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Final Report of the Presidential Transition Office

May 2008

The Presidential Transition Office

The Presidential Transition Office (PTO) was established at the request of the President-elect with a key task in mind: to help the President-Elect make early decisions about the way in which the new White House is to be run, and how it is to be linked up to the executive branch agencies and the Congress. The PTO was also tasked to prepare an analysis and briefing on the implications of a new approach to governance based on recognizing complexity and organizing to deal with it. After proposing the structure, the PTO was tasked with running a hypothetical policy cluster through the proposed format.

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Executive Summary

In an era of rapid and accelerating change, in which humans are ever more connected and ever more dependent on one another across national boundaries, the fundamental role of the state in protecting "national security" increasingly requires an awareness of the future implications of present decisions. Policymakers must deal with "complex priorities," a policy term born of complexity theory which refers "to the consideration of multiple intersecting issues across time which may have unintended or unexpected effects, and involve factors beyond those normally considered relevant to the issue," as the previous iteration of this panel explained. Any given policy response to a complex priority is likely to result in *nonlinear* and *unexpected* change, so the government must be better networked and more capable of predicting the pressing national security issues of the future in order to preserve America's territorial integrity and way of life.

In light of those considerations, the previous version of this report endorsed several small but significant changes to the structure of the Executive Branch. Prior panels have also recommended significant changes to the Legislative Branch in order to improve its ability to respond to complex priorities. This report incorporates some of the best ideas of those previous works with some of our own refinements into one overall program of structural change. More significantly, this panel endorses measures designed to create a new culture of innovation, communication, and forward engagement at the many levels of the federal government.

- We continue to endorse the creation of **Principles and Deputies Committees on Complex Priorities** (known throughout this report as PCOM and DCOM). As explained in the previous panel, "DCOM will consist of newly created Deputy-level representatives of each of the major existing executive councils and bodies (Deputy Assistant for Complex Priorities, in each council), and serve largely as a springboard for crossdisciplinary and cross-functionary analysis, assessing complex priorities and making recommendations for actionable policy clusters to PCOM. PCOM, on the other hand, will be comprised of the President of the United States, Executive Department Principals, Assistants to the President, and other key members of the Cabinet, and focus on executing policy by task forces that utilize resources, personnel, and action from different parts of government, as necessary."
- This revised set of recommendations **expands the PCOM/DCOM further into the bureaucracy**, by assigning one existing Assistant Secretary in each agency to the DCOM. It also gives the DCOM a small permanent staff to help it maintain a long-term and nonpartisan focus, with a DCOM Chairman who is appointed by the President and confirmed by the Senate for a 10 year term.
- In our expanded conception of the PCOM/DCOM role, the PCOM and DCOM write and **the President issues a joint yearly report** on complex priorities to the federal agencies and to the Congress. The report will be one means by which the **PCOM/DCOM are involved in the creation of the President's budget**. The joint report would be used in the creation of the agencies' individual budgets, and the PCOM would work with OMB to ensure that its key findings on complex priorities were all addressed in the budget finally sent to the Congress.

- Within the Congress, this panel recommends the **creation of Select Committees on Forward Engagement** in both houses. These bodies would coordinate an intercommittee process in order to translate the PCOM/DCOM-identified complex priorities into legislation. Broad-scale proposals would be broken into their component parts, farmed out to the relevant committees, and reassembled by Leadership into omnibus bills for vote on the floor of each chamber.
- We also endorse a variety of new **measures to educate civil servants** in forward engagement, complexity, futuring, and interagency collaboration. Both formal education and increased interagency rotations and joint assignments will be instituted over time, with short run measures to improve the functioning of newly-instituted systems like the PCOM/DCOM and long-term curricula to create a cadre of leaders who understand complexity and forecasting techniques. This education will gradually help to create a government that is able to anticipate and respond to complex priorities.
- Once civil servants are educated in the importance of forward engagement and interagency collaboration, this panel believes that they will have valuable insights on how to improve the functioning of government. We endorse the creation of **formal mechanisms to filter innovative ideas** from employees to higher levels and to reward innovation with monetary or other incentives.
- This report recommends several ways of using new and emerging technologies to facilitate the development of "net-centric" or "networked" governance.
 - We advocate the implementation of a **dynamic enterprise management platform** with standardized data storage systems across the agencies of government. The platform would provide for an unprecedented degree of information-sharing, including via Web 2.0 technologies (such as Wikis and blogs). It would also allow computerized data-mining which could reveal previously undetectable patterns.
 - The platform would also enable **cross-functional networking applications** where individuals across government agencies who are working on similar issues could find one another, network and share information within communities of interest. Individual civil servants would be "tagged" with information on their work areas and status in the hierarchy so that workers across the government could identify the person most likely to be useful in their particular project or dilemma.
- Finally, this panel has some recommendations on feedback mechanisms to ensure that policy responses to complex priories are effective and that the government is continually learning and adapting in light of failures and successes. Implemented policies will be assessed in terms of their sensitivity, adaptability, interoperability, success rate, and efficiency.

Introduction

Exponential increases in human interconnectedness have been triggered by the combined effect of (a) the globalization of access to technologies that are simultaneously evolving and converging and (b) the liberalization of economic activity. This has shortened the intervals

between events and their consequences. In short, history itself is gaining speed. While the intelligence community has only recently coined *blowback* as an acknowledgement of the trend more generally described by the Law of Unintended Consequences, accelerant history promises *more* unintended consequences, or *nonlinear changes*, with shorter intervals to separate them. Moreover, the boundaries that once neatly pigeonholed policy aims are becoming porous, if not obscured altogether. This is the hallmark of **complexity**.

Complexity, as it is applied to public policy, refers to the state of a system such that there is no static, linear relationship between cause and effect. Complexity accounts for the seemingly spontaneous generation of outputs that are radically disproportionate to their inputs. In reality, complexity renders commandand-control thinking impotent.

Despite the stunning progress made by America's culture, science, and economy, its current model of public policy-making is still underpinned by the reductionism of the 18th-century Enlightenment. The 9/11 Commission's poignant criticism that America's intelligence community had ample information but "failed to connect the dots" speaks to the larger propensity for the application of mechanistic, command-and-control thinking to civilian governance. Compartmentalized agencies have nurtured generations of public servants whose individual specializations in regions and/or issues have come at the cost of their seeing the overarching interconnectedness therein.

If indeed the Enlightenment bequeathed to us the mechanistic calculus of reductionism, there is another creed nested in the psyche of American governance. In the face of adversity, the ethic of proactive enterprise, an explicit American tradition since the colonial era, has imbued our culture with a legacy of initiative. Enterprise and initiative are needed now more than ever, because in the age of complexity, our greatest adversity does not come from a point source: It is no longer the Soviet Union or even transnational networks of terrorists. Rather, the omnipresent threat to American national security is our government's own deficiency in planning for major, longrange contingencies, both linear and non-linear. In short, it is our strategic myopia. In the words of one national security expert,

"The most promising response to increasing complexity in the problems facing governance is to develop a networked, small, flexible, task-oriented, managerial "supra-structure" designed to be retrofitted to the existing system. This supra-structure should supplement rather than displace existing methods. It should be allowed to grow not only as a management system but also as a culture."

The pages that follow seek to give contour to precisely this task. Whatever arrangements have replaced the rigid bipolarity of the Cold War system, they are at best incipient structures or, at worst, may simply be widespread disarray.² In light of this, it will be imperative for the defense,

¹ Leon Fuerth, Strategic Myopia: The Case for Forward Engagement, *The National Interest*, Number 83, Spring 2006. 62.

² Rosenau, James N. "Many Damn Things Simultaneously." <u>The Study of World Politics</u>. New York: Routledge, 2006. 108.

security and welfare of our nation and, indeed, the world to readjust the strategy and management systems that will be charged with tackling an ever-shifting constellation of problems and opportunities in the years to come.

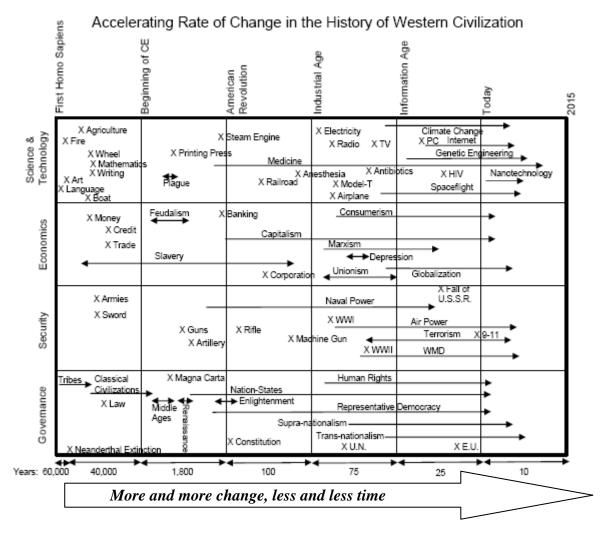


Fig. 1: Accelerating Rate of Change (adapted from Spring 2005)

Fig. 2: Implications of Accelerating Change (adapted from Spring 2005)



Statement on National Security

As both a science and a reality, complexity leaves us with a clear proviso with regards to the definition of national security: No definition can be exhaustively detailed in content or fixed in scope.

In this report, the Presidential Transition Office has understood national security through a lens that encompasses physical security and territorial integrity, hereafter referred to as *national defense*. However, on its own, the concept of national defense fails to address some threats that could properly be contained within the realm of national security, such as a pandemic or a complete economic collapse. On the other hand, too broad a definition of national security could make nearly anything a "national security problem," with the unfortunate implication that the full weight of the President's authority and resources should be brought to bear on problems that did not merit such an approach. Thus, to relieve the President of undue expectations, the PTO has delimited its understanding of national security as a domain encircled by a still larger notion of *national welfare*. In an attempt to balance the important concerns about both overly broad and overly narrow conceptions, the PTO offers this definition of national security:

National security shall be understood as the conditions under which the government retains an uncompromised ability to safeguard and protect against threats to the integrity and prosperity of the institutions, vital interests, collective welfare, and territorial integrity of the United States of America.

Though this interpretation admittedly falls short of a precise taxonomy, it ought to be understood as a frame of reference in reading the recommendations that follow.

Given the fluid nature of national security, the Presidential Transition Office acknowledges the influence that the Office of the President wields over the administration's interpretation of national security as it pertains to policy. Therefore, in an effort to bring transparency to the decision-making process, it is recommended that the President-Elect stringently account for his/her interpretation of national security as it applies to various policies s/he pursues.

Fig. 3: Scope of National Security



Changes We Advocate

Based upon the review of our previous proposal for restructuring of the Executive, this panel has determined that broader and deeper reforms will be necessary to effectively address the complex issues that face our country now and in the years to come. While the Principals and Deputies Committees on Complex Priorities (**PCOM** and **DCOM**) will continue to direct the President's efforts to engage complex and forward-looking issues, this body recommends that the DCOM

expand farther into the bureaucracy and be allocated a semi-permanent staff. Recognizing that the priorities of the White House will never be addressed without coordination with the Congress, this panel recommends significant changes within the Congress as well. Finally, the panel presents a number of recommendations on ways to improve the execution of policy, from long-term measures to create a more forward-looking culture to short term innovations in communication and feedback up and down the hierarchy and between various agencies. The utility of these recommendations is illustrated by a brief intervening case study on their possible impact in the field of energy security.

PCOM will consist of The President of the United States, Executive Department Principles, Assistants to the President, and other key members of the Cabinet, and focus on executing policy by task forces that utilize resources, personnel, and action from different parts of government, as necessary

DCOM will consist of newly created Deputylevel representatives of each of the major existing executive councils and bodies (Deputy Assistant for Complex Priorities, in each council), and serve largely as a springboard for recommendations for actionable policy clusters to PCOM

The Structure and Function of PCOM and DCOM

PCOM

The Presidential Transition Office continues to endorse the creation of a Principals Committee on Complex Priorities (PCOM) to identify and consider **future contingencies of interest** (**FCIs**). The presumptive PCOM will convene in the weeks immediately following the inauguration for a two-day retreat at Camp David. Members of the PCOM will include:

- White House Chief of Staff
- Assistant to the President for National Security Affairs
- Assistant to the President for Homeland Security and Counterterrorism
- Assistant to the President for Economic Policy
- Assistant to the President for Domestic Policy
- Director of the Office of Management and Budget
- All Cabinet Secretaries

During the retreat, PCOM members will receive training on the principles of Forward Engagement and their application to strategic planning. In making extensive use of scenarios to encourage the free exchange of ideas about possible future events, it is envisioned that the retreat will help foster a shared understanding of national priorities and the administration's tactics to achieve them. Additionally, the session would encourage attendees to develop cooperative, interagency relationships with fellow PCOM members. Further sessions would be held on an annual basis.

DCOM

We also continue to endorse the installation of a Deputies Committee on Complex Priorities (DCOM) to support the PCOM and institutionalize the forward engagement of **complex priorities** within government agencies. The **Future Contingencies of Interest (FCIs)** are potential future developments that would have a profound effect in all realms of the human experience, such as in science and technology, governance, security, and economics. FCIs fall into two conceptual categories. The first involves projections and extrapolations of current trends, concentrating on a tipping point at which these trends cascade through the human experience and result in transformative change. The second category involves breakthrough change, in which developments that are largely unanticipated result in transformative change pervading the human experience.

Forward Engagement is the name of the concept developed by Leon Fuerth. Fuerth describes forward engagement as a "process of thinking systematically about the longer-range future, and about ways in which public policy might engage the future sooner, rather than later. Forward Engagement conveys a three-part thought: (1) we are facing an acceleration of major historical events, some of them carrying the potential for major societal and international consequences; (2) society in general and government in particular, need to address such possibilities as far in advance as possible, in terms of policies and resources; and (3) there needs to be a system to help government visualize more consistently what may be approaching from the longer-range future, and to deliberate in a more timely way about possible responses. Forward Engagement seeks to comprehend major future developments in the broad categories of defense, economics, science and technology, and governance and to strive to understand how these developments interact and influence each other."1

Complex priorities refer to the consideration of multiple intersecting issues across time which may have unintended or unexpected effects, and involve factors beyond those normally considered relevant to the issue. (From previous version of this panel)

DCOM is to be understood as under the direction of the PCOM; that is, they carry out their roles as tasked by the PCOM and the President. DCOM will be given a permanent staff and assist

other government agencies in strategic planning, as well as serve as the primary source for any interested party to receive information on future contingencies and government efforts to address them. DCOM staff will receive training on forward engagement from respected experts in the field and learn through close contact with existing government agencies. A Chairman of the Deputies Committee on Complex Priorities will lead the agency. Appointed by the President and confirmed by the Senate, the Chairman will serve a 10-year term, which should help to insulate the position from partisan pressure and encourage long-range thinking.

Furthermore, we recommend that DCOM be expanded from its earlier conception to include an Assistant Secretary in each agency that is part of the national security infrastructure. This would further integrate DCOM into the bureaucratic system, extending its network and facilitating inter-agency communication and learning. DCOM assistant secretaries would be able to testify before Congress on complex priorities and future contingencies, possibly necessitating closed-door sessions for sensitive issues. The PTO recognizes that Assistant Secretaries tend to multiply to the point where one Cabinet member may well be served by a dozen Assistants. Therefore, we recommend that existing Assistant Secretaries "double-up" and serve on DCOM while completing their other duties.

Annually, DCOM will present a report to Congress and the federal agencies in the fall on issues regarding strategic planning for future contingencies of interest (FCIs). This document, entitled the "Complex Priorities Report" will:

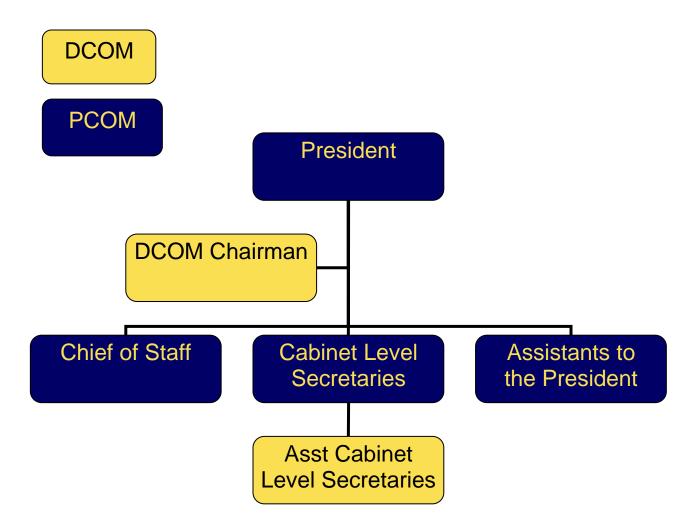
- Summarize the past year's work of the PCOM and DCOM.
- Elaborate on FCIs needing consideration.
- Recommend policy, legislative, or budgetary changes.

It is envisioned that the Complex Priorities Report will inform the budgetary process and help the government effectively allocate resources. Input and direction on the nature of the Complex Priorities Report will come from the PCOM, although the drafting on the report will be the responsibility of DCOM. In the event of a change in administration, a transition team could offer its input into the report and shape its recommendations to better suit the political climate. However, the Complex Priorities Report is long-range and bi-partisan in nature; therefore,

political pressure should be minimal. An unclassified version of the report will be released publicly, while the classified version will be made available to the federal agencies and the **Select Committees on Forward Engagement** in the Congress.

Select Committees on Forward Engagement collectively refers to the House and Senate Select Committees on Forward Engagement responsible for identifying Future Contingencies of Interest, collecting data regarding their impact, and defining questions and issues that the Legislative Branch must address.

Fig. 4: Executive Structure



Case Study: Acute Energy Shortages President's Report to Congress and Agencies

Throughout this report, we use one particular FCI to illustrate the ways our proposals would improve the government's response to complex problems with long-term implications. Examples based upon this contingency appear in boxes immediately following the sections of the report advocating particular changes to the federal government. The basis of our illustrative FCI is that the world discovers, quickly or slowly, that there is much less oil available that previously thought. The President's report to Congress and the federal agencies for the year that this FCI was identified would include a detailed analysis of its implications, likely addressing the following concerns:

On the **social** front, there will be numerous changes, mostly driven by reduced access to energy through higher costs and likely through rationing. People will be forced to live in more compact cities and in households that are more ecologically-minded. Agriculture, which currently consumes massive amounts of oil, will have to "go green." Airline and other long distance travel will become rare. The high cost of energy will create a cleavage between the rich and the middle class, as the rich will be able to continue to finance consumption similar to today's lifestyle. For the many disruptions it will cause, this scenario will involve some social unrest and imposition of martial law is possible.

Technologically, there will certainly be more money made available for energy alternative R&D, and also on technologies to use energy more efficiently, especially in the near term. As the formal energy sector will likely be strictly controlled, the informal sector may become more significant, with such developments as homemade wood-burning steam generators. The focus on development of new energy technologies will push out other priorities, and will lead eventually to a serious alternative to hydrocarbons, likely a wildcard neglected or unimagined currently.

The **economic** effects will be devastating. Once the shortage is known, there will be a rush to buy the remaining stocks, and prices will soar. This will mean short-term profits for petrostates and long-term economic hardship for oil importers. Telecommuting will become more common, as people try to save on transportation costs, but overall, suburban areas will become less desirable to live in and land values will drop. Distribution chains will break down and food and other commodities will increasingly be sourced locally. Airlines will not be profitable and will be nationalized. The high price of oil will make the economics of many hydrocarbon alternatives feasible, and much research will be pursued, but mostly in the public sector due to high financially uncertainties.

The **environmental** effects will be mixed. In the short run, coal and wood will be important alternatives to oil, and global warming, along with other priorities, will diminish in comparison to the energy crisis. Eventually, as other sources run out and as alternatives are found, emissions will drop and global warming will become a significantly less important issue. New environmental issues will arise, such as environmental degradation due to less efficient extraction processes, wind farms, and the iron mountain of obsolete machinery that runs on oil.

Politically, the clout of oil exporters will increase, as will their risk of invasion by other states seeking to take hold of the oil. General unrest will be likely in many countries, as will coups. It is not clear that there will be an immediate shift in global balances of power. There is likely to be international collaboration to solve this problem, including an "energy Manhattan project" to pour massive resources into alternative energy research. Governments will be held responsible for the problems and may crack down, damaging democratic institutions. There may be a realignment into new political camps, one backing a plan to bring back the good old days and another backing a plan to prepare for the future.

The Budgeting Process

It is essential that budget proposals and spending allocations be consistent with identified complex priorities and governmental responses in order for these policies to be effective. To that end, the PCOM and DCOM should cooperate with the OMB in the development of the annual budget proposal. This coordination should occur throughout the budget process, and the budget itself should reference its consistency with the Report on Complex Priorities and other policies on forward engagement. The Congress should also integrate complex priorities and its omnibus legislation (as explained in the section that follows with the budget and appropriations procedures and legislation.

In order to address potential inconsistencies between departmental budget-caps and the agenda of complex priorities, PCOM, and DCOM at their direction, shall consult the OMB at the front end of the budget's development. In consultation, the two bodies may jointly review established complex priorities and identify any crosscutting issues and budget needs. This can provide for the opportunity to address funding across agencies, and to pursue funding, immediately or projected in phases, to address those issues identified in the Report on Complex Priorities. This filtering process will give OMB the opportunity to propose budget allocations throughout agencies such that they are properly equipped to address those priorities emerging within their jurisdictions.

Subsequent to this development of top-level departmental budget allocations, agencies develop their spending plans within those constraints. At this point, the Assistant Secretaries who are assigned to coordinate complex priorities would coordinate with agency budget offices and subordinate organizations in the development of budgets and spending plans. This effort is intended to coordinate those long-term, cross cutting contingencies identified by the PCOM and DCOM with each agency budget request. Moreover, members of the DCOM will call on associates across the agencies to gain a comprehensive perspective of what resources are needed to support complex priority objectives. From this vantage point, the DCOM may propose objective agency budgets that address those needs most pivotal to implementing agencies.

After OMB receives each department and agency budget proposals and assembles a comprehensive budget draft, the PCOM and DCOM will receive this revised edition. DCOM, supporting the OMB, would be responsible for verifying that individual accounts are sufficient for the execution of the corresponding complex priorities and plans of action. The purpose of the multiple reviews is to allow the PCOM and DCOM to oversee the formation of the budget to verify that the resources available are aligned with the priorities set forth.

Further, this process will enable the budget request submitted to Congress to include explicit references of how the funding levels reflect the complex priorities, and what corresponding responses have been issued in the Report on Complex Priorities or otherwise proposed by the President or PCOM. The DCOM will be responsible for coordinating with OMB staff to ensure the statements within the budget sufficiently identify and explain the justification and intent of the resources allotted. This serves as a level of transparency so that Congress and the American public can understand how the government is planning to address forward engagement issues through policy and programs.

In Congress, the budget can be coordinated with complex priorities at varying levels of legislating federal spending allocations. The House and Senate Select Committees on Forward Engagement should be able to file views and estimates on the administration's budget proposal, as other congressional committees are now entitled to do. Like the budget request, the budget resolutions issued by Congress can contain references to how the spending proposals are consistent with complex priorities. With members of the budget and appropriations committees, and conversely, the spending bills their committees develop would also reflect the congressional view on complex priorities.

Keeping the Budget Versatile

Given the nature and schedule of the budget process, the budget for the first year of the new administration will not fully reflect the policy goals put forth by the incoming President and PCOM, while future budgets will reflect them accordingly. In anticipation of this gap, the Congress may consider authorizing and funding a strategic fund that would allow the President and PCOM to distribute money to react swiftly to complex priorities between budget cycles. This will allow the new administration's PCOM to address complex priorities that they identify prior to the opportunity to develop the first budget of the administration. Congressional oversight of, and approval of funding disbursements from this strategic fund must be afforded to ensure constitutionality and also to address political objections.

In acknowledging the complexity of events that might demand emergency appropriations before the next budget cycle affords an opportunity to allocate funding, it is recommended that the PCOM collaborate with OMB to determine reallocation opportunities and needs that would permit quick redistribution of funds from one account to another mid-fiscal year. A precedent is partially set as transfers of this type occur, subject to the approval of OMB and Congress, within agency accounts.

A more challenging proposal would be to reallocate money between agencies. This would require Congress and its relevant committees to give the OMB and/or PCOM such authority during emergency situations. The chairmen of Select Committees on Forward Engagement may serve as an advocate for this type of executive budget authority. However, such emergency needs are more likely to be the purview of more reactive organizations of the executive branch, such as FEMA or the NSC, and are therefore expected to be sought only in rare occasions in the context of complex priorities.

Case Study: Acute Energy Shortages Budgeting

Once the PCOM and the Select Committees on Forward Engagement have determined the priorities in the face of an energy crisis, the recommendations are broken down into specific policy action items and budgetary requests addressing the needs of the implementing agencies. For an energy crisis, such policies might secure rebates and incentives for industries developing longer term alternative fuels; increase funding for university and industrial consortia for research on next generation fuels; accelerate the growth of nuclear and/or coal industries; and intensify the government's engagement in securing active oilfields worldwide.

For these and other line items, the members of the PCOM will first create a high-level budget to be ratified by the OMB. This will provide a breakdown of the PCOM's policy goals; agency whose jurisdiction the policy would fall in; goal of the policy; relevance of the goals to the PCOM's yearly statement of complex priorities; timeline of implementation; benefits and beneficiaries of the policy and the costs. The budget will also include and emphasize the contracting of external technical advisors from academia and industry, as well as research grants to university and industrial consortia.

Once it has been determined that the top-line budget caps adequately addresses the needs set forward by the PCOM, the members of the DCOM will then work with the various agencies to assess their funding needs for the specific line items owned by them. This step will also address issues cross-cutting across various agencies. Once the individual agencies have finalized their budgets, they will be reviewed and revised at the OMB's discretion. The relevance of particular policy items developed within the agencies to the PCOM's statement of complex priorities will be used to as a measure justify budgetary requirements. Once finalized, the budget will be sent to the Congress.

The Congress³

For the federal government to become adept at considering and responding to forward engagement and complex priorities, Congress must be involved and integrated into executive branch efforts. Not only does this ensure a cooperative spirit in engaging future challenges, it is also based on the need for legislation and budget adjustments to tailor the government's response to future contingencies.

The Transition Committee therefore recommends to the Congress a number of changes, rules and processes for the legislative branch to consider, which are intended to improve intergovernmental cooperation and legislative focus on complex priorities.

The House and Senate should establish Select Committees on Forward Engagement (H-SCFE, S-SCFE). The new select panels would not be intended to usurp the power and jurisdiction of

standing congressional committees, but would instead serve as a meta-level integrator and a forum for collaborating across the **stovepipes** of committee oversight and expertise.

Stovepipes refer to the vertical transmission of information directly through levels of bureaucratic hierarchy. For the purposes of this report, our office has identified them as a major obstacle hampering efficient polity delivery and system learning.

The House and Senate leadership would appoint the

membership of H-SCFE and S-SCFE, respectively. The membership of these select panels should include the chair and ranking minority members of many other committees, including those with oversight of the armed services, foreign affairs, homeland security, energy, science and technology, among others. Inclusion of these members is crucial for two reasons: to take advantage of their expertise and knowledge in their particular issue-domains, and to counter concerns that H/S-SCFE might undermine existing jurisdictional structure or power. Senior representatives from the budget and appropriations panels should also be represented.

The House and Senate SCFE would each be led by a chairman and ranking member appointed by the leadership. Each committee will have sufficient resources to attract a broad and talented staff. The committees can also hire consultants, contract for services or outside research, and seek fellows and detailees from federal agencies or academia. The committees will benefit from the use of information technology to share information with and communicate with the public, media and others.

The House and Senate SCFE will have two primary functions. The first is to oversee, research, and develop knowledge on the impact of complex priorities, emergence and future contingencies of interest (FCIs) on public policy. This function is undertaken through standard congressional committee practice, including staff research, investigations, committee oversight and hearings, and the issuance of staff or committee reports on selected topics.

The second role of the House and Senate SCFE is to develop a legislative product based upon the Report on Complex Priorities. Because of the likely broad nature of the Report and the fact that policies intending to address complex priorities will cross jurisdictional boundaries, special rules

³ The PTO gratefully acknowledges the enormous contribution of former Congressman Stephen Solarz to this section of the report.

may be required to help shepherd the select panels' legislation through Congress. The special rules recommended are:

Upon the delivery to Congress of the Report on Complex Priorities, the House and Senate SCFE shall have 45 days in which to develop 'omnibus' legislation based upon the Report. The omnibus legislation may adopt the Report's recommended policy or legislative changes, present the Committee's own provisions, or any combination thereof.

Once the H/S-SCFE have developed legislation, sections shall be referred to the House and Senate committees with jurisdiction over the particular subject area. Each standing committee with such legislation referred to it shall have 30 days in which to consider and mark up those sections and to issue their corresponding legislative reports.

Once each section has been reported out from the jurisdictional committees, the omnibus legislation is reassembled for debate before the full House and Senate on their respective floors. There should be a limited period, perhaps 14 days, for this legislation to be scheduled for floor debate. The H/S-SCFE will manage this debate in a manner that allows an array of amendments and viewpoints, but which is also structured so as to ensure finality of debate and to prevent filibusters. Operating on the same deadlines, the House and Senate will likely schedule these debates on the same, if not back to back weeks, providing for a de facto "congressional session on forward engagement" that may help attract additional media and public attention to federal futures analysis and policy.

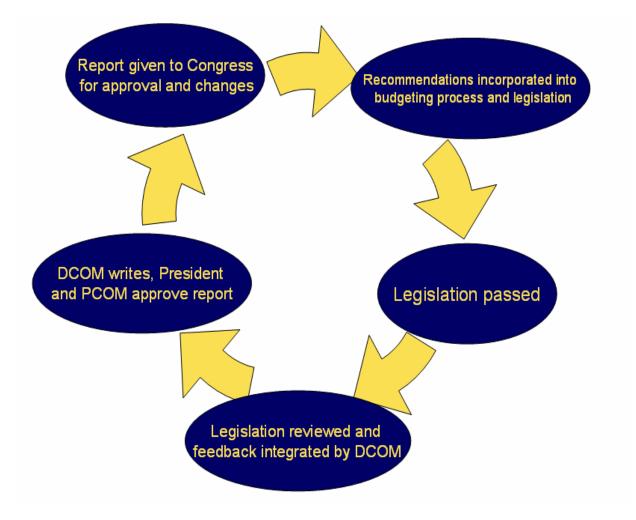
The House and Senate SCFE will also collect and publish the committee reports issued coincidental to the development of the omnibus legislation, so that periodic volumes on complex priority policy and legislation may be assembled.

Upon passage in the House and Senate, members of the House and Senate SCFE will be named to the conference committee tasked with reconciling the differences between their respective bills. Once a negotiated omnibus is agreed to, it will be returned to the House and Senate for a vote on final passage. Once passed, the agreed-upon omnibus bill will be sent to the President for signature.

It is of course crucial that the budget and appropriations measures developed by Congress adhere to the authorizing and regulatory policies included in the omnibus legislation. No explicit changes are proposed here for these funding mechanisms. It is expected that the inclusion of senior members of these panels on the House and Senate SCFE will help ensure consistency between funding and policy focused on forward engagement. Should that fail to be the case, a failsafe to ensure consistency would be the floor debate on funding bills where open debates and amendments may allow the full membership to restore consistency between funding and policy.

The periodic repetition of this process will help Congress institutionalize the perspective and concept of forward engagement. Through the iterative process of Congress acting on an executive branch report, inter-governmental collaboration and policy development on complex priorities and forward engagement should mature and become more indoctrinated in the process and persons involved.





Case Study: Acute Energy Shortages Congressional Response

After the energy shortage is discovered, the President submits to Congress a Report on Complex Priorities that forsees energy scarcity as a future contingency of interest to the U.S. The Report also outlines possible impacts to US society and security from this scenario, and includes policy and legislative recommendations intended to address this contingency.

The Select Committees on Forward Engagement in the House and Senate will receive this report, and develop their own independent legislation intended to respond to the future threat of energy security. This legislation may include measures seeking to improve the armed forces energy efficiency, increase research and development of energy alternatives, tax credits for private alternatives development, and provisions intended to offset the growing portion of household income expected to be spent on energy costs.

The respective jurisdictional committees will review their portions of this legislation and amend or mark it up as their membership sees fit. For instance, the armed services committee may reject a SCFE proposal for an-across-the-board energy conservation measure for military operations, and instead approve an alternate measure that integrates energy efficiency into defense procurement and acquisition programs. As each committee makes changes to the portions of the omnibus bill reported to them, the bill is reassembled. The House and Senate will then mark up the bills, where amendments could be offered to all sections by their membership: for instance, a member may offer a cross-cutting amendment to shift renewable energy research funding to programs intended to retrofit homes for energy efficiency; or, a senator may propose an amendment to redirect foreign aid from the (formerly) oil-rich Middle East to an international science program studying ocean chemistry and resource potential.

The outcome of the omnibus bill that finally passes will create winners and losers among the various competing factions in Congress. It is fair to assume, for example, that transportation committees will lose much of their share of the federal budget and much of their attendant political influence. In addition, the scope of their influence will reflect a structural shift away from highway and aviation infrastructure and towards public modes of transportation. In contrast, science, agriculture, and urban development committees will assume new powers and responsibilities in both legislative procedures and societal organization. More broadly speaking, the relative fortunes of Congressional committees will necessarily reflect the priorities established by PCOM/DCOM, the Committee(s), and an overarching national dialogue surrounding the energy crisis. Were it not for the immediacy of the scenario, great institutional resistance would likely emerge in the Congress. Effective, bipartisan leadership will be vital.

Education, Training and Experimentation

A system of networked governance will require supporting attributes in terms of knowledge management, processes, structures and human capital. System participants will need to learn how

the PCOM and DCOM structures and processes work. They also should understand how the new structures fit within the current interagency system. While instruction in these areas is critical to ensuring that system participants embrace and use the new PCOM and DCOM structures, a successful **Forward Engagement System**, which applies complexity analysis in the development and execution of policy across a networked government, will also require

The Forward Engagement System refers to the collective structure assembled by this report including the Principles and Deputies Committees on Complex Priorities, the Select Committees on Forward Engagement and all of the mechanistic enablers therein (e.g. proposed educational institutions, interagency communication platforms and feedback mechanisms).

that system participants develop a substantive understanding of complexity analysis and complex priorities. Adherence within the system to the knowledge management concepts and processes prescribed by this report necessitate changes to the current cultures present inside U.S. government organizations. System participants must be aware not only of what they are supposed to do, but why they are doing it. They also should embrace networked governance and their roles in connection with it. Bureaucratic resistance to top-down directives may arise if a key portion of the bureaucracy lacks this understanding. The U.S. government must develop its human capital to avoid this result.

The December 2007 Final Report of the Presidential Transition Office recommended that training be provided to the PCOM and DCOM members, their staff and other key members of the EOP. Certainly, it is necessary to train these personnel with respect to the PCOM and DCOM processes, as they will be driving the Forward Engagement System. Nevertheless, compulsory training should also be required for other members of the Senior Executive Service, GS-14 and GS-15 level personnel (or their equivalents) and lower level government employees. In addition to training, however, an education campaign is also required. Training addresses an individual's ability to perform relatively simple tasks, such as shepherding issues through the PCOM and DCOM process. An effective networked governance system that contemplates complex forward priorities must be supported by a cadre of personnel with the knowledge to operate in such a system. Education also is essential to transforming the cultures present within the U.S. government. These efforts can be enhanced through corresponding changes to the U.S. government personnel system. Ideally, large segments of government personnel will receive the

necessary training, education and cultural exposure to permit highly effective **networked governance**. Of course, as this segment of personnel increases, the costs and difficulty of implementation will increase. Therefore, this report recommends several short- and long-term methods for infusing the government's human capital with the skills, knowledge and culture that is supportive of the

Networked governance refers to a protocol by which authority and information is transmitted and controlled within a system of governance such that its nodes can cooperate efficiently in order to cope with complex issues that might otherwise overwhelm the system

proposed system. While these methods should assist in sustaining the system, it will be critically important that the President's incoming senior personnel carry forward the various recommendations set forth in this report.

Short-Term Efforts

Futuring, Complex Systems and the Forward Engagement System

As identified in the December 2007 report, training and education should cover five broad areas impacting forward complex priorities.⁴ A shortcourse, perhaps lasting a week or two, needs to be developed for use by the members and support staff of the PCOM, DCOM and the congressional select committees, which are discussed below. Personnel should complete this course during the transition period, if possible, so that the personnel essential to the new structure are in place by inauguration. A capstone educational session and **Futuring** refers to an approach toward extracting actionable knowledge about the future. Among many, popular and effective methods include prediction, project, scenariogeneration, and the Delphi method of forecasting.

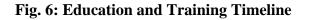
Complex systems refer to hierarchies of systems and sub-systems, all of which exhibit the characteristics of adaptive wholes with emergent properties. Within these hierarchies, there must be processes of *communication* and *control* in order for the system to be able to respond adaptively to changes in its environment. (Chapman 2004, "System Failure." 39-40.)

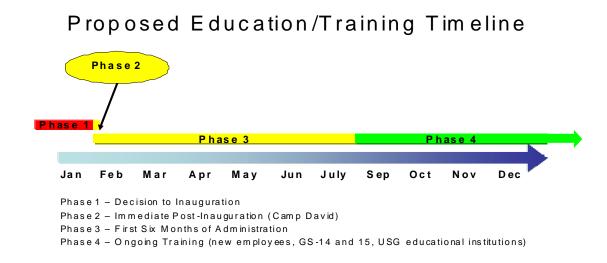
initial planning exercises could be held at Camp David during the days immediately following inauguration. Initially, instructors might be drawn from local universities and the Congressional Research Service. Based on feedback from students and instructors, the short-course should be revised for instruction to be provided to Executive branch officials at the cabinet, deputy, undersecretary and assistant secretary levels as they are confirmed by the Senate.

As lessons are learned from the new system's operation, the short-course can be revised. Critical aspects of this course should then be extracted and introduced to other levels of government personnel through a two-day seminar. Deputy assistant secretaries, office directors and deputy office directors should attend this seminar, which would be offered at least three times so that appropriate office coverage can be maintained. It is anticipated that this seminar, as well as courses for senior Administration officials, will be offered during the first six months of the Administration. While it would be ideal to invite additional system participants at the GS-14 and 15-equivalent levels, temporal, spatial and cost constraints are likely to prevent this. Nevertheless, educational literature should be prepared in conjunction with the two-day seminar, which can then be disseminated among government personnel. Office directors should be encouraged to at least briefly discuss the new system and its underlying concepts during one or more office meetings. Finally, a discussion of the educational literature should become a mandatory component of new employee orientations.

The DCOM should plan to host a simulation to test the structure shortly after it becomes operational. It is recommended that a DCOM representative contact either a private or government gaming center to assist in preparing the simulation. Although it will be a simulation, there is no reason that the issue to be explored should not be one that the President wants to address as a complex priority. After it is completed, the simulation should be reviewed to determine how a more permanent set of experimentations, simulations and instruction workshops (discussed below) might be used in the future to support the new structure.

⁴ These areas include: Introduction to Complex Systems; Application of Complexity Theory; Interactivity of Issues; Scenario Planning and Futuring Methods; and Policy Creation.





Current Interagency System

Instruction in futuring, complex systems and the new structure must also be accompanied by

education related to the current interagency system and its limitations, especially as they relate to successful networked governance. The planning and execution of policies that cut across U.S. government departments and agencies are often constrained by personnel, resources and information, which are stovepiped within individual departments and agencies. Some of these problems result from a longstanding culture that rewards the avoidance of interagency cooperation and views information as a source of power. It will take many years of concentrated effort to

Interagency systems consisting of various levels of authority create venues in governments to pool information so that interagency analysis can go forward with on a uniform diet of information. It cannot be overlooked that past attempts at creating interagency systems have fallen prey to individual agencies thwarting the flow of information between one another, to the Executive or vice-versa.

change this culture. However, interagency participants must at least understand the system within which they operate. They should be cognizant of its capabilities and limitations relating to networked governance. Education in this area should include instruction through the use of case studies demonstrating the system's positive and negative attributes and their impact on policy planning and implementation. If it is to positively impact networked governance, this education must emphasize the importance of breaking down stovepipes at least with respect to the information flows, which are critical to a functioning complex adaptive system.⁵ The mechanisms for educating personnel on futuring, complexity and the new structure can include instruction on the current interagency system.

⁵ Information and more refined knowledge should be available to all participants who need it during at least three general phases: policymaking; policy implementation; and feedback processes.

Medium- to Long-Term Efforts

Over the next twenty years, the "baby boom" component of the civil service will be retiring. Replacement personnel offer ideal targets for medium- to long-term educational efforts. We must consider how to take advantage of this opportunity. As instruction programs are further developed, they can be introduced to larger segments of government personnel through the use of pre-existing educational institutions.⁶ Although course offerings at these institutions would not be available at the outset of the Administration, it might be possible to start rolling out trial courses within six to twelve months. These would be medium-term efforts designed to introduce instruction to interagency participants at various levels of seniority. Over a longer period of time, instruction could be extended to the service academies and ROTC programs. A centrallydesigned curriculum that is based on input from government departments and agencies would ensure standardized education.

In addition, a Center of Excellence for Forward Engagement (COEFE) or a Forward Engagement Institute (FEI) could offer graduate level instruction. Such organizations could offer centralized instruction to attendees from across the government, including the legislative branch. They would invite outside experts to teach regularly scheduled classes while also hosting visiting lecturers. In order to deliver education to personnel who cannot attend onsite programs, the organizations could offer distance learning opportunities and train-the-trainer programs for instructors from government departments and agencies who would then return to their home organizations to provide instruction.

The COEFE or FEI would also support DCOM and PCOM experimentation sessions and educational workshops. The experimentations would permit the application of complexity analysis with respect to potential issues. Members of Congress could also organize policy experimentations at these institutions. While PCOM, DCOM and congressional policy exploration would take precedent, educational workshops could also be offered by the COEFE or FEI. These would enhance the instruction offered by the organization. They would also provide additional opportunities for government personnel to interact across stove-pipes. In conducting these workshops, the COEFE or FEI should encourage the use of information and knowledge management systems, including the tools discussed below, that enhance networked governance.

⁶ These may include the Foreign Service Institute (including as part of the "A-100" curriculum), the anticipated Department of Homeland Security University system, National Defense University, the services' post-graduate schools, the USDA's Graduate School, the Department of Justice's training centers and the National Intelligence University system.

Promoting Creativity

Educating elected officials and staff of the federal government is a necessary but not sufficient condition for creating a culture that will maintain an awareness of and flexibility to complex priorities. Likewise, creating new technological applications to share and integrate information will prove inadequate if the individuals who use those tools remain indifferent to or uncertain about their role in addressing complex priorities. Thus, mechanisms that actively encourage individuals to take the lessons learned and implement them into their respective agencies must be pursued. These recommendations include means to increase creativity and the upward flow of information as well as institutionalize interagency collaboration through joint assignments and personal incentives.

In order for government to be transformed into a complex adaptive system, all of its components, including its human capital, must be adaptive to emerging issues and potential complex priorities. This requires that individuals understand how they play a role in complex contingencies and ultimately demands that they be dynamically engaged in the system on all levels. Fostering an environment that allows innovation and vision to flourish would be achieved, in part, by encouraging individuals in lower levels of the bureaucracy to create their own ideas about complex priorities through regular brainstorming and research. In the short term, individuals or a team of individuals should focus their efforts on maintaining awareness of or seeking out future complex priorities as they relate to the person's office or agency. Once developed, the research should be distributed throughout the appropriate office or agency. Mechanisms for distribution should be tailored to the organizational process and style of individuals can offer

their research, such as in staff meetings or in regular "futuring" sessions. Others may choose to post an idea board or another type of public **feedback mechanism** for individuals to contribute and/or add on to other people's ideas. The idea board could be used as the site of weekly or monthly STEEP analyses as well. In order to mitigate the stovepiping effect of developing complex priorities within a discrete office or agency, a long-term goal should be the implementation of mechanisms that facilitate cross-agency pollination of research efforts. This would include

Feedback mechanisms link policy design to outcomes through institutionalized relationships and technological devices that promote learning and innovation within a communicative sphere of responses to policies and ideas that are both critical and constructive

the incorporation of inter-agency research groups and the distribution of materials throughout multiple agencies. Furthermore, web-based "idea boards" that allow interagency work on STEEP analyses should be made available, to facilitate intellectual discourse and enable analysts from various agencies to contribute their opinions on key complex priorities and future contingencies of interest.

There should also be a mechanism for implementing sound ideas once they arise. Implementation will require the support of individuals along the hierarchal lines of authority on which governmental offices and agencies currently depend. This will mitigate some of the risk assumed when empowering lower level officials with the authority to create ideas, as upper level approval will be required to implement the ideas. Enabling the upward flow of ideas will necessitate an even deeper level of cultural change, as most federal agencies and departments are unaccustomed to this process. The initiation of this level of cultural change may be impossible without external stimuli. Awarding "Innovation in Government" grants to offices that successfully implement original ideas that improve a specific office's or agency's adaptability and flexibility should be pursued. The grant process would provide incentives for lower and higher level bureaucrats to be involved in the creative process. The "Innovations in American Government" awards, which are given yearly by the Harvard Kennedy School of Government, should serve as a model for the inter-governmental grant process. The Kennedy School offers \$100,000 grants to creative and effective government initiatives at all levels of government. A similar program, with a sole focus on federal initiatives, would provide an incentive necessary for fostering creativity and collaboration up and down the official hierarchy.

Institutionalizing & Incentivizing the New Culture

While the initial results of training and education are expected to emerge fairly quickly, significant and deep cultural change across the interagency system will require a gestation period likely to take many years. Nevertheless, government personnel should be motivated to attend educational sessions and to adopt cultural reforms. This can be accomplished through the use of three fundamental mechanisms. First, education should become compulsory. Courses can be introduced to interagency participants in connection with various entry-level education and orientation programs, while also offering it at the various mid- and senior-level continuing education opportunities outlined above. Promotions and pay increases should be contingent on satisfying an education requirement. Senior-level personnel should eventually be able to explain the basics of futuring, complexity analysis and the new structure to supervisees.

Furthermore, an interagency-wide personnel system should encourage joint assignments and secondments with other departments and agencies as well as the governments of multilateral partners. Each department and agency should retain its own personnel system, which focuses on selecting and developing human capital to satisfy the organization's core competencies. However, an overarching interagency personnel system, presumably administered by the Office of Personnel Management, should coordinate with these organizational systems to ensure that joint assignments and secondments occur and that bureaucratic barriers to accomplishing this on a regular basis are minimized. The system would also oversee the compulsory education requirements across the U.S. government. As such, it would be positioned to coordinate joint assignments with education. Ideally, students would complete their courses and immediately begin a joint assignment or secondment to another agency. This would reinforce the students' coursework.

We also recommend that an established number of Presidential Management Fellows (PMFs) be assigned to strategic planning offices during their two-year fellowship, specifically to the offices which are tasked with developing agencies' complex priorities. This will allow a number of PMFs to be exposed to varying approaches to strategic planning as well as the unique cultures of each of the agency's planning offices. Furthermore, the PMFs will have the opportunity to build contacts within these offices, and to carry forward professional relationships that will foster interagency collaboration for the development of complex priorities.

Finally, the personnel system should facilitate annual 360-degree employee reviews in which an individual's interagency colleagues are afforded an opportunity to assess performance. Intraagency reviews would continue to assess an employee's performance as it relates to the employing organization's core competencies. These reviews then would be supplemented with a standardized interagency review that addresses an employee's performance in the context of cross-cutting, interagency missions. Mission team colleagues would contribute to these reviews, which would focus on attributes of an improved interagency culture, such as information sharing, cooperation and general commitment to mission goals despite home organization prerogatives.

Case Study: Acute Energy Shortages *The Impact of a Changed Culture*

Identifying, anticipating, and reacting to FCIs is critical to developing effective responses to developments that threaten national security. However, the current institutional culture within the executive branch does not encourage the approaches needed to ensure creative, forward-thinking policies to address these potential threats. Given that cultural reforms in the White House and the various departments will require years, it is critical that this process begin as early as possible. Without systematic changes to this institutional culture, a severe fossil fuel shortage would be met by a cadre of government officials/bureaucrats unable to meet the goals created by the interagency process and develop meaningful policy in response to the legislation/budgetary provisions passed through Congress.

Reforms to the institutional culture will contribute to a less rigid, top-down approach among government officials. To give one specific example, it is likely that in the FCI under consideration, US foreign policy and US foreign assistance will play a pivotal role in whatever strategic initiatives emerged from the DCOM/PCOM process. The budget and policy recommendations put forward by Congress in response to this process will therefore involve agencies and departments including the US Department of State and the US Agency for International Development. For example, USAID might be granted a sum of money to promote transition to alternative energy sources in third-world nations to help offset the economic, political, and environmental catastrophes that could result.

Currently, these programs are assessed under provisions of the "F Process," which focuses on numerical targets and does not provide for much qualitative analysis of successes or failures, nor allow for a response to unexpected results or impacts. The rationale behind the F process was an attempt to centralize information about US assistance programs and gather information about wide-scale program impact, so it depends on numerical data that can be viewed in aggregate (number of tons of food delivered globally to offset anticipated shortages or percentage decrease in fossil fuel usage to conserve remaining resources).

Cultural changes within the Agency might result in a decentralization of program management in which lower-level bureaucrats had more freedom to oversee programs and determine which initiatives were successful and which were not, without having to feed hard numbers through the chain of command to keep funds flowing. Training provided for lower-tier agency staff will give them the skills to analyze broad-scale impact of programs, and thus lend them the credibility needed to persuade upper-level management that a program's impact will only be seen in a qualitative, rather than quantitative, sense, or will be seen in the long-term, or is yielding results in an unanticipated sector.

Furthermore, allowing for greater independence and creative thinking among program managers might prevent a rote application of hackneyed responses to humanitarian crises: if fuel shortages lead to multifold increases in food prices, the solution might not be to provide huge amounts of food stuffs (which could, and have, wreaked further havoc on local food supply chains). Rather, program managers trained in aspects of complexity and encouraged to think more freely and creatively might look at how food production and supply could be accomplished with more energy efficiency at the local level.

Technological Tools to Support Networked Government

We have only begun to scratch the surface of harnessing information and communication technology to transform both the economy and the manner in which government operates. The ability of IT to enable all kinds of information to be collected, widely shared and available in real time makes it possible to govern in fundamentally new ways. New information technologies enable end-to-end, horizontal integration of data and applications between organizations. A wide array of new applications, until recently nonexistent or inaccessible due to the cost and difficulty of collecting or processing information are being deployed. These systems go far beyond the simple collection of information to include real-time analysis and feedback, and to create IT-enabled, self-adaptive systems. If designed and deployed properly, these tools can play a major role in transforming old, information-poor models of bureaucratic government to information-rich networked government.

In the context of governance, we recommend the development of a comprehensive enterprise architecture to be implemented across all agencies in government. Enterprise architecture provides an enterprise view of government, i.e. a comprehensive, holistic view of government as an enterprise that includes environmental understanding, explicit strategic intent, and the organization, business processes and technologies that enable the intent. In effect, it provides the means for managing the complexities inherent in the enterprise of government, and in managing change within the enterprise. The platform or system architecture will need to be dynamic; ever evolving in tandem with the requirements of the user-community. It must be adaptable in the face of both real and anticipated challenges, and be able to deliver capabilities that enable that intent.

The development of this form of architecture will itself represent a complex adaptive system, i.e. one that emerges over time into a coherent form, and adapts and organizes itself without one single entity deliberately managing or controlling it. The types of interaction enabled by this architecture allow policy makers and managers the opportunity to analyze inter-organizational data and information, and the ability to identify patterns once unrecognizable and undetectable. Enterprise architecture can enable unprecedented flows of information over traditional boundaries as decision-makers become more sophisticated in their understanding of events and the interactions of influences that drive primary, secondary and tertiary effects. Information-sharing capabilities are critical in enabling situational awareness, particularly in times of crisis, and in supporting decision-making processes.

The development and implementation of enterprise architecture and management systems is not a technological problem, rather it is an organizational and human problem. In order to effectively implement such systems, it is critical that barriers to information sharing be determined. These will require the establishment of standards for data storage and sharing, as well as rules and protocols for how the sharing will take place, with a wide-ranging understanding of why enterprise systems are important. Through a participatory and inclusive process, partners must agree on the content of the information and the protocols for how that information will be represented and transmitted. These systems will necessitate the acceptance and embracing of the changing of organizational boundaries, job scope and business processes. However, if government is to be truly transformed, then old paradigms must be abandoned. The formulation of a unified strategy for Interoperability, i.e. the ability of agencies to work together towards common ends, must be achieved through the collective consensus of representatives of various agencies, disciplines and levels of government. These issues will not be exclusively technical, but rather to the contrary, will involve the planning for a multifaceted array of political, organizational, legal, technical, security, cultural and personnel issues that must be addressed and upon which decisions must be made. Due to the inherent complexity of these issues and the constitutional separation of powers that is also present, decision makers, stakeholders and other users must be intimately involved in effectively designing an enterprise information sharing capability.

The Government Portal

The implementation of the enterprise management platform across government will enable the development of a single-window comprehensive portal to be available to users within government agencies. The portal will provide users with access to wide range of tools related to their particular agency. In addition to enabling access to regular tools, including e-mail and locally networked data, the information portal will enable authorized users with access to the vast array of data integrated into the system from different agencies across the government. Access to types of information will be restricted dependant on the level of authority assigned to individuals on the network.

In addition to enabling access to information across various government agency databases, the standardization of data storage will enable the use of semantic technologies to mine through data sets and extract and identify patterns and interactions previously undetectable through human or technological means. To this end, new, actionable knowledge will emerge from the process of information sharing and networking, through systems that will virtually represent the application of 'intuition' and 'foresight' in the decision-making process.

A number of additional utilities will be enabled by the system and can be incorporated to promote net-centric applications. These will include cross-functional networking applications where individuals across government agencies can join communities of interest to share information, exchange knowledge and network with others working within their area of professional interest. The system will include staff directories of contact information with associated labels describing the hierarchical level and responsibilities of the individual. This feature will particularly support organizational reforms targeted towards achieving 'mirroring' across government agencies, with the identification of groups of individuals operating within complementary positions at different levels within the organizational structure of each agency. These networking capabilities will facilitate the linking of individuals with relevant interests and levels of responsibility, allowing the flow of information between agents within the system to be done most effectively.

Furthermore, the portal can enable the use of Web 2.0 technologies, including Wikis and Blogs. The Wiki applications may be utilized as a tool for developing consolidated reports based on the contributions of various individuals within the system. The 'Blogosphere' will enable employees at agencies to produce web-journals of their work and research, (which can be labeled with identifying key-words to facilitate effective searching for relevant information) which will

become available to the community for their comment and feedback.

It should be noted here that a number of the utilities that will be made available through the portal can be implemented in the absence of an overall enterprise architecture, and can themselves represent complex adaptive systems, albeit small and specialized ones. Examples of such systems include the Intellipedia system developed and implemented in the intelligence community to share information across previously disparate agencies. Although these systems do have significant utility, they would pale in comparison to the information-sharing and intuitive capabilities of a unified enterprise architecture system across all agencies of government.

Case Study: Acute Energy Shortages Networked Government

After the passage of appropriate authorizing legislation and the yearly budget, implementation of solutions to the energy crisis will move to the Executive bureaucracy. As oil runs out complex problems arise, and solutions to these problems must involve a myriad of different agencies and departments working together. Action taken by one agency may lead to unintended consequences in other fields and thus interagency communication is vital to the efforts of finding sustainable solutions by working together towards common ends. Information sharing and networking will create new actionable knowledge that will reduce future surprises and unintended consequences.

Acute energy scarcity will most likely become the top political priority in America. Away from home it will require the US to stabilize volatile and weak or failing states or even regions to avoid massive disruptions to the flow of energy. Stabilization operations will have to involve a number of departments and agencies from USAID to DOD in such a way that interagency communication will be vital. Security and development are increasingly interconnected and the dynamics of those connections are crucial to an effective response. Access to databases and people across agencies will make the task easier and the learning process more fruitful, and also make it simpler to track emerging problems that could be disruptive to the security of oil supplies

The domestic sphere will be increasingly shaped by the declining flow of oil from abroad affecting issues across the range of human activities. The US economy will likely suffer harshly from energy scarcity. Energy intensive industries will collapse, leaving many without jobs. This could lead to greater social cleavages and possible social unrest. Solutions to these problems are not as clear-cut as they may seem. Coal is one option as a substitution to the decline of oil. The use of coal would produce cheap energy and create more jobs, but then the climate would suffer and environmental issues would arise which could leave the country worse off than before. Energy rationing would be very likely, but there would be competition over where the rationed energy should be used. Allocation of resources to one place will mean that other sectors of the country would suffer from the lack of resources, and the government could face trade-offs between economic viability and military strength. In such a case, increased interagency communication and less rivalry will produce a more nuanced vision of the complex priorities, and resources will more likely be distributed in terms of need rather than on the basis of political pressure.

The decline of fossil fuels, in addition to threatening certain aspects of the American way of life, provides an unprecedented opportunity to save the environment from degradation. However, this will only happen with strong cooperation, not only among agencies and departments of the US government, but also within the broader international community. Working together, agencies would be more likely to find the solutions that will bring the most benefit 10, 20 or even 30 years down the road. Though interagency rivalry will likely continue, communication between agencies will broaden their horizons and make them see possibilities and limitations to their possible actions well into the future.

Feedback Mechanisms

A significant component of the system will be the continual attempt to achieve optimal performance. Similar to policy feedback, the structural metrics will ensure that the system is adaptable and therefore current. In practice, this may in fact be a slightly longer process than policy feedback and assessment. In keeping with complexity theory and the intricacy of government systems, through action and the subsequent assessment of the output, the system's responsiveness and pertinence to complex contingences can be determined.

To a large degree, organizational learning derives from individual learning. In this regard, the learning of the PCOM and DCOM will in part be driven by the information-sharing, fostering of new cultures and the circumspect and multi-level evaluations contained in the 360 degree reviews. Obstacles to a clear understanding of organizational functioning include overemphasis of the individual and blaming, whereas the promotion of understanding the organization requires a culture in which these tendencies are reduced. Therefore, in order to assess the effectiveness of the bureaucracy, it will be necessary to evaluate the consideration, selection, implementation, and monitoring of policy from a policy neutral, organizational theory perspective. Successes and failures in the progression of the policy will be identified, and their causes and consequences closely examined in order to produce reports on lessons learned. A combination of these reports will be compiled for consideration of changes in bureaucracy structure and procedures.

To this end, the DCOM will issue broad criteria that attempt to be policy neutral, while being specific enough to be measurable. Understanding that emphasis of a single metric of performance leads to a decrease in overall performance, DCOM will use a range of metrics to prospectively assess policies to be pursued. In addition, retrospective assessments of how well the metrics set forth by the DCOM are met will be conducted by a government organization with sufficient distance from politics and parochial interests to be objective and look at the big picture, such as the Governmental Accountability Office. The metrics will be informed by systems theory and forward engagement, and will fall into, for example, the following:

Sensitivity – Regarding the short-term ability of the organization to reconsider and redirect the course of policy mid-way in light of sudden and consequential outputs. This criterion will assess the organization's ability to maintain a constant, well-informed assessment of relevant factors in order to take advantage of all opportunities and to surpass any hurdles.

Adaptability – Regarding the long-term extent to which the organization recognizes the experiences of those involved at various levels of the policy process, and seeks to develop such opportunities. This quality considers the ability of the organization to recognize and make use of the opportunity to learn based on operational feedback. Likewise, robust policies are options with enough built-in flexibility to operate across a broad spectrum of contingencies.

Interoperability - Regarding the ability of the organization to act and make decisions that most effectively promote the established policy, rather than those that contend or conflict with other agencies and therefore the policy. This principle measures the degree

to which agencies have learned and continue to learn to make use of the resources of others for maximum performance.

Success Rate – An inevitable indicator of optimal operation will be the rate of success of policies from conception through implementation; meaning that despite the actual procedures used in light of contemporary contingencies, the successful achievement of the overarching interest within which the policy is embedded will be measured.

Efficiency - Policies will be judged on their ability to accomplish their goals without unnecessarily large resource consumption. Of course, this assessment will require looking across disciplines and departments to assess the whole cost and benefit of the policy. It will also foresight to evaluate what progress is being made toward future benefits, and what future costs will be.

As some capacity for rapid-response and flexibility is necessary even within the actual structures and standard operating procedures of the organization, there should be internal tools to facilitate a quicker response when necessary. Additionally, the above criteria will be assessed in terms of the extent to which the organization can carry out the internal checks and balances below.

Progress Tracking - Once the analysis/recommendation has ended, PCOM/DCOM will assign analysts to track the progress of implementation, employing benchmarks and other criteria for gauging success. In every instance that the implementation does not proceed optimally, the analysts will investigate and determine a method by which in the future those stall points can be avoided. It will also seek to determine warning signs that a particular process will run into those stall points and, reflecting the wider goals of the organizations, develop methods by which those problems do not repeat. The goal is for PCOM/DCOM to anticipate problems with their recommendations and ameliorate them to ensure smoother implementation. These analysts, as they will be working on policies geared toward complex priorities, will of necessity work across department and other boundaries, and will need sufficiently high level access to gauge to full picture of a policy's success or failure.

Revision - Another group will be assigned towards keeping informed of changes to the conditions that drove the original analysis. If new information or events change the assumptions that the original report was based on, requiring a different set of responses, then this group will have the ability to inform its superiors of the need to alter course. If it is too late to do so, then the group will ensure that the necessary changes are made to the report that follows.

Training and Simulation - Contingency analysis and methodology must be regularly trained and practiced. Every time a problem in any stage of the process appears, that problem will become a subject of future training exercises until the staff at PCOM/DCOM can account for those challenges. The institution must be resilient enough that it can continue to function with a significant minority of its staff undergoing training exercises at any one time; this will necessitate redundancy in personnel.

Case Study: Acute Energy Shortages Feedback Mechanisms

DCOM will produce policy metrics that are for a specific policy response to the energy crisis. These will be broad, policy-neutral, results-oriented criteria, which are specific enough to measure. The DCOM will use these metrics to assess the quality of the policy response. A government organization with sufficient distance from politics and parochial interests to be objective and look at the big picture, such as the Governmental Accountability Office, will conduct retrospective assessments of how well polices meet these metrics.

Sensitivity: A standard for sensitivity will be set in terms of how broad a range of world oil prices the US economy could face and continue functioning well. This range will be broad enough to prevent many shocks from undermining the US economy, rather than a specific few, well defined potential shocks.

Adaptability: In the case of peak oil, the metric for adaptability will be how long the US economy would take to adapt to a fundamentally different energy regime (say, 300 dollar a barrel oil). The timeframe built into this metric will be short enough to prevent serious detriment - say, 3 years to 90% economic adaptation. Essentially this metric is about reducing the lag time between the need for transition and the completion of that transition.

Resiliency: This quality is the most basic; any policy designed to deal with a future contingency must ensure that the worst-case scenario of that contingency is prepared for, particularly any contingency threatening national survival or institutional continuity. This metric will evaluate the response of the economy to a permanent situation of \$5000 dollar / barrel oil, in terms of the depth of economic slowdown before recovery.

Stamina: Policies with this quality are capable of dealing with a long-term crisis, preferably through solutions that are indefinitely long, or potentially so. At least a portion of a policy should have a substantial "steady state" component. By addressing the stamina of the government's policy response, the danger of short-term effective but long run ineffective solutions can be mitigated. In the case of peak oil, this metric will measure the relationship between the persistence of a government response and the time required to restructure the economy so that response is no longer needed.

Efficiency: DCOM will judge policies on their ability to accomplish their goals without wasted or underutilized resources. Of course, this assessment will require looking across disciplines and departments to assess the whole cost and benefit of the policy. It will also require foresight to evaluate what progress toward future benefits is made, and what future costs will be.

<u>Appendix</u> The Congress

While the recommended revisions to the PCOM and DCOM will improve the executive branch's ability to consider future and complex possibilities, such capacities must also be integrated into the legislative branch. This is essential to both ensure executive-legislative collaboration on future, complex priorities, as well as to enable legislative and funding changes needed to adapt to forecasted contingencies.

House/Senate Select Committees on Forward Engagement (H/S SCFE)

To provide for congressional organization and capacity in this regard, new congressional committees are recommended to be established.⁷ The effectiveness of such committees will demand two qualities: the need for wide-ranging, if not unbound, jurisdiction; and the power to enact legislation that cuts across committees and addresses future concerns. For that reason, these should be select committees – committees designated for special purposes that are enabled to consider matters that exceed the scope of any standing committee.⁸ The select committee is designed to allow appointment of its members by the congressional leadership, and can thus include specific committee chairmen, senior, powerful members, or others with special experience or perspectives. By including such an array of members, the select committee also serves to address concerns that might arise about the loss of jurisdiction or power to the newly established committee. At a minimum, the proposed House and Senate

Select Committees on Forward Engagement should include the leadership of committees with oversight of armed services, foreign affairs, homeland security, energy and environmental issues, science and technology, public health, among other areas. It would also be important to include members from the budget and/or appropriations committees, so that the funding provided through their committees is consistent with the priorities identified by the select committees. By also including some rank-and-file members, the select committees can reach out to and be representative of their membership and can also avoid charges of being an 'all-powerful' ivory tower cabal. The exact composition of the Select Committees may be determined by the House and Senate leadership/ membership at the onset of each new session of Congress (every two years), but committee assignments should be similar across bodies so as to afford the most feasible bicameral collaboration.

The chairmen and ranking members of these select committees should also be appointed by their leadership – the Speaker and minority leader of the House, and the majority and minority leaders of the Senate - with maximum terms of three congressional sessions, and, consistent with congressional rules, may not serve concurrently as the chairmen or ranking member of any other committees. The ratio of majority-minority membership on the committees can also be

⁷ Since this is an executive-transition memo and the separation of powers doctrine, changes are not mandates/directives to Congress, but must instead be in the nature of recommendations

^{8 &}quot;Select committees are established (usually outside the standing rules) to consider a particular matter or subject and may or may not have legislative jurisdiction", A Guide to the Rules, Precedents and Procedures of the House, p. 235, US Government Printing Office, 108th Congress, http://frwebgate.access.gpo.gov/cgibin/getdoc.cgi?dbname=108_house_practice&docid=hp-11

determined at the beginning of each session based upon the overall ratio within each body. Precedent exists for the creation by Congress of such select committees to manage cross-cutting, priority and sensitive issues. In 2002, the House of Representatives established the Select Committee on Homeland Security, and empowered it to draft the cross-jurisdictional (and disruptive) legislation that created the Department of Homeland Security; intelligence oversight is the responsibility of House and Senate permanent select committees; the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina of 2005-6; and the current House Select Committee on Energy Independence and Global Warming.

Committee Staff and Resources

The House and Senate SCFE will be staffed and budgeted sufficiently to have the capacity to study and research complex, future contingencies, comprehend the workings and shortfalls of the federal government, and draft and manage detailed legislation. In addition to the typical congressional coterie of lawyers, this committee should also seek staff with backgrounds in security issues, international relations, economics, science and technology, history and social sciences. It would also benefit the committee to work with the federal agencies, academia and others to obtain talent willing to serve on the select committees in fellowship or detailee positions. The select panels should be provided sufficient budgets so that staff may be salaried accordingly and the committees may expend resources on outside expertise and other needs. Contracting the services of consultants or technical experts who may bring special experience, such as in forecasting or scenarios, should also be authorized for the select committees.

The panels' staff would be led by staff directors, and the staff would be bipartisan and responsive to all members of the committee regardless of party affiliation. The staff director position should be a long-term role so as to develop and maintain institutional knowledge and awareness. As is discussed in greater detail elsewhere in this report, the staff and the members should attend continuing education programs devoted to increasing understanding and skills in fields such as complexity, forward engagement and network systems. It is expected that the panels would maintain robust information systems, including an effective and interactive website (i.e. Web 2.0) that seeks to inform others in Congress, the media, and the public while also providing a forum for input and dialogue.

Function of Select Committees

The Select Committees on Forward Engagement will have two primary functions. First, it should be tasked to consider a wide range of public policy issues with attention to long-term emergence and complexity. Hearings should be held on a regular basis, with witnesses providing insight on various issues, trends and proposals for adaptation. Expertise should be attracted from government, academia, business and other arenas. Efforts to reach out to the public, through field hearings, communication with the media, and solicitation of public comments would expand the understanding of the select committees' work, and create avenues to bring new ideas into the congressional deliberations. Staff should augment the hearings with independent research, proposals or investigations, and should participate in scenarios, forecasting and other future analysis. Committee members should be provided opportunities to participate in desktop exercises such as scenarios or war-gaming, and the Committees should sponsor retreats – either short, half day local excursions or longer, weekend opportunities – where the select committee members could interact amongst each other and other Members of Congress, and to explore in

greater detail forward engagement, complexity and how governance can effectively respond to cross-cutting, over-the-horizon concerns. The second function of the select committees will be to receive the Report on Complex Priorities issued by the President/Principals Committee on Complex Priorities (PCOM), and to manage the congressional response and action on that report. This second function is perhaps its most important: through this mandated function, it ensures that the Congress will develop and consider policies intended to improve the government's ability to address the complex priorities that are highlighted in the Report.

Development of Omnibus Legislation

Upon receipt of the Report on Complex Priorities, the select committees shall consider the reports conclusions and its legislative recommendations. Based on the executive branch recommendations, the views and concerns developed by the committees' members during the course of their hearings, and other research, the House and Senate committees will develop their own respective omnibus legislation to address forward concerns and complex priorities. This legislation may include or reject the recommendations included in the Report, as the committee leadership and members so desire. While the tendency to keep or jettison its recommendations will likely vary depending on the politics of both the Congress and the White House, it is expected that, as greater institutionalization and maturation of this new organization and process occurs in each branch, the ability to collaborate and cooperate in a non-political, functional manner will increase. This legislation has the capacity, if not the expectation, to be very broad: it can reorganize government, authorize research programs or acquisitions, change programmatic funding levels, or mandate interagency cooperation or policies. Important to protecting the select committees from turf concerns, and ensuring that these panels remain focused on long-term, cross-cutting issues, this will be the only legislative product that the select committees are authorized to produce.

Special Rules and Process for Omnibus Legislation

In order to facilitate action on such wide-ranging legislation, special rules provide for the consideration of the draft legislation developed by the select committees. While one Congress may not bind a future Congress, there is precedent for the institution adopting certain rules that afford specific legislation a defined and guaranteed pathway through the congressional process.⁹ First, upon official receipt of the Report, the House and Senate committees have 30 to develop and introduce their legislative proposal.

Once that legislation is drafted and introduced, the legislation would be divided into its jurisdictional categories, and assigned to the respective standing committees. For instance, provisions in the draft legislation pertaining to the reorganization of or an acquisition of a new system by the Defense Department would be referred to the armed services committee, while proposals to invest in certain research programs may be referred to the committees with jurisdiction over science and technology. The House and Senate parliamentarians determine the appropriate referral of legislation on a regular basis, and could conduct this function for the select committees' omnibus legislation. Each of the jurisdictional committees will be able to conduct their own 'mark up' of their piece of the proposed bill, where its members can offer

⁹ Examples include the rules providing for consideration of petitions under the Nuclear Waste Policy Act of 1982, and the Base Realignment and Closure Act.

amendments and seek changes in the underlying legislation. This process will afford greater

opportunity for **network-centric** policy consideration, as each committee will be horizontally equal with oneanother, able to amend or alter their jurisdictional issues as they determine, and enable each committee to contribute their knowledge and experience base. Like the rules providing for the Select Committees' development of the omnibus legislation, there should be a specified time limit for the jurisdictional committee to mark up and release its legislation. Should a jurisdictional committee fail to consider and release its portion of the omnibus legislation by that date certain, the select committees original version of

Net-centrism is a concept borrowed from the military doctrine of Network-Centric Warfare developed by Admiral Arthur Cebrowski (Ret.). In its application to civilian governance, it refers to participation in an ever-evolving, complex system of people, devices, information and services interconnected by a communications network to achieve optimal resource management and provide superior information on events and conditions needed to empower decision makers.

the draft legislation should be considered as released from the committee.¹⁰

Following the specified period provided for committee consideration of the Select Committees' proposal, the portions of the draft legislation – either amended or untouched – will be reassembled for floor consideration in the full House and Senate by the Select Committees. In addition, as each committee reports their portion of the legislation, they will also release an accompanying committee report that will outline the committee's deliberation on the bill, any amendments offered and adopted, and any other views or perspectives on the issues under consideration. The Select Committees will also assemble these committee reports and views, and publish a comprehensive report, in both the House and Senate, on the congressional efforts and views involved in the omnibus legislation. These documents will in effect serve as the legislative response to the non-legislative portions of the Report on Complex Priorities. Once the omnibus legislation has been assembled, subject to a rule mandating that each body should consider the omnibus legislation on forward engagement and complex priorities immediately by a date certain, the House and Senate will proceed with floor consideration of the legislation. Through this process of developing legislation at the select committee, considering it through the jurisdictional committees, and then re-assembling the bill for floor consideration, the legacy stovepipes that divide legislation and policy into segregated categories can be overcome, and Congress can become more adept at realizing and responding to the cross-cutting nature of complex policies.

Since both the House and Senate processes for considering this omnibus legislation operate on similar, if not consistent timetables, it would be expected that floor consideration in the House and Senate would occur on the same or back-to-back weeks. Importantly, this would ensure that neither the House nor Senate are co-opting or strategizing their bills based on those in other body. By maintaining this schedule on a regular basis, it could become a *de facto* 'session on forward engagement', which would be an opportunity to promote the concept of Congress and the federal government engaging on futures analysis, complex priorities and long-term planning to the media and the public at large.

¹⁰ The reconciliation process of the 1974 Budget Act provides a precedent for these rules. Under those rules, should an authorizing committee fail to report out legislation consistent with reconciliation instructions, the Budget Committee is authorized to draft its own legislation in its place.

The House and Senate debates on this legislation should be managed openly, subject to the broad debate and consideration demanded by the comprehensive nature of the omnibus legislation developed by the select committees. Debate should be permitted to occur over a few days. In the House, this would mean that the bill would be considered under a structured rule that should be bipartisan, and permit a wide array of amendments to be offered on the floor. However, limitations may be in order to exclude extraneous provisions, and to ensure a finality of the debate, with a vote on final passage occurring after all amendments are voted upon. In the Senate, debate of the omnibus legislation should be managed by a new rule, akin to the rules governing Senate consideration of its annual budget resolution. Since the ability of a single Senator to filibuster, or impede legislation, conflicts with the need to consider certain must-pass legislation, Senate debate should be limited to a specific period of time (40 hours, for instance), during which an unlimited number of germane amendments may be offered, debated and voted upon. Further, votes to proceed with debate (cloture votes), and on passage of amendments or legislation, should be achieved with a simple majority vote, rather than a super-majority as is sometimes required in Senate procedure. At the conclusion of the debate period, if there are any outstanding amendments remaining they may all be voted on without further debate, prior to a vote being held on final passage.

Following House and Senate consideration of the omnibus legislation, members of the select committees will be appointed by the leadership to serve on a conference committee to reconcile the differences between their respective bills. While conference committees can often times be contentious and become bogged down in differing priorities, the long-term perspective of the omnibus legislation should serve to lessen some of the politicization of the outcome, and encourage the cooperative development of consensus and solutions. And while the executive branch can weigh in with its views on the draft legislation, through Statements of Administrative Policy or other avenues, at anytime through the legislative process, the conference committee gives the President an opportunity to interact with one entity at a stage when the bills are assembled to negotiate any differences it may have or propose. Upon agreement of a final conference report, the omnibus legislation will be voted on by the House and Senate, and then sent to the President for his signature.

Once this legislation becomes law, it is presumable that it will provide for changes in the funding priorities and authorization levels of existing programs or agencies, create altogether new entities or policies, or most likely, some combination thereof. Therefore, it will be crucial that the budget and appropriations process be relatively consistent with the intent of the select committees' omnibus legislation. While there may be opportunities to amend the practices of these funding processes in the future, it is assumed that the widespread support necessary to enact the omnibus legislation will enable the House or Senate to amend the funding legislation on the floor (where bills are often considered under open rules providing for unlimited amendments) in order to bring it in line with the omnibus bill's provisions.

Additional legislative procedures or changes that may warrant future consideration:

- Shifting the congressional budgeting and appropriations from its annual cycle to a biennial or longer period. This could force Congress to take a longer perspective on policy and budget decisions, and heighten consideration of long-term trends and forward engagement.
- Invest in additional capacity within congressional service organizations, such as the Congressional Research Service or Government Accountability Office, so that these agencies may better support the growing congressional involvement and devotion to forward engagement and complex priorities.
- Require that, when committees issue legislative reports, these reports include statements on the consistency of the underlying legislation with recently passed forward engagement legislation. Similar provisions pertaining to unfunded mandates, budget projections and changes to existing law already must be included in legislative reports