

FOCUS AND FUND: EXECUTING OUR WAY TO A FEDERAL
CLIMATE CHANGE ADAPTATION PLAN

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I. INTRODUCTION

By now, most people understand that all of us are going to have to adapt to climate change.¹ While I could begin this article by reciting the most recent litany of current and future impacts of climate change and the harshness with which those impacts will, to varying degrees, affect much of the world, I am going to assume the need for new policies.² In particular, I am going to assume that the citizens of our country will be

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¹ Victor B. Flatt & Ling-Yee Huang, *Climate Change Adaptation: The Impact of Law in the Private Sector* (Ctr. for Progressive Reform, Briefing Paper No. 1209, 2012), available at <http://ssrn.com/abstract=2120083>.

² I understand that not everyone in this country or even all of the intelligentsia hold the same opinion, but this is the widespread consensus from those who deal with climate change. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Parry et al. eds., 2007), available at http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html.

affected by climate change and that it would behoove the United States government and its constituent political subdivisions to plan for climate change's effects by implementing new policies and legislation.

I am also accepting the premise of the Virginia Environmental Law Journal's symposium that political action through legislation is currently limited and that, as a result, we need to look for what might be achieved through executive action, specifically what might be achieved in the remainder of President Barack Obama's administration. While some scoff at the power of the executive branch, I have long held that, particularly when policy issues are laden with highly scientific considerations, the executive branch can wield enormous power through its administrative channels, even to the point of thwarting congressional direction.³ Assuming that executive authority can overpower the actions of the legislative branch, how can presidential power be used to advance favorable policies regarding climate change? How can we wield the magic executive wand to get what we need for effective climate change adaptation that reduces the vulnerability of the populace and the economy? We may not be able to get everything that we need, but it is my thesis that we can certainly do more to advance climate change adaptation through the executive branch. In particular, the executive branch must focus on improving the coordination of adaptation priorities in a time of scarce resources and then ensure that there are in fact resources for these priorities—"focus and fund."

In this essay, I want to review the methods of climate change adaptation that we have considered as a country, our efforts thus far, and what is needed for forward progress.

II. ADAPTING OUR ADAPTATION PLANS

To undertake a review and critique of the executive branch response to climate change adaptation requires a comprehensive review of prior attempts to effect policy change in this arena as well as current actions that are being undertaken.

A. Congressional Action

Though this paper will focus on the executive branch, the first climate change policy debates can be traced to Congress. Many of the

³ Victor B. Flatt, *Environmental "Contraction" for America? (Or How I Stopped Worrying and Learned to Love the EPA)*, 29 LOY. L.A. L. REV. 585, 613 (1996); see also Brigham Daniels, *When Agencies Go Nuclear: A Game Theoretic Approach to the Biggest Sticks in an Agency's Arsenal*, 80 GEO. WASH. L. REV. 442 (2012).

comprehensive climate change bills that were first debated in the House and Senate from 2006 onwards—including the American Clean Energy Security Act (“ACES”) that passed the U.S. House of Representatives in 2009—specifically addressed climate change adaptation.⁴ Although the debate that surrounded the passage of these bills focused almost exclusively on the sections that addressed mitigating climate change, the provisions that addressed climate change adaptation provide an initial lens for viewing what Congress considered most necessary for adaptation five years ago. Those priorities are a bit surprising. These bills discussed funding mechanisms to pay for adaptation measures and requested interagency cooperation on adaptation strategies.⁵ Aside from a particular mention of reducing flood events, ACES did not discuss prioritization of adaptation strategy.⁶

In the four short years since ACES passed the House of Representatives, the scholarly and practical discussions of climate change adaptation continue a focus on using the whole machinery of government and society to lessen impacts going forward.⁷ Oddly—or perhaps not so oddly given the worldwide financial crisis—current debate, with the notable exception of disaster recovery, is less focused on compensation to those who have been damaged by climate change.⁸ The shift in focus away from compensation may also be because of the disaggregation of climate change adaptation from climate change mitigation.⁹ The preferred mitigation proposals in the comprehensive climate change bills focused on a cap-and-trade system, which require a surrendering of carbon emission allowances, and these allowances had

⁴ Victor B. Flatt, *The Climate for Climate Change Legislation*, 102 NW. U. L. REV. 17 (2007); American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong., 1233–1297 (2009).

⁵ H.R. 2454, 111th Cong. §§ 451, 453 (2009) (interagency planning and funding allowances).

⁶ *Id.* at §§ 451, 452.

⁷ J.B. Ruhl, *The Political Economy of Climate Change Winners*, 97 MINN. L. REV. 206, 275 (2012); Victor B. Flatt, *More than Winners and Losers: The Importance of Moving Climate and Environmental Policy Debate Toward a More Transparent Process*, 97 MINN. L. REV. 26, 35 (2013); Robin Kundis Craig, *The Social and Cultural Aspects of Climate Change Winners*, 97 MINN. L. REV. 1416, 1418–19 (2013); Alejandro E. Camacho, *A Learning Collaboratory: Improving Federal Climate Change Adaptation Planning*, 2011 BYU L. REV. 1821, 1823 (2011); Rob Verchick & Abby Hall, *Adapting to Climate Change While Planning for Disaster: Footholds, Rope Lines, and the Iowa Floods*, 2011 BYU L. REV. 2203, 2232 (2011) (citing J.B. Ruhl & James Salzman, *Climate Change, Dead Zones, and Massive Problems in the Administrative State: A Guide for Whittling Away*, 98 CALIF. L. REV. 59, 108 (2010)).

⁸ See, e.g., MICHAEL B. GERRARD & KATRINA F. KUH, *THE LAW OF ADAPTATION TO CLIMATE CHANGE: UNITED STATES AND INTERNATIONAL ASPECTS* 3–4 (2012); J.B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 ENVTL. L. 363 (2010).

⁹ H.R. 2454, 111th Cong. § 453 (2009) (use of allowances created under the climate change mitigation portion of the Act to fund adaptation planning).

value that could be used to fund adaptation.¹⁰ But whatever the cause, our view of adaptation policy has shifted away from funding to focus more on using existing laws and strategies for adaptation.

B. Federal Executive Branch Action

1. Presidential Directives

The executive branch has arguably been active on climate change adaptation since the possibility for a comprehensive bill died in the U.S. Senate in 2010.¹¹ These efforts have been driven through two major executive branch actions: a “sustainability executive order” in 2010, which has culminated in agency plans for adaptation; and a 2013 Climate Action Plan that is currently moving towards implementation.¹² The below is a detailed look at the requirements of these actions. These sections provide a current snapshot of legal requirements for executive branch based climate change adaptation and show the shortcomings of current policy.

a. The 2010 Sustainability Order

The sustainability executive order requires agencies to have “sustainable” policies moving forward (requiring an incorporation of climate change adaptation policy) and specifically requires certain agencies to participate in an interagency task force to address climate change adaptation.¹³

This task force was created to “assess key steps needed to help the Federal Government understand and adapt to climate change.”¹⁴ It is comprised of over twenty representatives from federal departments and agencies and is co-chaired by the Counsel of Environmental Quality

¹⁰ *Id.*

¹¹ Matthew Daly, *Climate Bill: Senate Democrats Abandon Comprehensive Energy Bill*, HUFFINGTON POST (July 22, 2010, 9:19 PM), http://www.huffingtonpost.com/2010/07/22/climate-bill-senate-democ_n_656175.html.

¹² Exec. Order No. 13,514, 3 C.F.R. 248 at 10 (2010); EXEC. OFFICE OF THE PRESIDENT, THE PRESIDENT’S CLIMATE ACTION PLAN 2–3 (2013) [hereinafter PRESIDENT’S CLIMATE ACTION PLAN], *available at* <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

¹³ INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION: PROGRESS REPORT OF THE INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE 1 (2011) [hereinafter FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION], *available at* www.whitehouse.gov/sites/default/files/microsites/ceq/2011_adaptation_progress_report.pdf.

¹⁴ *Id.*

(“CEQ”), the Office of Science and Technology Policy (“OSTP”), and the National Ocean and Atmospheric Administration (“NOAA”).¹⁵

Section 16 of the executive order, entitled *Agency Roles in Support of Federal Adaptation Strategy*, requires agencies to “participate actively in the interagency Climate Change Adaptation Task Force . . . and . . . develop approaches through which the policies and practices of the agencies can be made compatible with and reinforce that strategy.”¹⁶ The order also requires the CEQ chair to provide the president with a progress report “following consultation with the agencies and the Climate Change Adaptation Task Force (“Task Force”), as appropriate . . . on agency actions in support of the national adaptation strategy and recommendations for any further such measures as the CEQ Chair may deem necessary.”¹⁷

A year after this delegation, the CEQ issued a progress report through the Task Force setting forth guiding principles for adaptation.¹⁸ The report made a number of recommendations: (1) to adopt integrated approaches; (2) to prioritize people, places, and infrastructures most vulnerable to climate change; (3) to use best-available science; (4) to build strong partnerships across sectors and scales; (5) to apply risk-management methods and tools; (6) to apply ecosystem-based approaches; (7) to maximize mutual benefits; and (8) to continuously evaluate performance to ensure that the desired outcome is being achieved.¹⁹ The report also detailed specific policy goals and recommended actions for the federal government: (1) to encourage adaptation planning throughout the federal government; (2) to improve decision making by integrating greater scientific understanding into the process; (3) to address cross-cutting issues where multiple agencies are targeting the same challenge; (4) to encourage greater international adaptation efforts through leadership and support; and (5) to assist stakeholders through coordination of its capabilities to address

¹⁵ More information on the Climate Change Adaptation Task Force can be found on their website at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation>.

¹⁶ Exec. Order No. 13,514, 3 C.F.R. 258 (2010).

¹⁷ *Id.*

¹⁸ COUNCIL ON ENVTL. QUALITY, PROGRESS REPORT OF THE INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE: RECOMMENDED ACTIONS IN SUPPORT OF A NATIONAL CLIMATE CHANGE ADAPTATION STRATEGY 9–10 (2010) [hereinafter PROGRESS REPORT], available at www.whitehouse.gov/sites/default/files/microsites/ceq/Interagency-Climate-Change-Adaptation-Progress-Report.pdf.

¹⁹ *Id.* at 10.

adaptation.²⁰ Notably, neither the guiding principles nor policy goals and actions address funding mechanisms.²¹

In 2011, the CEQ issued its *Instructions for Implementing Climate Change Adaptation Planning in Accordance with Executive Order 13514*.²² These instructions state that each agency head should (1) institute a climate change adaptation policy; (2) improve agency understanding of how the climate is changing and the varied effects that it has on the agency; (3) utilize this understanding to identify its impact on the agency's mission and operations; (4) create and implement a prioritized plan of action; and (5) collaborate with other agencies by sharing lessons learned.²³ The CEQ also released a support document with these instructions, highlighting the importance of adaptation planning in response to climate change.²⁴ The support document provides a summary of the executive order's requirements and includes sections that offer guidance to agencies, such as the section entitled *Guiding Questions for Agency Adaptation Planning*.²⁵

In the fall of 2011, the Task Force provided an update to the president.²⁶ The report detailed progress in five areas of adaptation: (1) integrating adaptation into federal government planning and activities;²⁷ (2) building resilience to climate change in communities;²⁸ (3) improving accessibility and coordination of science for decision

²⁰ *Id.* at 11–12.

²¹ *Id.* at 10–12.

²² COUNCIL ON ENVTL. QUALITY, INSTRUCTIONS FOR IMPLEMENTING CLIMATE CHANGE ADAPTATION PLANNING IN ACCORDANCE WITH EXECUTIVE ORDER 13514 (2011), available at www.whitehouse.gov/sites/default/files/microsites/ceq/adaptation_final_implementing_instructions_3_3.pdf.

²³ *Id.* at § 1.

²⁴ COUNCIL ON ENVTL. QUALITY, FEDERAL AGENCY CLIMATE CHANGE ADAPTATION SUPPORT DOCUMENT 1 (2011), available at www.whitehouse.gov/sites/default/files/microsites/ceq/adaptation_support_document_3_3.pdf.

²⁵ *Id.* at 38.

²⁶ FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION, *supra* note 13, at 1.

²⁷ *Id.* at 5. With respect to integrating adaptation, the Task Force reported that federal agencies were “beginning to more closely identify and manage climate-related risks and to implement actions that reduce climate change vulnerability and increase resilience of the Nation” while “developing agency-specific plans to strengthen existing adaptation efforts and establish long-term priorities to respond to the challenges and opportunities that climate change poses to their missions, operations, and programs.” *Id.*

²⁸ *Id.* at 8. Addressing building resilience to climate change in communities, the Task Force reported that federal agencies are finding “ways to incorporate climate adaptation into planning, emergency preparedness, and disaster recovery to protect communities and reduce losses” and that they are “providing data, information, and decision tools to reduce health and insurance risks related to climate impacts.” *Id.*

making;²⁹ (4) developing strategies to safeguard natural resources in a changing climate;³⁰ and (5) enhancing efforts to lead and support international adaptation.³¹

The Task Force also issued the *National Action Plan* in the fall of 2011, which focused on managing freshwater resources.³² This report provides recommendations to guide agencies and citizens as they work to protect the nation's freshwaters in the changing climate.

According to the progress report, agencies were to “complete a final high-level analysis of [their] vulnerability to climate change” by March 2012.³³ This was to be followed by agency submissions no later than June 4, 2012, of a climate adaptation plan to be approved by the Chair of the CEQ and the Director of the Office of Management and Budget. Many of the agencies have not fully complied with this as of the end of 2013. Nevertheless, at the time of this writing, all of the cabinet-level agencies as well as a host of others have posted such plans online.³⁴

b. The Climate Action Plan of 2013

President Obama's Climate Action Plan for the government was published in 2013, and it purports to advance adaptation policy along

²⁹ *Id.* at 13. Concerning improving accessibility and coordination of science for decision making, the Task Force reported that the “Federal Government is working to improve the accessibility and utility of climate information and tools to meet the needs of decision makers” and, specifically, that “[t]he U.S. Global Change Research Program is advancing a process for timely climate research, assessments, and services to support adaptation planning across the country.” *Id.*

³⁰ *Id.* at 17. Regarding the development of national strategies to safeguard natural resources, the Task Force reported that the Federal Government has “worked with stakeholders to develop a National Action Plan for managing freshwater resources [as described below]” and that “[f]ederal agencies are partnering with state, tribal and local representatives to develop strategies for safeguarding our Nation's oceans, fish, wildlife and plants.” *Id.*

³¹ *Id.* at 22. With reference to enhancing efforts to lead and support international adaptation, the Task Force reported that the federal government “is working to identify and address the impacts of climate change that exacerbate conflict and social, economic, and political instability abroad” and that some “[f]ederal agencies have dedicated resources to support and build the capacity of partner countries and communities as they craft and implement climate-resilient development strategies.” *Id.*

³² INTERAGENCY CLIMATE ADAPTATION TASK FORCE, NATIONAL ACTION PLAN: PRIORITIES FOR MANAGING FRESHWATER RESOURCES IN A CHANGING CLIMATE 8 (2011), available at www.whitehouse.gov/sites/default/files/microsites/ceq/2011_national_action_plan.pdf.

³³ FEDERAL AGENCY CLIMATE CHANGE ADAPTATION SUPPORT DOCUMENT, *supra* note 24, at 21–27. This support document also provides a detailed outline of steps required under Executive Order 13514.

³⁴ See *Federal Adaptation Resources*, GLOBALCHANGE.GOV, <http://www.globalchange.gov/browse/federal-adaptation-resources> (last visited May 28, 2014).

with climate change mitigation and energy policy.³⁵ The adaptation sections focus on “three major, interrelated initiatives to better prepare Americans for the impacts of climate change.”³⁶ These initiatives include resilience, preservation, and better information.

Initiative One: Building Stronger and Safer Infrastructure and Communities

This section directs federal agencies to “identify and remove barriers to making climate-resilient investments” and to identify and remove counterproductive policies that increase vulnerabilities to climate change impacts.³⁷ Additionally, resources for adaptation are mentioned, as the agencies are directed to utilize grants and technical assistance to encourage and support increased resiliency.³⁸

The president also established a short-term task force of state, local, and tribal officials to “advise on key actions the federal government can take” to help strengthen local communities.³⁹ This task force “will provide recommendations on removing barriers to resilient investments, modernizing grant and loan programs to better support local efforts, and developing information and tools to better serve communities.”⁴⁰ Additionally, federal agencies are directed to “continue providing targeted support and assistance to help” vulnerable communities.⁴¹ For example, the agencies are to pilot innovative strategies in the Hurricane Sandy-affected region and to strengthen communities against future extreme weather and other climate impacts.⁴² Building on a new, consistent flood risk reduction standard established for the Sandy-affected region, agencies are to update flood-risk reduction standards for all federally funded projects.⁴³

Bolstering the resilience of buildings and infrastructure is also an important part of this plan. The National Institute of Standards and Technology is to develop a comprehensive, community-based resilience framework as well as guidelines for safe buildings and infrastructure, which will inform the development of private-sector standards and

³⁵ EXEC. OFFICE OF THE PRESIDENT, THE PRESIDENT’S CLIMATE ACTION PLAN 2–3 (2013) [hereinafter PRESIDENT’S CLIMATE ACTION PLAN], available at <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

³⁶ *Id.* at 12.

³⁷ *Id.*

³⁸ *Id.* at 12–13.

³⁹ *Id.* at 13.

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.* at 13–14.

⁴³ *Id.* at 15.

codes.⁴⁴ For 2014, \$200 million in budgeting is proposed through the Transportation Leadership Awards program for climate ready infrastructure in communities that take part in such planning and infrastructure efforts.⁴⁵

Initiative Two: Protection of Our Economy and Natural Resources

The second of three adaptation initiatives in the recent Climate Action Plan aims to help protect the nation's economy and natural resources against the impacts of climate change. This part of the plan directs government agencies to "mount a set of sector- and hazard-specific efforts to protect our country's vital assets."⁴⁶ Agencies are to develop reports on the impacts of climate change on key economic sectors and strategies to address them, prioritizing "efforts focusing on health, transportation, food supplies, oceans, and coastal communities."⁴⁷

This part of the plan also directs "federal agencies to identify and evaluate additional approaches to improve our natural defenses against extreme weather, protect biodiversity and conserve natural resources in the face of a changing climate."⁴⁸ This is to specifically include agency action to maintain agricultural sustainability, manage drought, reduce wildfire risks, and prepare for future floods by accounting for factors such as sea-level rise, all of which could arise from severe weather related to climate change.⁴⁹

Initiative Three: Use of Sound Science to Manage Climate Impacts

The third and final adaptation initiative relates to enhancing scientific information. The Climate Action Plan states that the president intends to continue to lead in "advancing the science of climate measurement and adaption and the development of tools for climate-relevant decision-making."⁵⁰ This is to be done by "increasing the availability, accessibility, and utility of relevant scientific tools and information."⁵¹

This part of the plan proposes a hefty \$2.7 billion to develop actionable climate science in 2014.⁵² This is aimed "to increase understanding of climate-change impacts, to establish a public-private partnership to explore risk and catastrophe modeling, and develop the

⁴⁴ *Id.* at 13.

⁴⁵ *Id.* at 13.

⁴⁶ *Id.* at 14.

⁴⁷ *Id.*

⁴⁸ *Id.* at 15.

⁴⁹ *Id.*

⁵⁰ *Id.* at 16.

⁵¹ *Id.* at 16.

⁵² *Id.*

tools needed by decision-makers to respond to both long-term climate change impacts and near-term effects of extreme weather.”⁵³ In addition, the National Climate Assessment (“NCA”) will expand its current focus from disseminating scientific information to also, for the first time, translating scientific insights into practical and usable knowledge to be used by decision-makers preparing for climate-change impacts.⁵⁴ The National Climatic Data Center, in cooperation with NOAA has already undertaken outreach to provide risk information to the private sector.⁵⁵

The development of a Climate Data Initiative, consistent with the president’s May 2013 Executive Order on Open Data, is also intended “to leverage extensive federal climate-relevant data to stimulate innovation and private-sector entrepreneurship in support of national climate-change preparedness.”⁵⁶ Using data gained from such policies, federal agencies are to create a “virtual climate-resilience toolkit” that will provide easy access to existing resources as well as new tools, such as a sea-level-rise calculator, to aid in rebuilding after extreme events and inform other adaptation strategies.⁵⁷

2. Individual Agency Action

Individual agencies have varied in their focus on and embrace of climate change adaptation strategies. Charged in the executive order to convene the interagency task force, the CEQ has been the nexus of federal agency adaptation under the National Environmental Policy Act (“NEPA”). In a February 18, 2010 memo,⁵⁸ the CEQ made specific suggestions about what federal agencies should generally do concerning climate change adaptation.⁵⁹

Specifically, the memo purported to “help explain how agencies of the Federal government should analyze the environmental effects of GHG emissions and climate change when they describe the environmental effects of a proposed agency action in accordance with

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Executive Forum on Business and Climate*, COOPERATIVE INSTITUTE FOR CLIMATE AND SATELLITES, <http://www.cicsnc.org/events/forum> (last visited Jan. 16, 2014).

⁵⁶ PRESIDENT’S CLIMATE ACTION PLAN, *supra* note 35, at 16.

⁵⁷ *Id.*

⁵⁸ Memorandum from Nancy H. Sutley, Chair, Council on Env’tl. Quality, to Heads of Fed. Dep’ts & Agencies, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions (Feb. 18, 2010), www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf.

⁵⁹ *Id.* at 6–8 (the majority of the discussion is contained in *Section 3, Consideration of Current or Projected Effects of Climate Change on Proposals for Agency Action*).

Section 102 of NEPA.⁶⁰ In addition, the memo “advise[s] Federal agencies that they should consider opportunities to reduce GHG emissions caused by proposed Federal actions and adapt their actions to climate change impacts through the NEPA process and to address these issues in their agency NEPA procedures.”⁶¹

In terms of adaptation specifically, the memo states that “[a]gencies can use the NEPA process to . . . adapt to changes in our environment.”⁶² The CEQ proposes that agencies should determine which climate change impacts warrant consideration in their environmental assessments (“EA”) and environmental impact statements (“EIS”), whereby “the agency may assess the extent that the effects of the proposal for agency action or its alternatives will add to, modify, or mitigate those effects.”⁶³ Agencies should “consider . . . the implications for the environment to adapt to the projected effects of climate change.”⁶⁴

In cases where “adaptation to the effects of climate change is important, the significant aspects of these changes should be identified in the agency’s final decision, and adoption of a monitoring program should be considered.”⁶⁵ The guidelines from the CEQ also state that

[i]n accordance with NEPA’s rule of reason and standards for obtaining information regarding reasonably foreseeable significant adverse effects on the human environment, action agencies need not undertake exorbitant research or analysis of projected climate change impacts in the project area or on the project itself, but may instead summarize and incorporate by reference the relevant scientific literature.⁶⁶

The memo concludes that, “[w]here an agency determines that an assessment of climate issues is appropriate, the agency should identify alternative actions that are both adapted to anticipated climate change impacts and mitigate the GHG emissions that cause climate change.”⁶⁷

⁶⁰ *Id.* at 1.

⁶¹ *Id.*

⁶² *Id.* at 2.

⁶³ *Id.* at 6. The memo notes that “[c]limate change can increase the vulnerability of a resource, ecosystem, or human community, causing a proposed action to result in consequences that are more damaging than prior experience with environmental impact analysis might indicate.” *Id.*

⁶⁴ *Id.* at 7. Specifically, “[w]here climate change effects are likely to be important but there is significant uncertainty about such effects, it may also be useful to consider the effects of any proposed action or its alternatives against a baseline of reasonably foreseeable future conditions that is drawn as distinctly as the science of climate change effects will support.” *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.* at 8.

⁶⁷ *Id.* at 11.

Beyond adaptation plans required by the sustainability executive order, a few federal agencies have been specifically active in developing adaptation strategies—the Department of the Interior,⁶⁸ the EPA, and the Forest Service.⁶⁹

C. States and Localities

The lack of comprehensive federal policy and the localized nature of climate change have driven many states and localities to undertake their own climate change adaptation strategies.⁷⁰ Some strategies note specific actions, while others focus more on planning generally.⁷¹ However, there is no national coordination for these strategies, though this coordination could arise from the establishment of the short-term task force anticipated by the Climate Action Plan.

D. Authority

Even absent new legislation, current laws provide many ways to implement and fund climate change adaptation policies. On a large scale, NEPA arguably provides authority for agencies to generally alter their missions to provide for adaptation through its requirement that agencies “use all practicable means and measures, including financial and technical assistance” to protect the environment.⁷² For the thirty percent of the country that is owned by the federal government, the Federal Land Policy and Management Act (“FLPMA”) provides for the protection and use of federal lands for scientific, scenic, historic, ecological, and environmental qualities, including authority for funding and land swaps.⁷³ Other general grants of power can be found in the

⁶⁸ Secretarial Order No. 3289 in part requires the DOI to coordinate effective responses to climate change. Secretarial Order No. 3289, Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources (Dep’t of Interior Feb. 22, 2010), available at <http://elips.doi.gov/elips/0/doc/155/Page1.aspx>.

⁶⁹ U.S. FOREST SERVICE, NATIONAL ROADMAP FOR RESPONDING TO CLIMATE CHANGE (2010), available at www.fs.fed.us/climatechange/pdf/roadmap.pdf.

⁷⁰ See generally *State and Local Adaptation Plans*, GEORGETOWN CLIMATE CENTER, <http://www.georgetownclimate.org/adaptation/state-and-local-plans> (last visited Mar. 30, 2014).

⁷¹ *Id.*

⁷² National Environmental Policy Act of 1969, 42 U.S.C. § 4331(a) (2000).

⁷³ Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701–1787 (1988). For more discussion of FLPMA and climate change, see Robert L. Glicksman, *Ecosystem Resilience to Disruptions Linked to Global Climate Change: An Adaptive Approach to Federal Land Management*, 87 NEB. L. REV. 833, 858–876 (2009).

Coastal Zone Management Act (“CZMA”) of 1972, and the Global Change Research Act of 1990.⁷⁴

Outside of general grants of power, many agency specific laws provide flexibility for the use of funds and actions to adapt to climate change across a large swath of the country’s resources. These include the various Water Resources Acts, the National Forest Management Act, the Stafford Act, and the Endangered Species Act.⁷⁵ These acts allow federal actions to protect federal land and resources.

Broad legal authority to do a great deal in terms of adaptation exists. What is lacking is focus, direction, and the resources to execute adaptation changes.

III. WHAT IS LACKING

In reviewing our government’s approaches to climate change adaptation over the last six years, some notable patterns and gaps emerge. After the attempt to coordinate climate change adaptation with mitigation in the comprehensive legislative bills, with a focus on funding, the response since that time has been to try and use existing authority to accomplish climate change adaptation with less emphasis on funding. Though the Climate Action Plan proposes funding for climate-ready infrastructure and to develop “actionable climate science,” these proposals are tentative and subject to the general budget debate going on in Congress.⁷⁶

There are few other mentions of funding in the executive branch actions since 2009. The list of priorities in the CEQ’s *Guiding Principles for Adaptation* and in the president’s Climate Action Plan generally call on agencies to be aware of climate impacts, increase agency coordination, increase partnerships, and to redirect grant funds, where available, to support adaptation efforts.⁷⁷

This method could easily be characterized as the “do anything you can without money” approach and the “do what you can with your

⁷⁴ Coastal Zone Management Act, 16 U.S.C. §§ 1451–1466 (2000); Global Change Research Act, 15 USCA §§ 2921, 2931–38, 2951–53, 2961 (1990).

⁷⁵ See Endangered Species Act, 16 U.S.C. §§ 1531 et seq. (1973); National Forest Management Act of 1976, 16 U.S.C. §§ 1600 et seq. (1976); Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121 et seq. (1974); Water Resources Development Act of 2000, Pub. L. No. 106–541, 114 Stat. 2572 (codified at 33 U.S.C. § 2201 et seq. (2000)); Water Resources Development Act of 1990, Pub. L. No. 101–640, 104 Stat. 4604; Water Resources Development Act of 1986, Pub. L. No. 99–662, 100 Stat. 4082.

⁷⁶ PRESIDENT’S CLIMATE ACTION PLAN, *supra* note 35, at 13–16.

⁷⁷ FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION, *supra* note 13, at 9–10; *see* PRESIDENT’S CLIMATE ACTION PLAN, *supra* note 35, at 12–13.

existing authority” approach. While such a general policy is necessary—as agencies should not be working against each other or against climate change adaptation—it may not be sufficient to implement the needed changes, absent the necessary funding. As I have stated in previous forums, there is no doubt that our entire legal and regulatory framework must be comprehensively analyzed and altered to accommodate climate change adaptation.⁷⁸ Some of this can be done by implementation of existing authorities, but some of it may require legislative changes.⁷⁹ Moreover, even when things can be accomplished under existing authority, agencies may be resistant or unable to make the necessary changes.⁸⁰ In this sense, a vague “do the right thing with adaptation” approach will not be as effective as one might think.

Similarly, there will be adaptation limitations based on funding. Legal and other scholars have proposed that climate action can move forward if it aims other goals unrelated to climate change and is relatively costless—the so-called “no regrets” policy.⁸¹ However, much effective adaptation will require money.⁸² While there can be certain policy initiatives that assist with adaptation as they accomplish other goals, we should not limit ourselves to this effort. The “no regrets” policy may be more politically palatable,⁸³ but it does not focus on adaptation priorities *per se*. If we are assuming that we are acting outside at least the congressional political arena, political palatability becomes less important. Therefore, if we are prepared to create effective adaptation focused policies through the machinery of the executive branch, we need to realize that there will be costs, either by directly increasing expenditures or through foregoing other policy initiatives, and these decisions must be coordinated to occur and to be effective. Generalized admonitions to direct grants to a certain area will not be sufficient.

⁷⁸ See Victor B. Flatt, *Adapting Laws for a Changing World: A Systematic Approach to Climate Change Adaptation*, 64 FLA. L. REV. 269 (2012).

⁷⁹ *Id.*

⁸⁰ Victor B. Flatt & Jeremy Tarr, *Adaptation, Legal Resiliency and the U.S. Army Corps of Engineers: Managing Water Supply in a Climate Altered World*, 89 N.C. L. REV. 1499, 1547–48 (2011).

⁸¹ Verchick & Hall, *supra* note 7, at 2243.

⁸² Daniel Farber, *Basic Compensation for Victims of Climate Change*, 38 ENV. L. REP. NEWS & ANALYSIS 10521 (2008).

⁸³ See Alejandro Camacho, *Adapting Governance to Climate Change: Managing Uncertainty Through a Learning Infrastructure*, 59 EMORY L.J. 1, 20 (2009).

IV. WHAT WE NEED

While the Obama administration should be lauded for its actions in trying to mitigate and adapt to climate change, the adaptation actions thus far could do with more—both in creating or acknowledging priorities and in providing the resources necessary for those priorities. Agencies require more specificity and direction in order to make real changes in adaptation through the executive branch. This would include more specific direction on coordination and funding expenditures, and this in turn will require specific policy decisions and leadership. While interagency working groups and bottom up approaches can build consensus and foster new ideas, it is unlikely to create bold policy changes.⁸⁴ This bottom up approach also taxes agencies with additional responsibilities when they are already under budget constraints. The work already done in agency coordination by the task force has been notable, but if it were not for leadership of some key agency personnel like those from the EPA, even this would not have occurred.⁸⁵ That type of agency leadership is not always a given without more specific direction for deployment of personnel resources or key indicators that certain outcomes are required or necessary.

Direction is needed to prioritize the elements of climate change adaptation. Only in this way can agencies fully “adapt” their own missions to take into account climate change and to make the choice to sacrifice priority in one area to focus on another. At the macro scale, this prioritization is needed across all of the executive branches of government. Regardless of whether or not federal budgets continue to shrink, the president must make decisions about what needs more funding and what does not to accomplish the adaptation goals that are necessary. If the executive branch really wants to prioritize and focus on climate change adaptation efforts, it will have to think over the large scale of the federal government as to what efforts are needed and in what agencies to accomplish the adaptation goals. Some of this, of course, can be achieved by requiring all agencies to consider climate change, but to the extent that priorities require resources, more than a blanket requirement to “consider” is necessary.

The president himself needs to take over and create a comprehensive plan for climate change adaptation, which includes prioritization, either directly or through the appointment of a single cabinet or sub-cabinet

⁸⁴ Alice Kaswan, *Environmental Justice and Environmental Law*, 24 FORDHAM ENVTL. L. REV. 149, 164 (2013).

⁸⁵ Verchick & Hall, *supra* note 7.

officer who has the authority to execute or guide the plan. This has the added benefit of allowing the process to be more transparent so that the public is aware of the process and can provide input on how to prioritize climate change adaptation efforts. This could also provide a blueprint for any legislative changes that may be needed to accomplish these goals.

For instance, in consultation with his advisors, cabinet, and knowledgeable executive branch officers, the president could decide that the most important thing that should be accomplished immediately with respect to climate change is to reduce risks to property and lives along the coasts of the United States. This would then trigger a need to decide between encouraging or incentivizing development to move away from the coast (“retreat”) or building and hardening coastal structures to withstand sea level rise and disaster events (“armoring”). Once this decision is made, the existing authority of the Corps of Engineers could be aligned with these goals. If coastal retreat is to be encouraged, the funding for Corps beach improvement projects should be re-directed. Similarly, the funding available for disaster risk reduction under the Stafford Act could be allowed for use in rebuilding new places away from vulnerable coastal areas. Thinking more broadly, funding for implementing the CZMA could focus on this area, and general grants for state administrative expertise could be focused to provide funding for states to carry out these goals.

This could also occur simultaneously with other important adaptation goals. Suppose that another high-ranking goal decided on by the president and his advisors would be to protect necessary ecosystems. These decisions and funds could be directed from management budgets at the Department of Agriculture, the Department of the Interior, Commerce, and the Bureau of Offshore Energy Management.

We have come as far as we can with the general encouragement of agencies to do things within their own power to assist with climate change adaptation. Now we need the executive branch to focus on directing and coordinating national climate change adaptation goals and making sure they are implemented across agencies with interagency cooperation. That can only occur at the highest levels.