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ARTICLE

Collaborative Decision Making on Climate Change in the Federal Government

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I. INTRODUCTION

The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC),[1] issued in 2007 revealed the immediacy of climate change and the urgent need for swift action. According to the Report, the United States and other industrialized nations must reduce their emissions by at least 80% below 1990 levels by 2050 and 25-40% below 1990 levels by 2020 to prevent atmospheric carbon concentrations from reaching a level of 450 parts per million (ppm) and causing the most dramatic effects of climate change.[2] Recent studies have shown that the industrialized nations may need to do even better. Since the issuance of the Fourth Assessment Report, there have been advances in climate science and many scientists now believe that

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1. The IPCC was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) and is the leading international body for assessment of climate change. *See* Intergovernmental Panel on Climate Change, http://www.ipcc.ch/organization/organization.htm (last visited Nov. 23, 2009).

2. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE WORKING GROUP III, FOURTH ASSESSMENT REPORT, CLIMATE CHANGE 2007 MITIGATION 776 (Bert Metz et al. eds., 2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter13.pdf.

the situation is more dire than what was reported by the IPCC.[3] Dr. Rajendra Pachauri, Chairman of the IPCC, stated in August 2009 that he personally believes, as a scientist, that the global atmospheric concentration goal should be 350 ppm, rather than the less aggressive 450 ppm that formed the basis of the IPCC's 2007 recommended reduction levels.[4] It is now likely that sea level rise will be greater than predicted due to a faster melting of the ice sheets, temperature increases will be far more irreversible than thought, permafrost will melt faster than projected thereby releasing more greenhouse gases, and the carbon dioxide emissions growth rate will track the most pessimistic scenarios examined by the IPCC.[5]

The global findings of the IPCC and others have been complemented by findings of the U.S. Global Change Research Program (USGCRP), specific to the United States. According to a June 2009 report of the USGCRP, the United States is already experiencing the effects of climate change and such effects are only expected to worsen.[6] The report revealed that the nation is already being subjected to "increases in heavy downpours, rising temperature and sea level, rapidly retreating glaciers, thawing permafrost, lengthening growing seasons, lengthening ice-free seasons in the ocean and on lakes and rivers, earlier snowmelt, and alterations in river flows."[7] These changes are affecting everything from water resources and transportation infrastructure to human health.[8]

The urgency of the situation cries out for aggressive strategies. There are two broad approaches necessary to address the existing and anticipated changes. First, as the IPCC recommends, industrialized nations need to dramatically reduce

3. PEW CTR. ON GLOBAL CLIMATE CHANGE, KEY SCIENTIFIC DEVELOPMENTS SINCE THE IPCC FOURTH ASSESSMENT REPORT (2009), http://www.pewclimate.org /docUploads/Key-Scientific-Developments-Since-IPCC-4th-Assessment.pdf.

4. *IPCC Chairman Backs Deep Emissions Cuts*, GREENWIRE, Aug. 26, 2009, http://www.eenews.net/Greenwire/2009/08/26/archive/6?terms=pachauri+.

5. PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 3.

6. U.S. GLOBAL CHANGE RESEARCH PROJECT (USGRP), GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES (Thomas R. Karl, Jerry M. Melillo & Thomas C. Peterson eds., 2009), *available at* http://www.globalchange.gov/ publications/reports/scientific-assessments/usimpa cts/full-report.

7. *Id.*

8. *Id.*

global emissions of greenhouse gases. This reduction in emissions is commonly referred to as mitigation. Second, all nations need to begin adapting to climate change impacts that are inevitable and already occurring from historic emissions. This response to existing and anticipated impacts is commonly referred to as adaptation.

Pursuing mitigation and adaptation strategies will not be easy. Climate change impacts and efforts to respond to those impacts will touch virtually every sector of society and implicate as wide a range of stakeholders as one can possibly imagine. As a result, the complexity of crafting mitigation and adaptation responses is enormous. The challenge faced by policy makers as a result of this complexity is compounded by the need to swiftly craft responses in the face of great uncertainty. While there is broad consensus among scientists about the certainty of human-induced climate change and many of its global effects, there is less certainty about the precise timing and scale of those effects as well as the specific nature of regional impacts and the effectiveness of proposed solutions. As a result, decision makers are not likely to succeed in mitigating greenhouse gas emissions and adapting to climate change unless they design the responses in a manner that allows for flexibility as experts face rapidly changing scientific and technical information. It is therefore in our best interest to draw upon all the resources and knowledge that exist within the many stakeholder groups involved in the climate change issue, and to use processes that will result in efficient and effective actions that are at once resilient and adaptable. Collaborative decision making can help us achieve this objective.

This article will discuss the application of collaborative decision making to climate change. It will focus on opportunities for the federal government, in particular the Executive Branch,[9] to use collaborative decision making when crafting domestic responses to climate change. While discussions about consultation and coordination between Congress and the President or international collaborative processes[9] are beyond the scope of this

9. Asher Alkoby, *Global Networks and International Environmental Lawmaking: a Discourse Approach*, 8 CHI. J. INT'L L. 377 (2008) (discussing the application of deliberative democracy principles to the international climate

paper, there is historical support for the proposition that international climate change agreements made by the Executive Branch, without consulting Congress or obtaining diverse grassroots support, may be doomed to failure.[10]

Part II of this article will describe the general characteristics of collaborative decision-making and discuss why it has particular applicability to climate change. Part III will demonstrate that collaborative decision making on environmental issues is already integrated within the federal government. Part IV will provide a framework for considering the range of collaborative processes and Part V will apply that framework to specific examples of collaborative processes that have already been used by the federal government to address climate change. Part VI will discuss some initial efforts among the federal agencies to foster interagency collaboration.

II. THE IMPORTANCE OF BUILDING CAPACITY FOR COLLABORATIVE DECISION-MAKIING AND PUBLIC INVOLVEMENT ON CLIMATE CHANGE WITHIN THE FEDERAL GOVERNMENT

Before discussing why it is important to build capacity within the federal government for collaborative decision making on climate change this section will describe the general characteristics of collaborative decision making.

change arena). For a brief discussion of an international collaborative process, *see infra* Part V.C.

10. David B. Hunter, *International Climate Negotiations: Opportunities and Challenges for the Obama Administration*, 19 DUKE ENVTL. L. & POL'Y F. 247, 255 (2009) (referring to the Clinton Administration's flawed strategy of setting strong carbon commitments internationally and then using those negotiations to gain the political support at home to win Congressional ratification); Thomas D. Peterson, *The Evolution of State Climate Change Policy in the United States: Lessons Learned and New Directions*, 14 WIDENER L.J. 81, 86-91 (2004) (discussing the Byrd-Hagel resolution and the Senate's refusal to ratify an international climate change treaty after President Clinton signed the Kyoto Protocol, and the resulting trend by political leadership toward grassroots approaches and away from top-down imposition of climate change solutions).

A. Characteristics of Collaborative Decision Making

1. Defining Collaborative Decision Making

There are many forms of collaborative processes. The Association for Conflict Resolution, in its report, *Best Practices for Government Agencies: Guidelines for Using Collaborative Agreement-Seeking Processes*,[11] divides the universe of collaborative processes into three broad categories: (1) those with the purpose of exchanging information and improving communication and understanding; (2) those where advice is provided to the government in the form of opinions or suggestions for action; and (3) those where agreement is sought and decisions are made with the government. In the third category alone, the report identifies twenty-four different terms, including collaborative decision making, to describe collaborative processes.[12] Many other terms exist for the remaining two categories and, in many instances, different meanings are ascribed to the same term.[13] Collaborative decision-making is sometimes referred to as stakeholder involvement, public involvement, public participation, public-private partnership, deliberative democracy, constructive engagement, and collaborative problem solving. The varied use of these terms demands clear definition when designing and describing processes.[14]

For purposes of this article, collaborative decision making will be considered broadly and is characterized by a range of processes, some agreement-seeking and some not, in which the government involves outside stakeholders in the government's decision making. In some cases, where the government has no greater authority than other stakeholders, collaborative decision making can involve an equal partnership among the

11. Ass'n for Conflict Resolution, Best Practices for Government Agencies: Guidelines for Using Collaborative Agreement-Seeking Processes, http://acrnet.org/acrlibrary/more.php?id=13_0_1_0_M (last visited Nov. 23, 2009).

12. *Id.*

13. DEBORAH DALTON & PHILIP J. HARTER, BETTER DECISIONS THROUGH CONSULTATION AND COLLABORATION 6, http://www.epa.gov/innovation/collaboration/betterdecisions.pdf (describing how consultation and collaboration may be referred to, among other names, as "stakeholder involvement, public involvement, public participation, public-private partnership, deliberative democracy, constructive engagement, and collaborative problem solving").

14. *Id.*

stakeholders, including the government; or the government can serve in a supporting role to facilitate efforts of outside stakeholders in their own decision making processes.

2. General Attributes of Collaborative Decision Making

Collaborative decision making holds great promise for addressing difficult public policy issues. There are a number of general attributes that are worth considering at the outset before discussing why decisions on climate change are uniquely qualified to benefit from collaborative approaches.

Collaborative decision making can provide a forum for broad participation by multiple stakeholders, facilitate cooperative learning among the participants, and result in selection of the best policy choices.[15] It ensures an opening for group creativity and innovation that is often lacking in traditional regulatory processes. Collaborative decision making can be particularly powerful in the context of complex public policy issues, such as climate change, because it can create a dialogue based on hope[16] that can transcend the despair that leads to inaction.[17] By promoting ownership and empowerment among the stakeholders, collaborative decision-making can increase the likelihood of prompt action while reducing the likelihood of litigation.[18] While

15. Annecoos Wiersema, *Train Without Tracks: Rethinking the Place of Law and Goals in the Environmental and Natural Resources Law*, 38 ENVTL. L. 1239, 1252-53 (2008) (discussing collaborative decision making in the ecosystem management context).

16. R. McGreggor Cawley, *Still Beyond the Hundredth Meridian: Some Thoughts on Hope, Progress, and Politics*, 23 J. LAND RESOURCES & ENVTL. L. 1, 13 (2003).

17. AM. PSYCHOLOGICAL ASS'N, TASK FORCE ON THE INTERFACE BETWEEN PSYCHOLOGY AND GLOBAL CLIMATE CHANGE, PSYCHOLOGY AND GLOBAL CLIMATE CHANGE: ADDRESSING A MULTI-FACETED PHENOMENON AND SET OF CHALLENGES 148-150 (2009), http://www.apa.org/releases/climate-change.pdf (arguing that despair and other emotions, such as fear, can affect policy support for climate change action). *See also* Edna Sussman, *Climate Change Framing and Social Marketing: The Influences that Persuade*, 27 PACE ENVTL. L. REV. 313 (2009) (discussing the importance of understanding human behavior and the benefits of social marketing to garner the necessary public sentiment for taking action on climate change).

18. NAT'L POLICY CONSENSUS CTR, INTEGRATING COLLABORATIVE ACTIVITIES: PUBLIC DELIBERATION WITH STAKEHOLDER PROCESSES 1 (2007), http://www.policyconsensus.org/publications/reports/integrating_activities.pdf; *but see* Michael

collaborative decision-making may appear to be quite resource intensive because it often requires investment of more time up-front, it can ultimately produce results faster and with fewer resources than traditional processes.[19] As a result of up-front efforts that engender buy-in from multiple stakeholders, decisions made through collaborative processes are more lasting and more likely to be implemented than decisions made via traditional processes.[20]

Collaborative decision-making does not mean that the government cedes its authority to make decisions. It retains ultimate authority to impose its own solutions using traditional processes. In fact, collaborative decisions may actually thrive when the government's authorities are clear and purposeful.[21] Likewise, stakeholders retain their right to any alternatives to the collaborative process that are otherwise available to them.[22]

Collaborative decision-making is not a panacea alternative to traditional environmental regulation and will not always be the appropriate means of making environmental decisions.[23] It does not guarantee that cooperation among stakeholders will come easily nor does its adoption mean that resolution of complex

McCloskey, *Problems with Using Collaboration to Shape Environmental Public Policy*, 34 VAL. U. L. REV. 423 (2000) (arguing that collaborative decision making can take more time than traditional processes and might not reduce the likelihood of litigation).

19. Jody Freeman, *Collaborative Governance in the Administrative State*, 45 UCLA L. REV. 1, 24-25 (1997) (referring to EPA findings regarding benefits of negotiated rulemaking).

20. NAT'L POLICY CONSENSUS CTR., *supra* note 18, at 1.

21. Kirk Emerson & Peter Murchie, *Collaborative Governance and Climate Change: Opportunities for Public Administration*, *in* THE FUTURE OF PUBLIC ADMINISTRATION, PUBLIC MANAGEMENT, AND PUBLIC SERVICE AROUND THE WORLD: THE MINNOWBROOK PERSPECTIVE 141-61 (Rosemary O'Leary, Soonhee Kim & David Van Slyke eds., forthcoming 2009).

22. In any agreement-seeking process, both government and non-governmental stakeholders will be able to most effectively participate if they have a clear understanding of their best alternative to a negotiated agreement (BATNA). *See generally* ROGER FISHER & WILLIAM URY, GETTING TO YES: NEGOTIATING AGREEMENT WITHOUT GIVING IN (Bruce Patton ed., Penguin Books 1991) (1983). Likewise, in collaborative processes that do not seek agreement, it is important for stakeholders to understand their alternatives to participation.

23. Craig Anthony Arnold, *Working Out an Environmental Ethic: Anniversary Lessons from Mono Lake*, 4 WYO. L. REV. 1, 45 (2004) (noting the benefits of "collaborative problem-solving" while recognizing that there are limits to its use as an alternative to environmental law).

issues will be achieved. However, it is an important option to be considered, particularly for intractable problems like climate change, where government needs to take advantage of a wide range of opportunities for making progress. The following section discusses why collaborative decision making is particularly well suited for addressing climate change.

B. Collaborative Decision Making as a Strategy to Address Climate Change

The federal government is at a turning point on how it will reckon with climate change. The Obama Administration has taken bold steps to ensure that the issue remains front and center on the national agenda and that progress is made on a response. In the first nine months after President Obama's inauguration, the Administration, among other things, set in motion a process for establishing vehicle greenhouse gas emissions standards and stringent fuel economy standards,[24] issued a proposed and final Greenhouse Gas Reporting rule,[25] reversed the prior Administration's denial[26] of California's request for a waiver under the Clean Air Act to regulate greenhouse gases from motor vehicles,[27] responded to the Supreme Court decision in *Massachusetts v. EPA*[28] by proposing an endangerment finding

24. Proposed Rulemaking To Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards**,** 74 Fed. Reg. 49,454 (Sept. 28, 2009); Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program, 74 Fed. Reg. 24,904 (May 26, 2009) (proposing standards for renewable fuels). *See also* U.S. Envtl. Protection Agency, Final Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, http://www.epa.gov/climatechange/endangerment/downloads/FinalFindings.pdf (last visited Dec. 14, 2009).

25. Proposed Rule on Mandatory Reporting of Greenhouse Gases, 74 Fed. Reg. 16,448 (Apr. 10, 2009). *See also* U. S. Envtl. Protection Agency, Final Mandatory Reporting of Greenhouse Gases Rule, http://www.epa.gov/climatechange/emissions/ghgrulemaking.html (last visited Nov. 23, 2009).

26. Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12,156 (Mar. 6, 2008).

27. Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 74 Fed. Reg. 32,744 (July 8, 2009).

28. Massachusetts v. EPA, 549 U.S. 497 (2007).

under Section 202 of the Clean Air Act,[29] and initiated a rulemaking process to regulate greenhouse gases from stationary sources.[30] The President has also championed cap-and-trade legislation and is prepared to use the Clean Air Act as a backstop if Congress does not take action.[31]

Despite these efforts, after eight years of relative inaction on climate change by the Bush Administration, there is a major task at hand to build capacity on climate change science, law and policy, education, and technology. There is also a great need to build capacity on collaborative decision-making and public involvement on climate change. This can be accomplished, in part, by increasing the numbers of climate change stakeholder representatives and neutrals who are skilled in the process of collaborative decision-making.

While building process capacity may not always flow from the need to build substantive capacity on any particular environmental issue, many characteristics of the climate change problem suggest a need for process-oriented capacity-building now.[32] Among the factors that call for collaborative decision making are: (1) the need for adaptive management in the face of uncertainty; (2) the benefits of drawing upon the significant expertise gained by many state and local governments during the years of federal government inaction; (3) the expectation that a climate bill will necessitate intensive rulemaking; (4) the federal government's unique role in responding to natural disasters; (5) the international trans-boundary nature of impacts and solutions; and (6) the anticipated stress on infrastructure and resources due to climate change. A number of these factors also reflect the importance of the federal government as an agent for collaborative decision making. Each of these six factors are

29. Proposed Endangerment and Cause and Contribute Findings for Greenhouse Gases under the Clean Air Act, 74 Fed. Reg. 18,886 (Apr. 24, 2009).

30. EPA PROPOSED RULE, PREVENTION OF SIGNIFICANT DETERIORATION AND TITLE V GREENHOUSE GAS TAILORING RULE (2009), http://www.epa.gov/NSR/documents/GHGTailoringProposal.pdf.

31. *See* Darren Samuelsohn, *Obama Prefers Congress to EPA in Tackling Climate--Browner*, N.Y. TIMES, Feb. 23, 2009, *available at* http://www.nytimes.com/cwire/2009/02/23/23climatewire-obama-prefers-congress-to-epa-when-it-comes-t-9800.html.

32. Some of these factors apply to collaboration even where the federal government is not a party but many have specific import for the federal government as a vehicle for, or participant in, a collaborative effort.

discussed below. While they are by no means exclusive, these factors represent some of the most compelling reasons for why collaborative decision making should be embraced as a process solution to climate change.

1. Decision Making in the Face of Uncertainty: The Need for Adaptive Management

Climate change planning is fraught with uncertainty. First, on the global scale, despite an already existing robust body of data on climate change impacts, there is uncertainty about the precise timing and extent of those impacts. Additionally, scientists are constantly refining models and other predictive tools. The trend in new projections has been toward worsening impacts;[33] and if this trend continues, policy makers may find the need to revise their mitigation planning in a more aggressive manner. Second, while scientists have made significant advances in developing more reliable downscale models for regional and local impact projections, great uncertainty still remains. As a result, efforts to adapt to climate change will need to be revisited and updated frequently. Third, technological and other solutions will have to be selected and implemented without complete certainty about their effectiveness because we are in a race against time. Once implemented, these solutions might, in some cases, fail to help us mitigate or adapt and, in other cases, be rejected because they result in new environmental problems.

Given these three areas of uncertainty, decisions on climate change will have to be fashioned with the recognition that there may be a large range of probabilistic outcomes.[34] In addition, political will to take action appears to be on the rise[35] and can be expected to rise further as the voting public begins to experience, and gain awareness of actual climate change impacts.[36] As a result, more aggressive regulatory measures, which are

33. *See* PEW CTR. ON GLOBAL CLIMATE CHANGE, *supra* note 3.

34. Emerson & Murchie, *supra* note 21, at 141-61.

35. *See Fewer Americans See Solid Evidence of Global Warming*, PEW RESEARCH CTR. FOR THE PEOPLE & THE PRESS, Oct. 22, 2009, http://people-press.org/report/556/global-warming (describing how global warming awareness has dropped since the 2008 presidential campaign).

36. Educating and engaging the public will be a key element in achieving support for critical government action. *See generally* Sussman, *supra* note 17.

unthinkable today, may become possible. Given the scientific, technological, and political uncertainty, decisions on climate change mitigation and adaptation require a significant level of flexibility. A constant stream of new information will create the need to be nimble as policy makers find cause to update decisions. As such, decisions must be made in an experimental context with the recognition that some actions will fail[37] and opportunities for more effective options will arise.

Collaborative decision-making can "foster innovative, prompt, and efficient responses to changing conditions" and therefore provide the flexibility needed to adapt.[38] The term "adapt" in this context is distinguishable from the more typical usage of climate change adaptation, for example, by building a bigger sea wall. Instead, it refers to adapting our "management" of the problem, for example, by revisiting over time how high the sea wall needs to be. This concept applies to decisions made about both mitigation and adaptation and is often referred to as "adaptive management." Collaborative decision-making can be initiated with the goal of designing an adaptive management strategy. It can also create the necessary trust and shared experience among stakeholders to successfully carry out the ongoing decisions necessary for adaptive management.

The basic premise of adaptive management is that, as stakeholders obtain more information about a problem, they can adapt the way they manage the problem. This feedback loop allows the stakeholders to make decisions in the face of uncertainty with the recognition that they will modify decisions as they learn more.[39] Adaptive management is used in the resource management world as a way to deal with problems in large complex systems. As such, the approach would appear to have significant import for the problem of climate change.[40] In

37. Emerson & Murchie, *supra* note 21, at 141-61 (noting that "we will need to view governance more as an experiment, and less as a predictable machine").

38. Nancy P. Spyke, *Heeding the Call: Making Sustainability a Matter of Pennsylvania Law*, 109 PENN ST. L. REV. 729, 760 (2005).

39. *See* Richard Roos-Collins, *A Perpetual Experiment to Restore and Manage Silicon Valley's Guadalupe River*, 35 GOLDEN GATE U. L. REV. 291 (2005) (describing an adaptive management process).

40. *See* Barry L. Johnson, *The Role of Adaptive Management as an Operational Approach for Resource Management Agencies*, 3 CONSERVATION ECOLOGY 2, 8 (1999), *available at* http://www.ecologyandsociety.org/vol3/iss2/

fact, the U.S. Climate Change Science Program recognizes adaptive management as a strategy for dealing with the uncertainty of climate change: "[t]his method [adaptive management] supports managers in taking action today using the best available information while also providing the possibility of ongoing future refinements through an iterative learning process."[41]

The principle of adaptive management can be applied to aspects of climate change other than resource management. For example, it could prove useful when considering controversial technological fixes, such as carbon capture and sequestration, for mitigation purposes. While the precautionary principle[42] would favor acquiring sufficient knowledge before introducing a new technology into an ecosystem, adaptive management would recognize both the pressing need to take action and the potential for harm to an ecosystem when introducing the new technology.[43] The potential for harm arises because decision makers and stakeholders cannot wait for all questions to be answered before they take action.[44] Thus, they must weigh the amount of

art8/; Robert L. Glicksman, *Ecosystem Resilience to Disruptions Linked to Global Climate Change: an Adaptive Approach to Federal Land Management*, 87 NEB. L. REV. 833 (2009).

41. U.S. CLIMATE CHANGE SCI. PROGRAM & THE SUBCOMM. ON GLOBAL CHANGE RESEARCH, PRELIMINARY REVIEW OF ADAPTATION OPTIONS FOR CLIMATE-SENSITIVE ECOSYSTEMS AND RESOURCES 3 (2008), http://downloads.climatescience.gov/sap/sap4-4/sap4-4-final-report-all.pdf.

42. U.N. Framework Convention on Climate Change, Full Text of the Convention, http://unfccc.int/essential_background/convention/background/items/1349.php (last visited Nov. 23, 2009). In discussing the issue of climate change,

> The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.

Id. art. 3. *See also* Edna Sussman & David Major, *Fostering Progress Through Law and Regulation*, N.Y.U. ENVTL. L.J. (forthcoming 2010) (noting that the precautionary principle suggests that reasonable, prudent, and feasible measures should not be deferred pending scientific unanimity).

43. Deborah M. Hussey Freeland, *Maieusis Through a Gated Membrane: "Getting the Science Right" in Public Decision-Making*, 26 STAN. ENVTL. L.J. 373, 434 (2007).

44. Sussman & Major, *supra* note 42.

uncertainty they are willing to tolerate against the need for prompt action and determine how to manage that uncertainty and risk once an action has gone forward.

Successful implementation of adaptive management therefore requires mutual trust given the associated risk and uncertainty of experimentation.[45] Collaborative processes can help to build and maintain the trust among stakeholders needed for ultimate success given that there may be failures along the way. Moreover, collaborative processes can also provide a communication and process framework for bringing the same stakeholders back to the table as new information arises. Given the inherent uncertainty in fashioning climate change responses, collaborative decision making is more likely to result in selection of decisions that are better in the first instance, require fewer revisions, and are more adaptable when revisions are necessary.

2. Local, State, and Regional Action

Another factor that makes climate change planning well suited for collaborative decision-making is the important role that many states and local governments have already played in fashioning solutions. In the vacuum of eight years of federal inaction, states have taken the lead on climate change. As of April 2009, thirty-five states had completed or were poised to complete climate action plans, twenty states had adopted greenhouse gas reduction targets, and seventeen states had developed or were developing mandatory greenhouse gas reporting rules.[46] In addition, thirty-three states were participants or observers in three major regional cap-and-trade initiatives: (1) the Regional Greenhouse Gas Initiative (RGGI); (2) the Western Climate Initiative (WCI); and (3) the Midwest Greenhouse Gas Reduction Accord.[47] Strong motivation to take

45. Beth C. Bryant, *Adapting to Uncertainty: Law, Science, and Management in the Steller Sea Lion Controversy*, 28 STAN. ENVTL. L.J. 171, 203 (2009).

46. *American Clean Energy And Security Act of 2009: Hearing Before the H. Comm. on Energy & Com. on H.R.2454*, 111th Cong. 3 (2009) (testimony of Bill Becker, Executive Dir. of Nat'l Ass'n of Clean Air Agencies), [hereinafter *Testimony*] *available at* http://www.4cleanair.org/Documents/WaxmanMarkey BillNACAATestimonyFINAL042209.pdf.

47. For a current map of the states involved in these initiatives, *see* Pew Center on Global Climate Change, Regional Initiatives, http://www.pewclimate.

action on climate change also was experienced at the local level. More than 900 mayors signed the U.S. Conference of Mayors Climate Protection Agreement and pledged to meet or beat Kyoto Protocol targets in their communities.[48]

As discussed earlier,[49] the Obama Administration has clearly signaled its intention to take aggressive steps on climate change and Congress is closer to a climate bill than it has ever been in the past. However, the traditional model where the federal government makes decisions and the states implement those decisions is not likely to be successful. States have already invested a great deal of time and resources into fashioning their own individual responses to climate change[50] and will not want to be cast aside. Moreover, the federal government can benefit from lessons learned at the state and local level. The most significant import of state innovation on climate change may not be the emissions reductions they have achieved, but rather their ability to inform decisions on a national program.[51] As "laboratories of innovation," future state strategies can continue to inform federal policy and be a basis for revising federal programs.[52] In addition, states exercise primary authority in many areas, such as; land use, building codes, municipal waste, water supply, and transportation planning.[53] Therefore, a collaborative approach to comprehensive greenhouse gas mitigation and adaptation will

org/what_s_being_done/in_the_states/regional_initiatives.cfm (last visited Nov. 26, 2009).

48. *Testimony*, *supra* note 46, at 3.

49. *See supra* Part II.B.

50. Hope M. Babcock, *Dual Regulation, Collaborative Management, or Layered Federalism: Can Cooperative Federalism Models from Other Laws Save our Public Lands?*, 14 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 449, 456-61 (2008) (arguing that collaboration management of public lands is more likely to avoid friction with state government than the traditional "dominant federal" model, with its centralized, coercive control over state action).

51. Kirsten H. Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 N.Y.U. ENVTL. L.J. 54, 56-57 (2005).

52. NAT'L ASS'N OF CLEAN AIR AGENCIES, CONFERENCE MATERIALS FOR DEFINING THE ROLE OF STATES AND LOCALITIES IN FEDERAL GLOBAL WARMING LEGISLATION 10 (2008), http://www.4cleanair.org/documents/GWConferenceMaterials.pdf.

53. Robert B. McKinstry Jr., et al., *The New Climate World: Achieving Economic Efficiency in a Federal System for Greenhouse Gas Control Through State Planning Combined with Federal Programs*, 34 N.C. J. INT'L L. & COM. REG. 767, 771 (2009).

serve to maximize the relative opportunities of the states and federal government to address climate change.

As the federal government goes forward, it can also benefit from lessons learned by the states on the process by which they have generated the state climate change action plans. The state plans were developed using "bottom-up stakeholder and technical-work-group-driven processes."[54] Thus, the state experience in developing a response to climate change has been one rooted in collaborative decision making. This experience will likely inform state expectations for how the federal government will interact with state, local, and other stakeholders.[55]

3. Legislation

It is likely that Congress will pass some form of climate change legislation in the near future. Due to the pressing need to take aggressive action quickly, the legislation will probably require a considerable amount of federal rulemaking within a short period of time. It is not likely that the legislation will include many statutory provisions specifically compelling collaborative decision-making.[56] While there has been a great

54. *Id.* at 777. Many of these process-related innovations were developed by the Center for Climate Strategies. *See* Center for Climate Strategies, U.S. Climate Policy Action, http://www.climatestrategies.us/ (last visited Nov. 26, 2009).

55. This expectation is reflected in a discussion paper of the National Association of Clean Air Agencies. *See* NAT'L ASS'N OF CLEAN AIR AGENCIES, *supra* note 52, at 19 (noting "[a]s part of implementing a national GHG program . . . state and local experts could form an advisory body that provides real-time guidance to the implementing federal agency (likely EPA); such guidance would be used to improve program implementation").

56. One example of support for collaborative processes is in the Clean Energy Jobs and American Power Act, proposed by Senators Boxer and Kerry. *See* S. Doc. No. 111-1733 (2009). The relevant language is found not in a rulemaking provision, but in a section related to whether developing countries can participate in an offset program for reduced deforestation. To be eligible, developing countries must have a "national policy for consultations with, and full participation of, all stakeholders, especially indigenous and forest-dependent communities, in its design, planning, and implementation of activities, whether at the national or local level, to reduce deforestation in the country." S. Doc. No. 111-1733, § 744(e)(2)(c)(v) (2009). It is also likely that there will be a federal coordinating body, like a National Climate Service, in the climate legislation that emerges from Congress. *See infra* Part VI. For an example of legislation involving collaborative decision-making in another environmental context, *see* Sandra Zellmer & Lance Gunderson, *Lessons in*

deal of debate and discussion over the last several years about the design of a cap-and-trade program and other aspects of a climate change bill, little attention has been paid to the institutional or organizational approach to implementing such legislation.[57] Collaborative decision-making could help to achieve successful implementation of rulemaking under a climate bill.

The American Clean Energy and Security Act,[58] passed by the House of Representatives, would require federal agencies to promulgate many regulations in a short period of time. Under Title III, "Reducing Global Warming Pollution," alone, as much as sixty-five regulations would have to be promulgated and, in most cases, the regulations will have to be completed within the first two years of enactment.[59] This is a huge task particularly because of the complexity of the issues. Traditional rulemaking can result in an adversarial game in which information becomes a weapon rather than a tool for decision-making and is used to thwart and delay agency action.[60] In order to quickly develop rules that are not only likely to be effective but also survive litigation, the federal government can benefit from applying the Negotiated Rulemaking Act[61] or similar stakeholder processes. There are many stakeholders, including states and local government that have a great deal of experience to lend to climate change rulemaking. The federal government can best

Ecosystem Restoration from Glen Canyon and the Everglades, 87 NEB. L. REV. 893, 912-13 (2009) (discussing special legislation that requires collaborative decision making for certain restoration activities in the Everglades and in the Grand Canyon).

57. Barry G. Rabe, *Commentary*, 50 ARIZ. L. REV. 787 (2008).

58. American Clean Energy & Security Act of 2009, H.R. 2454, 111th Cong. § 331 (2009) (as passed by the House of Representatives, June 26, 2009).

59. *See* ROGER R. MARTELLA, AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009: REGULATORY RULE MAKING PROVISIONS (2009), http://www.sidley.com/files/Event/c878736b-0f8e4a369b45d6e7b2b991f3/Presentatiocn/EventAttachment/c4393717-179c-46d2-ba38-104dcecfff13/ACESA%20table.pdf (noting in Sidley and Austin's analysis that some of the sixty-five rulemaking actions could be potentially grouped together).

60. Bradley C. Karkkainen, *Breaking the Logjam: Environmental Reform for the New Congress and Administration: Panel II—Setting priorities: Framing Rules: Breaking the Information Bottleneck*, 17 N.Y.U. ENVTL. L.J. 75, 80-81 (2008) (arguing that an "information roadblock" is pervasive in environmental regulation).

61. Negotiated Rulemaking Act of 1990, Pub. L. No. 101-648, 104 Stat. 4976 (codified as amended at 5 U.S.C. §§ 561-570 (1990)).

leverage the expertise of these stakeholders through collaborative processes.

4. Natural Disasters and the Federal Government's Unique Role

Another factor that suggests the importance of using collaborative decision making to address climate change is the impact from anticipated increases in extreme weather events and natural weather related disasters. As the effects of climate change become more widespread, the federal government will increasingly be called upon to take action to respond to those effects. Catastrophic weather events, like Hurricane Katrina, will become more prevalent.[62] State government officials will not always have the resources to address the needs of their citizens. In addition to providing resources such as disaster relief funds and personnel, the federal government can act as a convener or facilitator of collaborative processes to assist with the many decisions that will have to be made among multiple stakeholders regarding repair, rebuilding, resiliency, and relocation of displaced people.

5. International Engagement

The global nature of climate change suggests the importance of collaborative decision making on the international level. The climate change crisis cannot be properly addressed without international engagement from the United States. While some state and regional organizations have achieved limited success with international outreach,[63] there is little dispute that the global crisis of climate change cannot be properly addressed without participation of the federal government. Indeed, many significant emitters among the developing nations will not agree

62. *See* U.S. Global Change Research Program, Hurricanes: A Compendium of Hurricane Information, Hurricanes & Climate Change, http://www.usgcrp.gov/usgcrp/links/hurricanes.htm (last visited Nov. 26, 2009) (predicting that hurricanes will become more intense because of warming sea surface temperatures).

63. *See* Western Climate Initiative, WCI Partners and Observers Map, http://www.westernclimateinitiative.org/wci-partners-and-observers-map (last visited Nov. 26, 2009) (the Western Climate Initiative includes four Canadian provinces).

to an international framework unless the U.S. government has engaged in the process. International efforts by the United States on a broad scale, as in a post-Kyoto agreement,[64] as well as on a smaller bilateral[65] or project-specific multilateral scale,[66] can benefit from collaborative approaches.[67]

6. Resources and Infrastructure

Climate change will stress existing resources and infrastructure and require new and creative uses of existing resources to meet the basic needs of the American people. Collaborative decision making can be an effective tool to help address these challenges. For example, water resource impacts from climate change may require all levels of government to reassess current institutional structures involved in our Nation's water supply and seek new collaborative arrangements.[68] The American West and other parts of the country are projected to experience severe drought, early springtime water runoff, and more competition for limited resources. Existing compacts designed to ensure adequate water supply to the Western states may be in jeopardy as water resources become scarcer and

64. *See* Cop15, Copenhagen, U.N. Climate Change Conference, http://en.cop15.dk/ (last visited Nov. 26, 2009) (stating the Conference of the Parties to the Framework Convention on Climate Change will meet in Copenhagen December 7-18, 2009 to consider a post-Kyoto agreement).

65. *See, e.g.*, Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and the Environment between the Government of the United States of America and the Government of the People's Republic of China, July 28, 2009, *available at* http://www.state.gov/documents/organization/126802.pdf (signed by U.S. State Department, agreement between China and the U.S.).

66. *See infra* Part V.C.3 (regarding the U.S. engagement with other countries in the Methane to Markets program).

67. A discussion of collaborative opportunities at the December 2009 15th Conference of the Parties (COP-15) meeting in Copenhagen is beyond the scope of this article. *See generally* Cop15, *supra* note 64; Pew Center on Global Climate Change, International, http://www.pewclimate.org/international (last visited Nov. 26, 2009).

68. Bret C. Birdsong, *Collaboration and the Colorado River: Seances, Cienegas, and Slop: Can Collaboration Save the Delta?,* 8 NEV. L.J. 853, 867-68 (2008) (discussing collaborative efforts to allocate waters in the Colorado River basin).

competition grows between states.[69] Stronger federal government involvement may be necessary to address water resource concerns just as it was to address trans-boundary air pollution. The federal government may be able to serve as convener or facilitator in seeking agreement between the states affected by shrinking water supplies.

The federal government may need to serve in a similar capacity, using collaborative decision making, with respect to changes in our energy supply and transmission. The U.S. Department of Energy has already launched a collaborative project with the Western Governors Association to designate zones for renewable energy projects and plan for power transmission from those zones to western load centers.[70] The federal government may also need to play a role in addressing potential disruption to existing energy supply distribution systems in the United States due to weather related impacts from climate change.[71] There will likely be increasing opportunities for the federal government to use collaborative decision making in other resource and infrastructure contexts such as transportation, grazing rights, pipeline access, and natural resource management, among others.

III. SUPPORT FOR COLLABORATIVE DECISION MAKING WITHIN THE FEDERAL GOVERNMENT

Collaborative decision-making thrives in an atmosphere of transparency and open government. This section first highlights the Obama Administration's shift to a more transparent and collaborative approach to governing; and then provide back-

69. Robert W. Adler, *Symposium Essay: Revisiting the Colorado River Compact: Time for a Change*?, 28 J. LAND RESOURCES & ENVTL. L. 19 (2008) (arguing that climate change is a reason to reconsider the Colorado River Compact).

70. Lynne Gillette et al., *Using Collaboration to Address Renewable Energy Siting Challenges*, 56 FED. LAWYER 54 (2009).

71. *See* U.S. CLIMATE CHANGE SCI. PROGRAM, EFFECTS OF CLIMATE CHANGE ON ENERGY PRODUCTION AND USE IN THE U.S., http://www.climatescience.gov/Library/sap/sap4-5/final-report/sap4-5-final-chap3.pdf (discussing how the effects from weather disruptions and warming temperatures on the U.S. energy infrastructure could be large in some localities, including the Gulf Coast, the Gulf of Mexico, and Alaska).

ground on the use of collaborative decision making in the environmental context.

A. The Obama Administration: Placing a New Emphasis on Transparency, Open Government, and Collaboration

Collaborative decision-making is part of a broader movement to rethink the way government conducts its business[72] in order to afford greater public involvement in government decisions. New approaches have been implemented to give the public greater opportunity to become involved in the decisions made by their government. President Obama has championed a philosophy of open government and on his first day in office, he issued the Transparency and Open Government Memorandum (Memorandum) for the heads of federal executive departments and agencies.[73] The Memorandum ushered in a new era in which the federal government is charged with being transparent, participatory, and collaborative;[74] a marked contrast to the prior Administration.[75] This shift in the federal government's

72. Emerson & Murchie, *supra* note 21, at 141-61 (discussing several streams of theory and practice of public decision making and management that have led to the emergence of collaborative governance).

73. Memorandum from the President of the U.S. to the Heads of Executive Dep'ts and Agencies on Transparency and Open Government, 74 Fed. Reg. 4,685 (Jan. 21, 2009) [hereinafter Transparency Memorandum], *available at* http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/. The President also issued, on his first day in office, the Freedom of Information Act (FOIA) Memorandum. *See* Memorandum on the FOIA from the President of the U.S. to the Heads of Executive Dep'ts and Agencies, 74 Fed. Reg. 4,683 (Jan. 21, 2009), [hereinafter FOIA Memorandum], *available at* http://www.whitehouse.gov/the_press_office/FreedomofInformationAct/. The FOIA Memorandum requires the federal government to return to the Clinton-era presumption in favor of disclosure; *see* Memorandum from the Attorney General to the Heads of Executive Departments and Agencies (Oct. 4, 1993), *available at* http://www.usdoj.gov/oip/foia_updates/Vol_XIV_3/page3.htm. The memorandum takes "affirmative steps to make information public" and does not "wait for specific requests from the public." FOIA Memorandum, *supra*. This approach was affirmed in a Memorandum issued by Attorney General Eric Holder on March 19, 2009. *See* Memorandum from the Attorney General to the Heads of Executive Departments and Agencies (Mar. 19, 2009), *available at* http://www.usdoj.gov/ag/foia-memo-march 2009.pdf.

74. Transparency Memorandum, *supra* note 73.

75. Jane E. Kirtley, *Transparency and Accountability in a Time of Terror: The Bush Administration's Assault on Freedom of Information*, 11 COMM. L. &

approach to governing is not only intended to promote accountability and engage citizens in the work of their government, but it is expected to foster increased effectiveness and improved decision-making.[76] The Memorandum encourages collaborative decision making, and other public involvement approaches, by instructing federal agencies to use "innovative tools, methods, and systems to cooperate among themselves, across all levels of government, and with organizations, businesses, and individuals in the private sector."[77] Another sign of the President's commitment to stakeholder involvement is the new Office of Public Engagement launched by President Obama on May 11, 2009 "to engage as many Americans as possible in the difficult work of changing this country."[78] This philosophy of open government has also found its way into the environmental arena. Environmental Protection Agency (EPA) Administrator Lisa Jackson stated the following in her initial Memo to EPA Employees: "I pledge that we will carry out the work of the

POL'Y 479 (2006) (concluding that the September 11, 2001 attacks provided a pretext for the Bush Administration's preference for secrecy in carrying out the business of government); Sudha Setty, *The President's Question Time: Power, Information, and the Executive Credibility Gap,* 17 CORNELL J.L. & PUB. POL'Y 247, 256-58 (2008) (discussing the lack of transparency in the Bush Administration and noting how it contrasted with the Clinton Administration's approach to the Freedom of Information Act).

76. *See* Kirtley, *supra* note 75; Setty, *supra* note 75. In the Transparency and Open Government Memorandum, the President directed the Office of Management and Budget (OMB), Chief Technology Officer, and General Services Administration, to make recommendations within 120 days regarding issuance of an Open Government Directive. The OMB thereupon launched the Open Government Initiative on May 21, 2009, to involve the public in making the recommendations. *See* The White House, Open Government Initiative, Transparency and Open Government, http://www.whitehouse.gov/open/ (last visited Nov. 26, 2009). Following a three-phase electronic public process, draft recommendations are currently being reviewed by government officials for implementation of the Memorandum. *See* Executive Office of the President Office of the U.S., http://www.mixedink.com/OpenGov/ (last visited Nov. 26, 2009).

77. Transparency Memorandum, *supra* note 73.

78. Press Release, The White House, Office of the Press Sect'y, President Obama Launches Office of Public Engagement, A New Name, Mission for White House Liaison Office (May 11, 2009), *available at* http://www.whitehouse.gov/the_press_office/President-Obama-Launches-Office-of-Public-Engagement/ (this office replaced the Office of Public Liaison and will have a new focus on obtaining ideas and information from the American people through public events and on-line interaction).

Agency in public view so that the door is open to all interested parties and that there is no doubt why we are acting and how we arrived at our decisions."[79]

Transparency and open government has been a key tool in building consensus on state climate action plans.[80] It is becoming an important element of federal collaborative decision making on climate change as well. Transparency figures into a range of specific processes that are being initiated by the federal government to ensure greater stakeholder involvement.[81]

B. Collaborative Processes in the Federal Government on Environmental Issues: A Foundation for Collaborative Decision Making on Climate Change

Although the Obama Administration has established a new emphasis on transparency and open government, collaborative decision-making is not new to the federal government and there is existing support for it, in particular, in the environmental arena.[82] The federal government's experience with environmental collaborative decision making provides an excellent foundation for its use in the context of climate change.

One of the most significant events to stimulate environmental collaborative decision-making in the federal government was Congress' enactment of the Environmental Policy and Conflict Resolution Act of 1998. This Act established the U.S. Institute for Environmental Conflict Resolution (IECR).[83] IECR's mission includes improving environmental decision-making in the federal government by increasing the capacity of agencies and other affected stakeholders to engage in environmental conflict

79. Memorandum from EPA Administrator Lisa P. Jackson to EPA (Jan. 23, 2009), *available at* http://www.epa.gov/administrator/memotoemployees.html.

80. Peterson, *supra* note 10, at 86-91 (2004).

81. *See infra* Parts IV-V (for discussion about a continuum of collaborative processes options and specific examples of those process options).

82. *See generally* Joseph A. Siegel, *Alternative Dispute Resolution in Environmental Enforcement Cases: A Call for Enhanced Assessment and Greater Use*, 24 PACE ENVTL. L. REV. 187, 189-96 (2007) (discussing federal statutory, policy and institutional support for environmental conflict resolution).

83. Environmental Policy and Conflict Resolution Act of 1998, Pub. L. No. 105-156, § 2, 112 Stat. 9 (1998) (codified as amended at 20 U.S.C. §§ 5601-5609 (2000)).

resolution.[84] Environmental conflict resolution is defined by IECR to include collaborative problem solving.[85] IECR meets with senior agency staff quarterly to provide guidance and facilitate information exchange on collaboration and other forms of environmental conflict resolution within the federal government.[86]

Several federal agencies have their own institutional structures to support collaborative decision making on environmental issues. For example, EPA established the Conflict Prevention and Resolution Center in 1999,[87] the Department of Interior established the Collaborative Action and Dispute Resolution Center in 2001,[88] and the Federal Energy Regulatory Commission established a similar service in 1999.[89]

In addition to institutional structures such as IECR and agency environmental conflict resolution centers, there have been important policy developments to support collaborative decision making in the federal government. Building on IECR's mission, a joint Memorandum issued by the Office of Management and Budget and the Council on Environmental Quality in 2005 instructed federal agencies to employ collaborative problem solving and, in recognition of the potential for improved outcomes and reduced costs, asked agency leadership to "recognize and support needed upfront investments in collaborative processes."[90]

84. U.S. Inst. for Envtl. Conflict Resolution, About Us, http://www.ecr.gov/HowWeWork/AboutUs.aspx#overview (last visited Nov. 26, 2009).

85. U.S. Inst. for Envtl. Conflict Resolution, Definition & Principles, http://www.ecr.gov/Basics/Principles.aspx (last visited Nov. 26, 2009).

86. *See* U.S. Inst. for Envtl. Conflict Resolution, Quarterly Interagency ECR Forums, http://www.ecr.gov/Resources/FederalECRPolicy/QuarterlyInteragencyForums.aspx (last visited Nov. 26, 2009) (the quarterly meeting agendas and summaries can be found at this site).

87. U.S. Envtl. Protection Agency, Conflict Prevention and Resolution Center, http://www.epa.gov/ adr/index.html (last visited Nov. 26, 2009) (EPA engaged in environmental conflict resolution for many years prior to establishment of the Center).

88. U.S. Dep't of the Interior, Office of Collaborative Action and Dispute Resolution, http://www.doi.gov/cadr/ (last visited Nov. 26, 2009).

89. Federal Energy Regulatory Commission, Alternative Dispute Resolution, http://www.ferc.gov/legal/adr.asp (last visited Nov. 26, 2009).

90. Memorandum from Joshua Bolten, Director, Office of Management & Budget, and James L. Connaughton, Chairman, Council on Environmental. Quality, to Secretary Administrator, (Nov. 28, 2005), *available at* http://www.ecr.gov/pdf/OMB_CEQ _Joint_Statement.pdf. *See also* Exec. Order

In reality, many federal agencies have policies to ensure that public involvement, consultation, and collaborative decision making is part of the way they do business with respect to environmental issues.[91] The Forest Service views collaborative decision making in the context of natural resource management, wherein "groups with different interests come together to address management issues across a large geographic region such as a forest, watershed, or landscape."[92] The Department of Interior (DOI) has adopted the "4 Cs" representing conservation through cooperation, communication, and consultation.[93] The DOI emphasizes "cooperation" to foster voluntary action, partnerships, and collaboration, "communication" to ensure accountability, transparency, and innovation through exchange of ideas, and "consultation" with those who possess knowledge and experience integral to the process. The National Park Service (NPS) views public involvement along a "continuum that ranges from providing information and building awareness, to partnering in decision making."[94]

The EPA also views public involvement along a continuum and has developed a template for considering stakeholder engagement, consultation, and collaboration. In May 2003, EPA issued its Public Involvement Policy,[95] which articulates the view

No. 13,352, 69 Fed. Reg. 52,989 (Aug. 26, 2004) (fostering "cooperative conservation" in the federal government); Memorandum from James L. Connaughton, Chairman, Council on Environmental. Quality, to Secretary Donald H. Rumsfeld et al., Implementing Executive Order 13,352 through a Competency Based Approach to Collaboration and Partnering (Nov. 28, 2005) (designed to develop competency in collaboration and partnering skills).

91. *See* Cooperative Conservation, Public Engagement Information Resources, http://cooperativeconservation.gov/get-involved/linkspublicengagement.html (last visited Nov. 26, 2009) (listing resources and links to federal agency and department web-based information on collaboration).

92. U.S. DEP'T OF AGRIC., FOREST SERV. NAT'L P'SHIP, OFFICE & NAT'L FOREST FOUND. PARTNERSHIP GUIDE: THE POWER OF PEOPLE WORKING TOGETHER (2005), http://www.partnershipresourcecenter.org/resources/partnership-guide/Partnership-Guide.pdf.

93. U.S. DEP'T OF INTERIOR, COOPERATIVE CONSERVATION: SUCCESS THROUGH PARTNERSHIPS 3, http://www.doi.gov/news/CoopConserv_PRINT.pdf.

94. U.S. DEP'T OF INTERIOR, NAT'L PARK SERVICE, DIRECTOR'S ORDER #75A: CIVIC ENGAGEMENT AND PUBLIC INVOLVEMENT 5-6 (2007), http://www.nps.gov/olicy/Orders/75A.pdf.

95. U.S. ENVTL. PROTECTION AGENCY, OFFICE OF POLICY, ECON. & INNOVATION, PUBLIC INVOLVEMENT POLICY OF THE U.S. EPA, http://www.epa.gov/

that effective public involvement can help the EPA to achieve its mission of protecting human health and the environment while promoting democracy, civic engagement, and the public trust in government.[96] Like the Association for Conflict Resolution,[97] EPA identifies three broad categories of public involvement that go beyond the simple one-way information and outreach mechanisms used for many government decisions. These broad categories include exchanging information with the public, empowering stakeholders to provide recommendations to EPA, and reaching mutually acceptable decisions with selected stakeholder representatives.[98] EPA refined the broad categories and developed a five-point template, discussed in the next section, for considering collaborative process options.

IV. A FIVE-POINT TEMPLATE FOR CONSIDERING THE FEDERAL ROLE IN CLIMATE CHANGE COLLABORATIVE DECISION MAKING AND PUBLIC INVOLVEMENT WITH NON-FEDERAL STAKEHOLDERS

EPA published a handbook to build on the three broad categories by providing detailed guidance to agency officials pursuing public involvement.[99] The process options included in the handbook range from limited stakeholder outreach to empowering public participation in, and even control of, decision making. The handbook provides a continuum of public consultation and collaboration with the following progression of public involvement categories: (1) outreach; (2) information exchange; (3) recommendations; and (4) agreements.[100] In practice, EPA has added a fifth category, referred to as stakeholder action. The EPA spectrum is modeled after a similar

publicinvolvement/pdf/policy2003. pdf [hereinafter EPA PUBLIC INVOLVEMENT POLICY].

96. *Id.* at 1.

97. *See infra* Part II.A.i.

98. EPA PUBLIC INVOLVEMENT POLICY, *supra* note 95, at 14-18.

99. DALTON & HARTER, *supra* note 13, at 6.

100. *Id.*

spectrum developed by the International Association for Public Participation (IAP2).[101]

As the spectrum progresses from outreach to stakeholder action, we are likely to see an increase in: (1) interaction among stakeholders; (2) opportunities for creative options; (3) commitment to action; (4) collaborative behavior; and (5) sharing of the government's authority to make decisions. In each category, except "stakeholder action" where the government plays a supporting role, the government typically retains ultimate authority to make the decision. However, each category involves a collaborative process that, at a minimum, informs the government decision.

As noted earlier, it is very important that when the federal government involves the public in an important policy issue, such as climate change, it provides clarity about which category the action falls into.[102] Failure to provide such clarity may lead to misunderstanding, mistrust, and expectations that cannot be met.[103] For example, if the government's goal is simply to exchange information with stakeholders but isn't clear about the limits to the stakeholder process, some participants may expect that the exchange of information is a preliminary step that will lead to an opportunity to make recommendations and, possibly, even enter into agreement with the government.

There are many factors that inform the federal government's decisions about which category along the spectrum it chooses for any particular action. Such factors may include, among others, time constraints on finalizing a decision, political support within the agency for a particular process, court orders and judicial

101. *See generally* INT'L ASS'N FOR PUB. PARTICIPATION, IAP2 SPECTRUM OF PUBLIC PARTICIPATION (2007), http://www.iap2.org/associations /4748/files/IAP2 %20Spectrum_vertical.pdf (this spectrum has been adopted by other organizations as well). *See*, *e.g.*, THE AD HOC WORKING GROUP ON THE FUTURE OF COLLABORATION & CONSENSUS ON PUB. ISSUES IMPROVING CLARITY ON COLLABORATION AND CONSENSUS BUILDING PROCESSES 4, http://www.mediate.com /acrepp/docs/Spectrum.pdf.

102. *See*, *e.g.*, JAMES L. CREIGHTON, DEP'T OF ENERGY, OFFICE OF INTERGOVERNMENTAL AND PUB. ACCOUNTABILITY, HOW TO DESIGN A PUBLIC PARTICIPATION PROGRAM 6, http://cooperativeconservation.gov/get-involved/DOE HowtoGuide.pdf.

103. It can also have the effect of diminishing the likelihood of future use of collaborative processes. *See* Ass'n for Conflict Resolution, Best Practices, *supra* note 11.

requirements, regulatory and statutory requirements, stakeholder expertise and depth of experience, and whether the action is novel or run of the mill.[104] It is important that the government consider these and other factors via a preliminary internal needs assessment to, in essence, take the temperature of the agency regarding its commitment to a collaborative process, before discussing options with the public. This internal assessment should be followed by an external situation assessment to gain a better understanding of the universe of potential stakeholders, their preferences, perspectives and needs.[105] The external situation assessment will help to ensure that the most appropriate process category along the spectrum is selected.

The next section presents examples of collaborative decision-making and stakeholder engagement on climate change involving the federal government using EPA's public engagement and collaboration spectrum. It should be noted that, while there are five elements of the spectrum, the lines between these elements are often blurred in that a particular collaborative process may fall into more than one element. Nonetheless, the spectrum serves as a useful vehicle for considering the kinds of collaborative processes that can be used to address climate change. As reflected in the discussion below, there are already many examples of collaborative efforts on climate change involving the federal government, and there are, no doubt, many more examples not reflected in this article. While there is no inventory of all such efforts, the examples below illustrate the range of collaborative process categories. Given the expected uptick in climate change action within the federal government, these categories can serve as a framework for considering options for future collaborative decision-making.

104. *Id*. at Appendix 1. The Association for Conflict Resolution provides a checklist to assist government officials in determining whether they should proceed with a collaborative process. This same checklist can be used to explore which category along the spectrum of collaboration to select.

105. DALTON & HARTER, *supra* note 13; *see generally* The Consensus Bldg. Inst. & The Land Use Law Ctr., Pace Univ. Law School, *Conducting Conflict Assessments in the Land Use Context: A Manual* (2000) (on file with author).

V. EXAMPLES OF COLLABORATIVE DECISION MAKING ON CLIMATE CHANGE

The examples in this section will begin with the information exchange category, rather than the less inclusive category of outreach. Collaborative decision-making implies some process of working together towards a common end. Although the government does work together with stakeholders in a minimal fashion when conducting outreach, the process is primarily intended as a mechanism to simply impart information to the public.[106] As such, this section will provide examples of the following processes along the spectrum: (1) information exchange; (2) recommendations; (3) agreements; and (4) stakeholder action. While these examples are not measured against any particular metric, they provide lessons-learned on collaborative processes and illustrate how the spectrum can be used to give consideration to options for future collaborative decision-making.

A. Information Exchange

During an information exchange, stakeholders share information, ideas, and concerns, and have the ability to define the problem, identify the issues, and discuss options.[107] Information exchange can be done with large or small groups of stakeholders, by invitation or through an open meeting. While the goal of information exchange is not to obtain collective group advice, it is possible to get individual viewpoints on preliminary government proposals, discuss a range of perspectives, and improve understanding and communication among stakeholders.[108] Transparency is particularly important in an information exchange process so that stakeholders are willing to be candid rather than positional and the dialogue can be open

106. According to the U.S. Institute for Environmental Conflict Resolution, "[c]ollaboration as a general term describes how people and organizations work together, literally meaning 'co-labor.' There are many ways to collaborate: informally or formally, as partners or in teams, in advisory capacities or as joint decision-makers. Collaboration is at the core of ECR [environmental conflict resolution] processes." U.S. Inst. for Envtl. Conflict Resolution, FAQs, http://www.ecr.gov/Basics/FAQs.aspx (last visited Nov. 26, 2009).

107. DALTON & HARTER, *supra* note 13, at 9.

108. *Id.*

and more productive.[109] The following examples of information exchange include two climate change rulemaking processes and a non-regulatory program called the USA National Phenology Network.

1. The Greenhouse Gas Reporting Rule

On December 26, 2008, in its 2008 Fiscal Year Consolidated Appropriations Bill, Congress authorized funding for EPA to propose and finalize a rule on mandatory reporting of greenhouse gas emissions.[110] This was a very important step for the federal government because a national approach to mitigating greenhouse gas emissions cannot be effective without first knowing current emissions by sector and then monitoring the decline over time.[111] Congress required EPA to issue the proposed rule under the Clean Air Act by September 26, 2008, and the final rule by June 26, 2009.[112] The proposal was not signed until early in the Obama Administration, on March 10, 2009, and published in the Federal Register on April 10, 2009.[113]

EPA went well beyond the usual public notice and comment requirements for rulemaking contained in Section 307(d) of the Clean Air Act.[114] While no public meetings are required under

109. Alejandro Esteban Camacho, *Mustering the Missing Voices: A Collaborative Model for Fostering Equality, Community Involvement and Adaptive Planning in Land Use Decisions*, 24 STAN. ENVTL. L.J. 269, 286 (2005).

110. Consolidated Appropriations Act, Pub. L. No. 110–161, § 6, 121 Stat. 1844, 2128 (2008).

111. Problems associated with the European Union Emissions Trading Scheme's failure to have robust baseline data can be found in, INT'L CLIMATE CHANGE PROGRAMS, THE LESSONS LEARNED FROM THE EUROPEAN UNION'S EMISSIONS TRADING SCHEME AND THE KYOTO PROTOCOLS' CLEAN DEVELOPMENT MECHANISM 17-20 (2008), http://www.gao.gov/new.items/d09151. pdf.

112. EPA was required to:

> 'develop and publish a draft rule not later than 9 months after the date of enactment of this Act, and a final rule not later than 18 months after the date of enactment of this Act, to require mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the United States.'

Consolidated Appropriations Act, Pub. L. No. 110–161, § 6, 121 Stat. 1844, 2128 (2008).

113. Mandatory Reporting of Greenhouse Gases, 74 Fed. Reg. 16,448 (proposed Apr. 10, 2009) (to be codified at 40 C.F.R. pts. 86, 87, 89).

114. Clean Air Act, 42 U.S.C. § 7607(d) (2006).

the Clean Air Act before publication of the proposed rule,[115] EPA conducted extensive outreach and held more than 100 meetings with over 250 stakeholders, including trade associations, potentially affected industries, state, local, and tribal government, environmental groups and non-governmental organizations (NGOs), the Department of Energy (DOE), and the U.S. Department of Agriculture (USDA).[116] At these meetings, EPA shared information about the proposed rule and encouraged input from the stakeholders. EPA also established technical work groups that "followed up with stakeholders on a variety of methodological, technical, and policy issues."[117]

Given the expertise that states and local governments have developed on many aspects of climate change and the experience they have had with implementing climate change programs, it is important that the federal government, in developing climate change regulations and policies, take advantage of the lessons learned. To that end, EPA met with state and regional organizations already involved in greenhouse gas reporting programs, such as the California Air Resources Board, The Climate Registry, and the Western Climate Initiative,[118] and "benefited from the leadership the States have shown in developing these programs and their experiences" and built upon those experiences to develop the proposed Greenhouse Gas Reporting Rule.[119]

EPA held two public meetings on the proposed rule, one in Arlington, Virginia, and the other in Sacramento, California.[120]

115. Under Section 307(d) of the Clean Air Act, EPA is not required to engage the public before the proposal is published. *Id.* Upon publication of the proposal in the Federal Register, EPA is only required to establish a docket and procedures for viewing the docket, provide a statement of basis and purpose, and specify the period for public comment and procedures for receiving comments. *Id.* § 7607(d)(2)-(4).

116. Mandatory Reporting on Greenhouse Gasses, 74 Fed. Reg. 16,457 (Apr. 10, 2009) (to be codified at 40 C.F.R. § 86, 87, 89, et seq.).

117. *Id.*

118. *Id.*

119. *Id.* EPA also benefited from existing federal programs involving greenhouse gas reporting, such as EPA's Climate Leaders, Combined Heat and Power Partnership, SmartWay Transport Partnership voluntary programs, DOE's 1605(b) Voluntary Registry, as well as mandatory reporting programs such as EPA's acid rain and NOx budget trading programs. *Id.* at 16,457-16,459.

120. *Id.* at 16,448.

The Agency also employed live audio web-streaming for remote participants in a novel approach to increase stakeholder access to the public meetings;[121] approximately 150 people took advantage of this option.[122] Even after publication of the proposed rule, EPA continued this very active outreach and by late July 2009, had interacted with several thousands of people through face to face meetings in both EPA's headquarters office in Washington, D.C. and several EPA regional offices throughout the country, and conducted or participated in approximately ten to twenty webinars, conference calls, and trade association meetings.[123] The EPA Administrator signed the final rule on September 22, 2009, and EPA used an "open door policy" for public input all the way through to promulgation of the final rule.[124]

While the full benefits of this collaborative approach cannot yet be measured, this robust[125] form of public participation can be considered as an alternative to negotiated rulemaking when the government decides that it lacks the internal or external political support or time for an agreement-seeking process.

2. Geological Sequestration Rule

On July 25, 2008, EPA published the Proposed Federal Requirements Under the Underground Injection Control Program

121. Telephone Interview with Katherine Sibold, Program Manager, Office of Atmospheric Programs, U.S. EPA (July 29, 2009). Approximately 200 people attended in person, indicating that the web-streaming increased attendance by roughly 75%.

122. *Id.*

123. *Id.* All tolled, EPA met with over 4,000 people and 135 groups by the time the final rule was issued. U.S. ENVTL. PROTECTION AGENCY, PUB. NO. EPA-HQ-OAR-2008-0508, PREAMBLE TO EPA FINAL RULE, MANDATORY REPORTING OF GREENHOUSE GASES 19 (2008), http://www.epa.gov/climatechange/emissions/downloads09/Preamble SecI-II.pdf.

124. *Id.*

125. A detailed discussion of three examples of EPA negotiated rulemaking and four examples of OSHA negotiated rulemaking can be found in, Charles C. Caldart & Nicholas A. Ashford, *Negotiation as a Means of Developing and Implementing Environmental and Occupational Health and Safety Policy*, 23 HARV. ENVTL. L. REV. 141 (1999). *See also* Jody Freeman & Laura I. Langbein, *Regulatory Negotiation and the Legitimacy Benefit*, 9 N.Y.U. ENVTL. L.J. 60 (2000) (suggesting that, based on empirical data, negotiated rulemaking is superior to conventional rulemaking).

for Carbon Dioxide Geologic Sequestration Wells[126] under the Safe Drinking Water Act's Underground Injection Control program.[127] This proposal was, in part, the product of a stakeholder process that, like the Greenhouse Gas Reporting Rule, went beyond the normal statutory public process requirements. EPA held two facilitated public stakeholder workshops, in December 2007, and February 2008, with participants from industry, environmental groups, utilities, academia, States, and the general public.[128] At the first workshop, EPA listened to stakeholders' perspectives and concerns and discussed, among other things, the rulemaking process.[129] In the second workshop, EPA discussed how current Underground Injection Control (UIC) program elements could be tailored to geological carbon sequestration and conducted smaller sessions to discuss key technical issues.[130] A diverse group of stakeholders engaged in the information exchange, including states, tribes, local government, water utilities, and associations in the drinking water and geology sectors.[131] EPA indicated in its July 25th proposal that "technical discussions and stakeholder feedback from these workshops were used to inform today's proposal."[132]

EPA used an outside facilitator to further its goal of information exchange[133] during development of the proposed rule on geological sequestration. In one of the facilitated stakeholder meetings, EPA recognized the importance of proposing the rule in an expedited fashion while incorporating new information over

126. Federal Requirements Under the Underground Injection Control Program for Carbon Dioxide Geologic Sequestration Wells, 73 Fed. Reg. 43,492 (July 25, 2008) (to be codified at 40 C.F.R. pt. 144, 146) [hereinafter Federal Requirements]; *see* Safety of Public Water Systems, 42 U.S.C. §§ 300f–300j-26 (2006); Underground Injection Control Program, 40 C.F.R. pt. 144 (2009).

127. 42 U.S.C. § 300(h) (2006); 40 C.F.R. pt. 140-48 (2009).

128. Federal Requirements, *supra* note 126, at 43,501.

129. *Id.*

130. *Id.*

131. *Id.*

132. *Id.*

133. U.S. ENVTL. PROTECTION AGENCY, SUMMARY OF PUBLIC WORKSHOP TO DISCUSS PROPOSED UIC REGULATIONS FOR GEOLOGIC SEQUESTRATION OF CARBON DIOXIDE (2008), http://www.epa.gov/ogwdw000/uic/pdfs/page_uic_washingtondc_feburay2008_summary.pdf.

time as an adaptive component of the regulation.[134] EPA also indicated that it may accept new data for consideration after the rule is written through a notice of data availability and sought stakeholder input on how to ensure adaptability of the rule.[135] The adaptive approach discussed during the information exchange was incorporated into the proposed rule as a way to strike the balance between the fast pace needed for implementation of geological sequestration and the importance of tracking new data and information gained during implementation.[136]

One topic of discussion that arose during the information exchange was whether EPA could develop improved methods for public participation on UIC permits. In its proposed rule, EPA sought comment on whether advanced information gathering and dissemination methods should be employed.[137] Existing public participation requirements require: a thirty-day notice and comment period; public notice via newspapers, postings, or mailings to interested parties; a fact sheet; a statement of basis; and a summary of the responses to comments.[138] There are also procedures for public hearings, public meetings, and advisory groups.[139] EPA acknowledged in the proposal that newer methods for more robust interaction with the public have become available, such as "roundtables, constituency meetings, charrettes (workshops designed to involve the public in a planning or design process), information gathering sessions, cable TV, and the Internet."[140] EPA sought comment on employing newer forms of public participation requirements and also requested comments on engaging communities in the site characterization process as soon as candidate locations for wells are identified.[141] As this example suggests, an information exchange process can lead to consideration of issues that go beyond the limited subject matter

134. *Id.* at 4.

135. *Id.* at 7.

136. Federal Requirements, *supra* note 126, at 43,522.

137. *Id.* at 43,523.

138. Procedures for Decisionmaking Decisions Making, 40 C.F.R. § 124 (2009).

139. Public Participation in Programs Under the Resource Conservation Recovery Act, the Safe Drinking Water Act, and the Clean Water Act, 40 C.F.R. § 25.5-25.7 (2009).

140. Federal Requirements, *supra* note 126, at 43,523.

141. *Id.*

of the rule and assist the government to more broadly improve public participation. It can also lead to a dialogue about using adaptive management in climate change decision making.

3. USA National Phenology Network

As illustrated by EPA's approach to public participation for the Greenhouse Gas Reporting rule and the Geological Sequestration rule, information exchange can occur in the context of one agency seeking input from diverse stakeholders so that the agency can make better decisions on climate change. Another type of information exchange occurs when multiple stakeholders come together in a non-regulatory context to enter into a collaborative process for gathering and sharing information without any single entity being in a lead role or decision-making capacity. An example of this context is the USA National Phenology Network, which brings together a wide range of stakeholders including, federal agencies, state and local governments, citizen scientists, non-profit groups, educators, and students to monitor the impacts of climate change on plants and animals in the United States.[142]

Phenology is the study of recurring plant and animal life cycle events, such as "leafing and flowering of plants, maturation of agricultural crops, emergence of insects, and migration of birds."[143] These life cycle events have been shifting as a result of climate change. The USA National Phenology Network uses the power of the Internet to empower stakeholders to enter phenological observations into an online database that can be used to assist decision-makers in responding to climate change.

Among the many partners in this effort are several federal agencies, including the EPA, U.S. Geological Survey, U.S. Fish and Wildlife Service, and the U.S. Forest Service.[144] It is worth noting that the USA National Phenology Network was not the

142. National Phenology Network, http://www.usanpn.org/ (last visited Nov. 26, 2009).

143. *Id.*

144. National Phenology Network USA-NPN Partner Relationships, http://www.usanpn.org/?q=npn_partners (last visited Nov. 26, 2009). The federal agencies provide a wide range of support, including the Network's cyber infrastructure, planning and implementation workshops, pilot programs, as well as programmatic support for education and outreach.

collective brainchild of these agencies. Rather, it was initiated by two individuals, one from academia and one from the U.S. Geological Survey.[145] The founding of this network illustrates that opportunities for collaborative decision-making on climate change involving federal partners can be initiated by experts and institutions both outside and inside the federal government. Given the broad range of knowledge in academia, the private sector, and state and local governments, the federal government can look for opportunities to engage in collaborative decision-making on projects initiated by non-federal entities.

B. Recommendations

The recommendations process differs from information exchange in that it is intended to draw upon the collective viewpoint or recommendation[146] of a group of diverse stakeholders, typically selected by EPA to represent a balance of different interests.[147] The group will make recommendations based upon a consensus, majority vote, or some combination of the two. Both EPA and the stakeholders enter this process understanding that the recommendations might not be fully adopted by EPA and, even if adopted, EPA's decision might not be fully supported by the stakeholders.[148]

An excellent example of the recommendations process involves the Advanced Coal Technology Workgroup (Workgroup), a subcommittee of the Clean Air Act Advisory Committee formed under the Federal Advisory Committee Act (FACA) [149] to make

145. This Network was initiated in 2005, when co-founders Mark Schwartz, a professor at University of Wisconsin-Milwaukie, and Julio Betancourt, a senior scientist at the U.S. Geological Survey, independently saw the need for the Network and teamed up to plan a workshop for developing an implementation plan. *See* National Phenology Network, History, http://www.usanpn.org/?q=history (last visited Nov. 26, 2009); *see also* National Phenology Network, Board of Directors, http://www.usanpn.org/?q=board-directors (last visited Nov. 26, 2009).

146. The recommendations process often triggers the requirements of the Federal Advisory Committee Act, 5 U.S.C. app. §§ 1-16 (2006) (which can apply when a federal agency is seeking collective advice).

147. DALTON & HARTER, *supra* note 13, at 11.

148. *Id.*

149. Federal Advisory Committee Act, 5 U.S.C. app.2 § 9(c) (2006).

recommendations to EPA.[150] The Workgroup was charged with initiating a one-year process to identify potential barriers and opportunities under the Clean Air Act to creating incentives for the development and deployment of advanced coal technologies.[151] Advanced coal technology includes carbon capture and sequestration approaches such as Integrated Gasification Combined Cycle technology.[152] The Workgroup was also charged with ensuring a diversity of stakeholder views and perspectives and included, among others, members from utilities, pollution control providers, coal companies, state and tribal government, NGOs and environmental organizations, public utility commissions, academia, consultants, and experts on carbon capture and storage.[153] EPA, the Department of Energy, and the Department of Defense participated as non-voting members of the Workgroup.[154]

The Workgroup met in person or via teleconference approximately fifteen times over the course of one year[155] and produced a final report in January 2008, with recommendations to EPA.[156] The Workgroup achieved consensus on thirteen recommendations, most of which related to reduction of greenhouse gas emissions through advanced coal technology. In pursuing consensus on the thirteen recommendations, the Workgroup agreed, pursuant to a Workgroup Charter (Charter) to "operate according to a 'substantial consensus' principle."[157] Substantial consensus under the Charter meant that, "not every member might completely agree with every decision the Work

150. U.S. Envtl. Protection Agency Advanced Coal Technology Work Group Background, http://www.epa.gov/air/caaac/coaltech_background.html (last visited Nov. 26, 2009).

151. Advanced Coal Technology Workgroup-Background and Other Information, http://www.epa.gov/air/caaac/coaltech_background.html (last visited Nov. 26, 2009) (this workgroup is currently inactive).

152. *Id.*

153. U.S. ENVTL. PROTECTION AGENCY ADVANCED COAL TECHNOLOGY WORK GROUP, FINAL REPORT 8-9 (2008), http://www.epa.gov/air/caaac/coaltech/2008_01_final_report.pdf [hereinafter EPA ADVANCED COAL TECH. WORK GROUP].

154. *Id.* at 9.

155. *See* Advanced Coal Technology Workgroup—Past Meetings, http://www.epa.gov/air/caaac/coaltech_past.html (last visited Nov. 26, 2009) (agenda and presentations for each meeting are available for download).

156. EPA ADVANCED COAL TECH. WORK GROUP, *supra* note 153.

157. *Id.* at 9.

Group made. In those cases, the Work Group attempted to balance views to the extent possible in reporting on the recommendation and incorporating alternate viewpoints."[158]

Among the recommendations in the final report was one involving carbon capture and storage. Specifically, the Workgroup recommended that, given "the potential national importance of geological sequestration, EPA should designate a new well class for geologic sequestration of carbon dioxide in its upcoming UIC rulemaking" under the Safe Drinking Water Act.[159] This recommendation went beyond the Workgroup's original charge to examine barriers and opportunities under the Clean Air Act and, in part, led to the stakeholder process for the UIC rule[160] discussed in Part V section A of this article.[161] Thus, a process in one category along the continuum can lead to opportunities for collaboration in other categories.

C. Agreements

Agreement processes are those designed to reach a mutually acceptable decision through agency/stakeholder consensus that the parties agree to implement.[162] The agreement may or may not be legally binding but, regardless, is likely to create a sense of ownership among the stakeholders that encourages widespread support for implementation.[163] The classic example of an agreement-seeking collaborative process is a negotiated rulemaking.[164] As noted earlier, in light of the potential deluge of

158. *Id.*

159. *Id.* at 5.

160. *See* Robert Brenner, Director, Office of Policy Analysis & Review, Office of Air, EPA, and Stephen Heare, Director, Drinking Water Prot. Div., Office of Water, EPA, Presentation at EPA Public Workshop on Geologic Sequestration of CO_2 : Geologic Sequestration of Carbon Dioxide Under the Safe Drinking Water Act's Underground Injection Program (Feb. 26, 2008), *available at* http://www.epa.gov/ogwdw000/uic/pdfs/page_uic_washingtondc_feburay2008_presentations.pdf.

161. *See supra* notes 106–45 and accompanying text.

162. DALTON & HARTER, *supra* note 13, at 13.

163. *Id.* at 14.

164. For a detailed discussion of three examples of EPA negotiated rulemaking and four examples of OSHA negotiated rulemaking, *see* Caldart & Ashford, *supra* note 125, at 141; *see also* U.S. ENVTL. PROTECTION AGENCY, NEGOTIATED RULEMAKING FACT SHEET (2009), http://www.epa.gov/adr/factsheetregneg.pdf.

rulemaking[165] that may flow from climate change legislation, negotiated rulemaking is an excellent option for collaborative decision-making. However, agreement-seeking collaborative processes arise in quite a wide range of contexts, including settlement agreements, statements of principles, consensus permits, among others, as illustrated by the examples below.

1. Multi-Stakeholder Motor Vehicle Agreement

On May 19, 2009, President Obama set into motion a "new national policy aimed at both increasing fuel economy and reducing greenhouse gas pollution for all new cars and trucks sold in the United States."[166] The policy is the result of collaboration between the EPA, Department of Transportation (DOT), State of California, major automobile manufacturers, United Auto Workers Union, and leading environmental groups. According to EPA Administrator Lisa P. Jackson, as reported in the White House press release on the collaboration:

> The President brought all stakeholders to the table and came up with a plan to help the auto industry, safeguard consumers, and protect human health and the environment for all Americans . . . A supposedly "unsolvable" problem was solved by unprecedented partnerships.

This collaborative effort came about in the context of one of the most highly contested areas of climate change law and policy—greenhouse gas regulation of motor vehicles. The automobile industry, California, and other states have been in litigation for years over state greenhouse gas emissions standards for motor vehicles.[167] Compounding the complexity of the issues was EPA's decision in 2008 to deny California a waiver from

165. *See supra* Part II.B.3.

166. Press Release, Office of the Press Sec'y, White House, President Obama Announces National Fuel Efficiency Policy (May 19, 2009), *available at* http://www.whitehouse.gov/the_press_office/President-Obama-AnnouncesNational-Fuel-Efficiency-Policy/.

167. For a list of cases involving challenges to vehicle standards, *see* Columbia Law School Climate Litigation Chart, http://www.climatecasechart.com/ (last visited Nov. 26, 2009).

preemption under the Clean Air Act's motor vehicle provisions[168] and DOT's delayed promulgation of fuel economy standards under the Energy Policy and Conservation Act.[169] As a result of the collaborative effort that led to the White House announcement on May 19, 2009, key parties signed letters of commitment in which they agreed to end litigation regarding these issues and also committed to specific terms for the vehicle model years 2009-2016.[170]

Unlike the public process that took place in the context of the Greenhouse Gas Reporting Rule and Underground Injection Rule, the collaboration on control of greenhouse gases from motor vehicles was done without transparency. While no formal explanation was provided by the parties about the rationale for conducting the process in a closed fashion, the complexity of the issues and longstanding nature of the conflict between the parties may have made it difficult to successfully collaborate and reach an agreement using an open process. This suggests that while transparency may be a positive element of successful collaboration in many contexts, there may be occasions, particularly in agreement-seeking settings where the dispute between the parties is already joined, when the primary stakeholders may see transparency as a deterrent to a successful resolution. A broad lesson learned from this example is that there is no one "right" set of tools for each collaborative process along the spectrum. Rather, the design of each collaborative effort must be tailored to the specifics of the situation and needs of the parties.

2. National Climate Change and Wildlife Science Center

Recognizing the lack of scientific information regarding plant and animal adaptation to climate change, the U.S. Geological

168. Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12,156 (Mar. 6, 2008).

169. Pub. L. No. 94-163, 89 Stat. 871 (1975) (codified as amended at 49 U.S.C. § 32901 (2006)).

170. *See* U.S. Envtl. Protection Agency Transportation and Climate at Regulations and Standards, http://www.epa.gov/otaq/climate/regulations.htm (last visited Nov. 26, 2009) (providing the commitment letters, terms of the agreement and more details about the announcement).

Survey, the science agency of the U.S. Department of the Interior, established the National Climate Change and Wildlife Science Center (NCCWSC) to, among other things, link physical climate models with ecological and biological responses.[171] The broad goal of the NCCWSC is to use forecasting products from climate and other models to assist fish, wildlife, and land managers in their design of suitable adaptive management approaches for their programs.[172] In carrying out this broad goal, the NCCWSC plans to "build on existing regional partnerships to foster joint decision making and prioritization by scientists and managers.[173]

As an early step in furthering the work of the NCCWSC, in December 2008, the USGS convened a workshop with 200 participants from a broad array of stakeholders including state and federal agencies, tribal organizations, academia and NGOs.[174] The workshop sought to "identify research needs and priorities, devise strategies for partnerships and collaboration, and to begin to design a structure for the [NCCWSC]."[175] Recognizing the variety of scientific methods to predict impacts from climate change, one goal of the meeting was to find ways to "link together different scientific approaches and models for forecasting the impacts of climate change and adaptation on fish, wildlife and their habitats."[176]

In order to build on the December 2008 workshop, the USGS convened a series of regional workshops in spring 2009 to "help develop the structure of the NCCWSC and partnership mechanisms needed to link climate science and national resource management in the United States."[177] The structure was envisioned as:

171. U.S. GEOLOGICAL SURVEY, NAT'L CLIMATE CHANGE AND WILDLIFE SERVICE CTR. (2009), http://nccw.usgs.gov/documents/NCCWSC-information-031609.pdf (noting that Congress included $1.5 million in the FY 2008 Appropriations Bill for USGS to create the Center).

172. *Id.*

173. *Id.*

174. U.S. GEOLOGICAL SURVEY NAT'L CLIMATE CHANGE & WILDLIFE SCI. CTR., SUMMARY WORKSHOP REPORT 2 (2008), http://nccw.usgs.gov/documents/NCCWSC_Summary_Work shop_Report.pdf.

175. *Id.*

176. *Id.*

177. U.S. GEOLOGICAL SURVEY, NAT'L CLIMATE CHANGE & WILDLIFE SCI. CTR., EASTERN REGIONAL WORK-SHOP, WORKSHOP SUMMARY 1 (2009), http://nccw.usgs.gov/documents/NCCWSC_Eastern_Workshop_Summary .pdf.

> [A] collaborative system of NCCWSC Regional Climate Science Hubs working with a national headquarters and with external adaptive application partnerships jointly organized by willing partners. These partnerships would create feedback loops to inform science priorities and adaptive resource management at regional and finer scales.[178]

Options for the structure of the NCCWSC and its hubs were discussed at each of the three regional workshops.[179] Following the workshops, USGS issued a report outlining how joint decisions will be made under the umbrella of the NCCWSC.[180] Unlike a negotiated rulemaking or the multi-stakeholder motor vehicle agreement, which are temporally limited endeavors to reach one final agreement, the NCCWSC is an example of a program in which decisions will be made on an ongoing basis by the parties. This can be particularly powerful in the context of climate change because it allows for an iterative process that can support adaptive management. Specifically, an adaptive management approach can be used to plan for species at risk. Information from the NCCWSC can assist land managers in conducting anticipatory adaptation before significant impacts are experienced. Examples include forest management in advance of significant species decline, creation of habitat corridors for species faced with migration, and prohibition of road development that would fragment habitats.[181] The information can also be used for reactive adaptation once the impacts have occurred. Examples include controlling invasive species that have, due to climate change, gained the opportunity to destroy habitats of native species, and reintroduction of native species to former habitats.[182] The collaborative structure of the NCCWSC appears to reflect a concept referred to by one author as "collaborative management,"

178. *Id.*

179. U.S. GEOLOGICAL SURVEY, NAT'L CLIMATE CHANGE & WILDLIFE SCI. CTR., 2009 NATIONAL WORKSHOP, WORKSHOP SUMMARY 1 (2009), http://nccw.usgs.gov/documents/NCCWSC_2009_National_Workshop_Summary.pdf.

180. U.S. GEOLOGICAL SURVEY, NAT'L CLIMATE CHANGE & WILDLIFE SCI. CTR., PROPOSED 5-YEAR STRATEGY (2009), http://nccw.usgs.gov/doc uments/NCCWSC_5_year_strategy_ver_7-13-09b.pdf.

181. Glicksman, *supra* note 40, at 888-91.

182. *Id.* at 848.

in which multiple stakeholders operate in a non-hierarchical cooperative effort to make decisions in response to a shared problem.[183] This structure will allow NCCWSC stakeholders to react to changing information and take adaptive measures in response.

3. Methane to Markets

The Methane to Markets Partnership (Partnership) is a non-binding voluntary international framework for reducing methane emissions by recovering methane gas for use as an energy source.[184] Methane, which is twenty-five times more potent as a greenhouse gas than carbon dioxide,[185] is addressed by the Partership through a multi-lateral, bi-lateral, and private sector collaboration to facilitate methane recovery projects in four sectors: (1) agriculture, in particular, animal waste management; (2) coal mines; (3) landfills; and (4) oil and gas systems.[186] The Partnership was launched by the United States in 2004 with fourteen nations and as of this year, there are thirty partner nations.[187]

A Steering Committee governs the overall policies, procedures, and framework of the Partnership, provides guidance to subcommittees, and conducts an annual review of the Partnership's progress.[188] The Steering Committee makes

183. *See* Babcock, *supra* note 50, at 473 (discussing the federal-state consensus model, termed "collaborative management" used in the Clean Water Act's National Estuary Program).

184. Methane to Markets, About the Partnership, http://www.methanetomarkets.org/m2m2009/about/index.aspx (last visited Nov. 26, 2009). *See also* Jeffrey McGee & Dr. Ros Taplin, *The Asia-Pacific Partnership and the United States' International Climate Change Policy*, 19 COLO. J. INT'L ENVTL. L. & POL'Y 179 (2008) (providing information about other voluntary international partnerships).

185. U.S. ENERGY INFORMATION ADMIN., EMISSIONS OF GREENHOUSE GASES IN THE UNITED STATES 11 (2008), http://www.eia.doe.gov/oiaf/1605/ggrpt/pdf/0573(2007).pdf (based upon the IPCC Fourth Assessment Report).

186. Methane to Markets, http://www.methanetomarkets.org/ (last visited Nov. 26, 2009).

187. Methane to Markets, Partner Countries, http://www.methanetomarkets.org/m2m2009/partners/index.aspx (last visited Nov. 26, 2009).

188. Methane to Markets, Terms of Reference, http://www.methanetomarkets.org/m2m2009/about/terms.aspx (last visited Nov. 26, 2009).

decisions by consensus and meets at least once each year.[189] It is comprised of a Chair and twenty member nations.[190] The Chair is the U.S. EPA Assistant Administrator for Air.[191] Although the Chair is a United States official, she serves as a neutral facilitator to help move the Steering Committee toward consensus in its decision making.[192] Independent of the Chair, the United States also has a non-neutral member on the Steering Committee who represents the United States interests.[193] This program is a model for future partnerships in which nations engage in facilitated decision making on climate change by consensus. While major international negotiations, such as the Conference of the Parties meeting in Copenhagen, present far more complexity and therefore require more sophisticated process design,[194] there will be many opportunities for the kind of partnership forged in the Methane to Markets program.

4. Dallas Sustainable Skylines Initiative

In March 2007, a Memorandum of Understanding was entered into by the EPA, the City of Dallas, and the North Central Texas Council of Governments, for the purpose of developing and implementing a three-year partnership known as the Dallas Sustainable Skylines Initiative (Initiative).[195] The purpose of this three party Initiative was to promote sustainability in Dallas (with an emphasis on air quality) through voluntary programs, and serve as a model for other such initiatives.[196]

189. *Id.*

190. Methane to Markets, Steering, http://www.methanetomarkets.org/m2m2009/steering/index.aspx (last visited Nov. 26, 2009).

191. *Id.*

192. Telephone Interview with Paul Gunning, Chief, Non-CO_2 Programs Branch, Climate Change Division, U.S. EPA (June 9, 2009).

193. *Id*. *See also* Methane to Markets, Steering, *supra* note 190.

194. For discussion of some potential issues and options for a Copenhagen agreement, *see* Hunter, *supra* note 10, at 247; *see also* Annie Petsonk, *Docking Stations: Designing a More Welcoming Architecture for a Post-2012 Framework to Combat Climate Change*, 19 DUKE J. COMP. & INT'L L. 433 (2009).

195. Memorandum of Understanding between the U.S. Environmental Protection Agency, the City of Dallas, and the North Central Texas Council of Governments (Mar. 21, 2007) [hereinafter Dallas Memorandum], *available at* http://www.sustainableskylines.org/Dallas/documents/mou2007.pdf.

196. *Id.*

Prior to development of the Memorandum of Understanding, the Initiative was kicked off in December 2006 with a two-day facilitated brainstorming session that resulted in fifty-eight project ideas.[197] The parties spent the next three months winnowing down the project ideas to a total of seven.[198] While climate change was not specifically identified in the Memorandum of Understanding as one of the purposes of the Initiative, most of the seven selected projects mitigate greenhouse gas emissions. The projects include: completion of a greenhouse gas strategy for Dallas; implementation of a green buildings project and a renewable energy/energy efficiency outreach program; replacement of existing taxis with green taxis; establishment of a program to reduce the urban heat island effect in Dallas; and provision of on-site technical assistance to industry on, among other things, energy efficiency.[199]

The seven projects were selected on a consensus basis and defined in the Memorandum of Understanding as a two-thirds majority, provided that the majority includes the City of Dallas.[200] The Initiative was started with $250,000 of EPA seed money which drew another $3.7 million from non-federal government entities and the private sector,[201] as well as approximately twenty partners helping with project implementation and advisory services.[202] Not only is this

197. Telephone Interview with James Yarbrough, Climate Coordinator, Multimedia Planning and Permitting Division, EPA Region 6, Dallas, Texas (May 29, 2009) [hereinafter Yarbrough Interview].

198. *Id.*

199. *See generally* Sustainable Skylines—Dallas, Current Projects, http://www.sustainableskylines.org/Dallas/current_projects.html (last visited Nov. 26, 2009).

200. Dallas Memorandum, *supra* note 195, at 2. While the projects were selected by the parties to the MOU rather than through an extensive public process, there was an opportunity for the public to weigh in during the three month winnowing period. *See also* Yarbrough Interview, *supra* note 197.

201. Yarbrough Interview, *supra* note 197.

202. Sustainable Skylines—Dallas, Sustainable Skylines Partners, http://www.sustainableskylines.org/Dallas/partners.html (last visited Nov. 26, 2009). While there are only three parties to the agreement, the Memorandum of Understanding provides that "the Parties will seek cooperation with appropriate State agencies, other federal agencies, non-governmental organizations, and commercial entities on Initiative projects, and, as determined by the Parties, other participants may join the Initiative in either advisory or Initiative project implementation roles for particular projects." Dallas Memorandum, *supra* note 195, at 2.

Initiative an example of an agreement process related to climate change, but it also represents an excellent example of how the gravitas of the federal government in a climate change initiative can help bring other stakeholders and funders to the table.[203] It also illustrates that the federal government does not always need to be the key decision maker in collaborative processes particularly when, as in this case, the process does not stem from federal regulatory authority. In this example, the two-thirds majority had to include the City of Dallas, not EPA, because the primary goal was to assist the City of Dallas with sustainability planning. Nonetheless, the federal government can play an important role in partnership opportunities of this kind. This example also highlights the fine line that sometimes exists between agreement processes involving the federal government and stakeholder action processes, discussed in the next section, in which the federal government plays a support role for external parties seeking agreement.

D. Stakeholder Action

The stakeholder action category differs from the prior categories in that the government's purpose in initiating the collaborative process is to empower stakeholders to take their own action, rather than to collaborate with the government on a government led decision. This approach puts the agency in the role of a catalyst for action that will be taken collaboratively by other parties.[204] One of the most effective ways that the federal government can promote climate change mitigation and adaptation is to empower non-federal stakeholders through a variety of support mechanisms. Many agencies have particular expertise with greenhouse gas mitigation and adaptation tools such as downscale modeling, greenhouse gas emissions inventories, and emissions reduction measures. Federal agencies

203. EPA has identified seven keys to successful collaborative problem-solving. One of those keys is to have a "convener of stature" to "catalyze collaboration by legitimizing the process, encouraging stakeholder participation, and shouldering initial organizational costs to bring parties together to address a shared problem." U.S. Envtl. Protection Agency, Environmental Innovation, Keys to Successful Collaborative Problem Solving, http://www.epa.gov/NCEI/collaboration/seven_keys.htm (last visited Nov. 26, 2009).

204. DALTON & HARTER, *supra* note 13, at 15

can therefore provide much needed technical support to state and local government. In addition, they can provide process support, for example, by creating networks of state and local governments, and financial support, through grants and other financial mechanisms.

There are a host of stakeholder action initiatives that have been developed by EPA's Climate Protection Partnerships Division of the Office of Air and Radiation. One such program is EPA's State Climate and Energy Partnership Program, a voluntary program in which EPA provides tools and analyses to states seeking to reduce greenhouse gas emissions.[205] The Program was launched with eleven states in 2005 and now includes sixteen states.[206] EPA also developed a Guide containing sixteen of the best practices for addressing state climate and clean energy challenges.[207] Among other things, the Guide provides process support for states interested in developing a clean energy and environment action plan.[208] For example, the Guide includes information on how to create a state collaborative process, establish goals, identify clean energy policies and programs, design and evaluate impacts of these policies and programs and, finally, recommend specific actions for decision makers.[209] The Guide also references the many tools that EPA offers or supports to help states assess the benefits of policies they choose to include in their action plans.[210] These include tools for modeling energy policy and measuring economic, environmental and human health benefits.[211]

205. U.S. Envtl. Protection Agency, Clean Energy, Clean Energy State Partner Network, http://www.epa.gov/cleanenergy/energy-programs/state-and-local/state-partnership.html (last visited Nov. 26, 2009).

206. *Id.*

207. U.S. ENVTL. PROTECTION AGENCY, CLEAN ENERGY-ENVIRONMENT GUIDE TO ACTION BEST PRACTICES AND ACTION STEPS FOR STATES (2006), http://www.epa.gov/cleanenergy/documents /gta/guide_action_full.pdf.

208. U.S. ENVTL. PROTECTION AGENCY, DEVELOPING A CLEAN ENERGY-ENVIRONMENT ACTION PLAN (2006), http://www.epa.gov/cleanenergy/documents/gta/guide_action_chap2.pdf.

209. *Id*.

210. *Id*. at 2-6, fig. 2.1.

211. *Id. See also* U.S. Envtl. Protection Agency, Clean Energy, Tools and Resources, http://www.epa.gov/cleanenergy/energy-programs/state-and-local/tools.html (last visited Nov. 26, 2009).

In addition, EPA established a State Technical Forum to promote clean energy efforts through peer exchange, expert presentations, and the sharing of documents.[212] EPA facilitates this monthly discussion among state energy and environmental agencies and public utility commissions. Among the titles of recent monthly forums are *Federal Climate Legislation and Implications for State Energy Offices*, *State Programs for Building Local Government Climate & Energy Planning Capacity*, *State Clean Energy Approaches to the American Recovery and Reinvestment Act of 2009*, and *Clean Energy Workforce Development: Growing Green Jobs to Achieve Climate and Energy Goals*.[213]

One of EPA's more recent initiatives is the Climate Showcase Communities Grant Program.[214] In its Fiscal Year 2009 Appropriations Bill, Congress authorized EPA to administer a $10 million competitive grant program for local communities seeking to implement climate change initiatives.[215] One of the goals of the program is to develop replicable models that can be transferred to other communities seeking to address climate change.[216] EPA will assist the grant recipients with "peer exchange, training, and technical support."[217] For example, EPA will help the communities with reporting metrics and tracking results, annual training workshops, and brainstorming about peer ideas.[218] In order to achieve the goal of replicating best practices, EPA will promote transfer of these initiatives to other communities through "meetings, conference calls, webinars, and online discussion forums or collaborative workspaces."[219] EPA will use the program as an opportunity to foster collaborative

212. *See* U.S. Envtl. Protection Agency, Clean Energy, State Technical Forum, http://www.epa.gov/cleanenergy/energy-programs/state-and-local/state-forum.html (last visited Nov. 26, 2009).

213. *See generally id* (for materials from these and other monthly discussions).

214. *See* U.S. Envtl. Protection Agency, Clean Energy, Climate Showcase Communities Grant, http://www.epa.gov/cleanenergy/energy-program s/state-and-local/showcase.html (last visited Nov. 26, 2009).

215. *See id*.

216. *Id.*

217. *Id.*

218. JULIA ROSENBERG, OVERVIEW OF EPA CLIMATE SHOWCASE COMMUNITIES GRANT PROGRAM PRESENTATION (Jun. 12, 2009) http://climate communities.us/documents/showcase_ presentation.ppt.

219. *Id.*

processes on climate change in two important ways. First, in its selection of grant recipients, EPA will favor proposals that "build and leverage partnerships across multiple stakeholder groups."[220] Second, EPA intends to use this stakeholder action program in order to foster a "collaborative partnership between communities and the federal government."[221]

EPA Regional Offices are also involved in stakeholder action initiatives. For example, EPA's Region 1 office in New England developed the EPA New England Community Energy Challenge.[222] Region 1 provides technical assistance to communities that agree to: (1) benchmark the energy performance of municipal buildings and facilities; (2) set a reduction goal of at least 10%; and (3) promote energy efficiency and renewable energy to the community.[223] EPA's Region 10 office in the Northwest provides greenhouse gas inventory technical support to state, local and tribal government.[224] Region 10 also provides technical assistance on energy efficiency and renewable energy options to stakeholders in their region and donated a half-time staff person to the Alaska Department of Environmental Conservation to support their mitigation and adaptation activities.[225] As the national climate change program grows, it is likely that regional offices in EPA and other federal agencies will take a bigger role in supporting stakeholder action, particularly on issues, like adaptation, that are more local and regional in nature. Because of their close contacts with state and local officials, regional offices of federal agencies can serve as co-conveners and facilitators of collaborative decision making processes on climate change.

220. *Id.*

221. *Id.*

222. U.S. Envtl. Protection Agency, Region 1: EPA New England, Community Energy Challenge: Promoting Energy Efficiency and Renewables in New England Cities and Towns, http://www.epa.gov/region1/eco/energy/energy-challenge.html (last visited Nov. 26, 2009).

223. Model Commitment Letter from [New England Community], to H. Curtis Spalding, Regional Administrator, EPA New England, http://www.epa.gov/region1/eco/energy/other/commitment-letter.doc.

224. U.S. ENVTL. PROTECTION AGENCY, REGION 10, REGION 10 STRATEGIC ENDEAVOR FOR CLEAN ENERGY AND CLIMATE CHANGE 2 (2008), http://yosemite.epa.gov/r10/ECOCOMM.NSF/0/525ad9b803f0da4c882574340001 3bfb/$FILE/R10%20CE%20&%20CC%20SE%207-30.pdf.

225. *Id.*

VI. COLLABORATION AMONG FEDERAL AGENCIES

In order to effectively deploy any of the collaborative processes along the spectrum, from information exchange through stakeholder action, the federal government must strategically draw upon its resources. After eight years of an Administration that did not sufficiently acknowledge or address the seriousness of climate change,[226] the federal Executive Branch under President Obama has a lot of catching up to do. Given the enormity and complexity of the issue, the task at hand is almost overwhelming. In order to move forward effectively and marshal limited resources efficiently, collaboration among the federal agencies is essential. As noted by Dr. Jane Lubchenco, Administrator of the National Oceanic and Atmospheric Administration (NOAA), the challenge of climate change "will require an unprecedented level of coordination among federal agencies, along with our nongovernmental partners, to accomplish the goal of providing high quality, climate information and services that are user-friendly, responsive and relevant." [227]

Collaborative decision-making across multiple agencies with different missions will not be easy. Agencies are funded individually by Congress and each one has unique statutory mandates they must fulfill. Thus, agencies may be resistant to expending resources on joint efforts and have difficulty overcoming a reflexive resistance to sharing their authority.[228] Agencies are accustomed to going through their own deliberative process before announcing their thinking not only to the public but, to other federal agencies. This tendency against

226. *See generally* Lisa Heinzerling, *Climate, Preemption, and the Executive Branches*, 50 ARIZ. L. REV. 925 (2008) (arguing that the federal Executive during the Bush Administration moved from simple inaction to outright obstructionism).

227. Written Testimony of Dr. Jane Lubchenco, Under Secretary of Commerce For Oceans and Atmosphere and NOAA Administrator, National Oceanic and Atmospheric Administration, U.S. Department of Commerce (Sept. 16, 2009), *available at* http://www.legislative.noaa.gov/Testimony/Lubchenco091609.pdf. One commentator likened the complexity of the coordination required on climate change to the complexity that inspired creation of the Department of Homeland Security. *See* Rabe, *supra* note 57, at 790.

228. *See* Jody Freeman & Daniel A. Farber, *Thirty-fourth Annual Administrative Law Issue Modular Environmental Regulation*, 54 DUKE L.J. 795, 900 (2005).

transparency derives, in part, from fears about over-committing resources. It also results from painful experiences with press coverage, and the resulting political fallout, prior to completing agency decision-making processes. Therefore, to be successful, each agency will need sufficient resources and institutional capacity specifically for collaborative efforts on climate change, and to be able to overcome differences in bureaucratic cultures.[229] They will also need to embrace a more transparent decision making process that is necessary for effective collaborative processes.

Notwithstanding the challenges of coordination, no single agency can adequately address climate change on its own and, therefore, collaborative approaches within the federal family can help each agency achieve its mission. There are many functions performed by the federal Executive Branch to address climate change, such as observations, monitoring, modeling, research, assessments, resource risk management, adaptation, and mitigation. Each of these functions may be performed by different agencies with somewhat different goals using a variety of approaches and techniques.

Recognizing the absence of a national program to monitor climate trends and issue predictions to support decision makers, the National Academy of Sciences has identified, as one of its key recommendations on climate change, the need to coordinate federal efforts to meet the growing demand for credible, understandable, and useful information.[230] In many circumstances, a particular function of one agency cannot be adequately performed without information derived from another agency. For example, the Federal Highway Administration (FHWA) may decide to address the need for adaptation by increasing the size of culverts under federal highways to prepare for projected extreme precipitation events. In order to properly design the culvert size,

229. Kerry E. Rodgers, *The Limits of Collaborative Governance: Homeland Security and Environmental Protection at U.S. Ports*, 25 VA. ENVTL. L.J. 157, 233-34 (2007) (casting doubt on whether agencies can share leadership in a collaborative governance context).

230. COMM. ON STRATEGIC ADVICE ON THE U.S. CLIMATE CHANGE SCI. PROGRAM, NAT'L RESEARCH COUNCIL, RESTRUCTURING FEDERAL CLIMATE RESEARCH TO MEET THE CHALLENGES OF CLIMATE CHANGE (2009), *available at* http://books.nap.edu/catalog.php?record_id=12595#toc.

FHWA may need to obtain downscale modeling[231] performed by NOAA that projects the extent and frequency of those extreme precipitation events. Likewise, if both agencies engage in modeling to project extreme precipitation events but use different models, collaboration could assist them both in determining which model will best predict the adaptation needs of a particular situation.

Moreover, when state and local governments, as well as other stakeholders, seek data, modeled results, research results, and assessments from the federal government, a coordinated response that takes into account the wealth of knowledge of all the agencies will, in many situations, be more user-friendly and robust than a disparate set of responses from multiple agencies. In addition, efforts to reduce the greenhouse gas footprint of the federal government itself could benefit from collaboration among the agencies. Finally, federal agency resources are already stretched to the maximum even without the enormous task ahead on climate change.[232] Coordination will be an efficient way of leveraging limited resources.

Some efforts are already underway to initiate collaboration within the federal government. A meeting, entitled *Adapting to Climate Change in the Southeast* was held in Charleston, South Carolina in May 2008.[233] Among the important issues identified during the breakout sessions were the need for better communication among the agencies on climate change adaptation, the benefit of providing a unified message from all the agencies while recognizing each agency's particular niche, the need to communicate inherent uncertainties in climate change

231. Scientists take global models and "downscale" them to predict local and regional conditions.

232. Rabe, *supra* note 57, at 790.

233. Nat'l Oceanic and Atmospheric Admin., Southeast Natural Res. Leadership Group, Adapting to Climate Change in the Southeast, Agency Presentation (May 27-29 2008), http://www.fws.gov/southeast/climate/pdfs/NOAA%20NMFS%20Final%20Payne%20CC%20SENRLG%20052708.ppt. *See also* Northeast Reg'l Ocean Council, Interagency Workshop, New England Federal Partners Interagency Meeting on Climate Change in the Northeast 1 (May 29, 2009), http://community.csc.noaa.gov/nroc/index.php?option=com_docman&task=cat_view&gid=50&limit=5&limitstart=0&order=name&dir=ASC&Itemid=55.

data and modeling, and the importance of providing better downscale modeling to meet state information needs.[234]

In June 2009, a meeting of northeast regional federal agency officials was held to discuss roles and responsibilities with respect to climate change adaptation.[235] The purpose of the meeting was to "establish a foundation for federal agencies with climate related responsibilities to communicate and collaborate effectively and efficiently"[236] on climate change adaptation. The meeting participants identified a number of key issues for coordination including developing "regional consensus on climate scenarios, data sets, models, and projections for New England."[237] Included among the many important collaborative opportunities identified in the breakout sessions were: (1) working with stakeholders to identify their needs; (2) coordinating monitoring efforts across agencies; (3) conducting sea level rise mapping / bridging communication gaps; (4) forming an interagency group on knowledge sharing; and (5) identifying the most important indicators required for modeling climate change effects.[238] Perhaps one of the most significant issues identified as needing regional federal collaboration was downscaling climate predictions to spatial and temporal scales meaningful to decision makers in the regional area.[239]

In the Pacific Northwest, EPA, USGS, NOAA, the National Park Service, and the U.S. Fish and Wildlife Service recently formed the Pacific Northwest Climate Change Collaboration (C3) to, among other things, strengthen federal coordination on

234. SOUTHEAST NAT'L RES. LEADERSHIP GROUP, BREAKOUT SUMMARIES AND REPORT OUT & NEXT STEPS FROM REGIONAL DIRECTORS AND ADMINISTRATORS (2008), http://www.fws.gov/southeast/climate/pdfs/ClimateSENRLGBreakoutGroupReportsCombined05302008.pdf.

235. New England Federal Partners Interagency Meeting on Climate Change in the Northeast, Full Agenda (June 2-4, 2009), http://community.csc.noaa.gov/nroc/index.php?option=com_docman&task=cat_view&gid=50&limit=5&limitstart=0&order=name&dir=ASC&Itemid=55 (scroll down to "Full Agenda_NE Interagency Climate Meeting").

236. *Id*.

237. New England Federal Partners Interagency Meeting on Climate Change in the Northeast, Workshop Summary (June 2-4, 2009), http://community.csc.noaa.gov/nroc/index.php?option=com_docman&task=cat_view&gid=50&Itemid=55 (scroll down to "NE Interagency Climate Workshop Summary Report").

238. *Id*.

239. *Id*.

climate change, align resources, and exchange and coordinate regional tools, data, and scientific knowledge.[240] C3 has identified four initial projects they will undertake, including: (1) comparing existing agency policy and guidance on how to account for climate change impacts; (2) defining time and scale for climate change analyses; (3) conducting an inventory of research, tools, assessments, and downscaled global climate models; and (4) providing education and outreach materials.[241]

In addition to the above-referenced regional efforts, on August 22, 2008, EPA and the Departments of Commerce, Defense, Interior, and Agriculture entered into an interagency memorandum to cooperate on adaptation management of water-related consequences of climate change.[242] Recognizing the impacts from rising sea levels, changes in rain and snow levels, and storm intensity, the memorandum empowers agency senior staff to coordinate on four items: (1) the sharing of water-related climate change information and data; (2) the exchange of information about climate change programs and activities related to water; (3) the consideration of research priorities related to climate change and water; and (4) the cooperative implementation of water-related climate change adaptation programs and projects.[243]

It is likely, however, that adequate collaboration within the federal government will not be fully realized without a central coordinating body. The National Research Council has recommended a national initiative for climate-related decision support that "will require unusually effective collaboration among many federal agencies" and "will demand strong leadership from

240. C3 Overview, Pacific Northwest Climate Change Collaboration (June 2009) (on file with author).

241. *Id.*

242. Memorandum from Benjamin H. Grumbles, Assistant Administrator of Water, EPA, to Agency Senior Staff on Federal Agency Cooperation on Adaptation of Water-Related Programs to the Impacts of Climate Change 1 (Aug. 22, 2008), *available at* http://www.epa.gov/water/climatechange/docs/Agency_Senior_Staff_Fed_Agency_Coop_re_Adaption_of_Water-Related_Programs.pdf.

243. *Id.*

the Executive Office of the President, including the science adviser and the new coordinator of energy and climate policy."[244]

Recognizing the importance of a coordinated effort within the federal government, the American Clean Energy and Security Act of 2009, passed by the House of Representatives, includes a provision for a National Climate Service.[245] Pursuant to Section 452(d) of the bill, the President is required to initiate a process through the National Science and Technology Council and the Office of Science and Technology Policy to evaluate alternative structures to support "a collaborative, interagency research and operation program."[246] The goal of the program is to "meet the needs of decision makers" within the federal government as well as state, local, tribal and regional government entities and other stakeholders "for reliable, timely, and relevant information related to climate variability and change."[247] Section 342 of a Senate bill, introduced by Senators Kerry and Boxer on September 30, known as the Clean Energy Jobs and American Power Act, also would create a National Climate Service.[248] A more comprehensive bill to establish a National Climate Service was introduced in the House of Representatives in May 2009.[249] Pursuant to that bill, the National Climate Service would, among

244. PANEL ON STRATEGIES AND METHODS FOR CLIMATE-RELATED DECISION SUPPORT; NAT'L RESEARCH COUNCIL, INFORMING DECISIONS IN A CHANGING CLIMATE 6 (2009) *available at* http://www.nap.edu/openbook.php?record_id=12626&page=1. President Obama appointed Carol Browner as the coordinator of energy and climate policy ("climate czar") in the new White House Office of Energy and Climate Change Policy. Other key players on climate change within the Administration are Lisa Jackson (EPA Administrator), Dr. Steven Chu (Secretary of Energy), Nancy Sutley (Chair of White House Council on Environmental Quality), and John Holdren (White House Office of Science and Technology Policy). *See* Press Release, White House, President Elect Barack Obama Announces Key Members of Energy and Environment Team (Dec. 15, 2008), *available at* http://change.gov/newsroom/entry/president_elect_barack_obama_announces_key_members_of_energy_and_environmen/.

245. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 331 (1st Sess. 2009) (as passed by the House of Representatives on June 26, 2009).

246. *Id*. § 452(d).

247. *Id*. § 452(d)(1)(A).

248. Clean Energy Jobs and American Power Act of 2009, S. 1733, 111th Cong. (1st Sess. 2009), *available at* http://kerry.senate.gov/cleanenergyjobsandamericanpower/pdf/bill.pdf.

249. National Climate Service Act of 2009, H.R. 2407, 111th Cong. (1st Sess. 2009), *available at* http://www.govtrack.us/congress/billtext.xpd?bill=h111-2407.

other things, be charged with coordinating with federal agencies and collaborating with state, local, and tribal governments, academia, nonprofits, the private sector and other stakeholders.[250]

Whether or not a climate bill succeeds in Congress and a National Climate Service is established, the federal government must build capacity in collaborative decision making by vastly increasing the number of staff capable of planning and facilitating collaborative processes on climate change. While there appears to be recognition that skilled facilitation of decision making processes is valuable, the benefits will not be fully realized without a sufficient commitment of resources. Adequate funding for collaborative decision making planners and facilitators should be complemented by a new institutional structure that creates a network for coordination within the federal government. The effort should take place across the agencies to foster both interagency coordination and outside stakeholder collaborative opportunities.

VII. CONCLUSION

Institutional change can sometimes come very slowly to the federal government, even when new leadership has indicated a strong intention to shift the manner in which business is done.[251] The long-standing way of making decisions through traditional rulemaking and other non-collaborative processes is embedded in agency culture and will require a significant push toward new approaches. EPA has developed a template of collaborative processes along a continuum of increasing public involvement. This template can serve as a useful model as the federal government begins to consider the range of options for engaging with stakeholders in collaborative decision making on climate change. Climate change-specific examples of these collaborative processes already exist and lessons learned from these examples can be a basis for exploring and successfully implementing additional opportunities. In light of the unique challenges of climate change and specific reasons why collaborative decision making can be particularly helpful to government decisions on

250. *Id.*

251. Freeman, *supra* note 19, at 13-14.

climate change, the federal government should build its capacity to engage in collaborative processes. This will require new ways of engaging with outside stakeholders and a new framework for interagency collaboration.