical information to farmers, ranchers and forest landowners within each region of the United States to support decision-making related to climate change and build capacity within USDA to deliver information and guidance on technologies and risk management practices at regional and local scales.<sup>362</sup>

### **The Department of Commerce**

The Department of Commerce’s natural resource agency—the National Oceanic and Atmospheric Administration (“NOAA”)—has developed another program “to provide support to decision makers managing the risks of climate variability and change.” The “RISA” program (Regional Integrated Sciences and Assessments) involves a network of 11 teams around the country that had been formed for this purpose.<sup>363</sup>

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<sup>360</sup> See generally <http://lccnetwork.org/>

<sup>361</sup> See generally <http://www.doi.gov//csc/>

<sup>362</sup> See generally <http://climatehubs.oce.usda.gov/>

<sup>363</sup> See generally <http://cpo.noaa.gov/ClimatePrograms/ClimateandSocietalInteractions/RISAProgram.aspx>

In addition, NOAA operates both a general data-providing web site (*climate.gov*) and the National Centers for Environmental Information (NCEI), which has consolidated its three former data centers: the National Climatic Data Center, the National Geophysical Data Center, and the National Oceanographic Data Center.<sup>364</sup>

### **The Environmental Protection Agency**

EPA also has invested in a program that curates data and provides outreach to interested natural resource and other managers who seek information about climate impacts. EPA's Office of Research and Development (ORD) Global Change Impacts & Adaptation, which is part of the ORD Global Change Research Program, assesses the potential vulnerability to climate change (and other global change stressors such as land-use change) of EPA's air, water, ecosystem, and human health protection efforts at the federal, regional, state, municipal, and tribal levels, as well as adaptation options to build resilience in the face of these vulnerabilities. The program carries out interdisciplinary syntheses across newly emerging scientific findings to identify potential impacts, and characterize and communicate the uncertainty in the science, to provide support for decision-makers and managers.<sup>365</sup>

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<sup>364</sup> As discussed in Section VI of this report, many agencies have developed their own programs to organize geospatial mapping tools that can provide very useful climate change-related information for government customers. This is another context in which the lack of coordination across agencies has led to duplication of services, and the difficulty of customers to efficiently access relevant government information.

<sup>365</sup> <http://www.epa.gov/climatechange/impacts-adaptation/fed-programs.html> (last visited: June 17, 2014)