

Blue Ribbon Panel on Forward Engagement

Blue Ribbon Panel on Forward Engagement
Washington DC 20515

December 13th, 2005

Joint Congressional Task Force on
Responsiveness to Future Challenges
United States Congress
Washington DC 20515

Dear Chairman:

We are pleased to submit to you the attached "Final Report of the Blue Ribbon Panel on Forward Engagement."

Upon appointment of the panel membership in September 2005, we began a thorough review of the findings of past forward engagement panels. We built upon the work of our predecessors, using a variety of forecasting techniques to critically examine potential future issues. Moreover, we examined how members of Congress could better orient themselves to deal with future issues and subsequently composed draft legislation based on our findings.

This report explores the concept of "forward engagement" and the complexity that the future presents to lawmakers. It examines how Congress currently does not address this complexity and suggests possible solutions for identifying and addressing future contingencies of interest. By doing this, we hope to improve the U.S. government's ability to track and begin to plan for events and trends that seem far off today, but may become current issues in the future. By utilizing these techniques, the U.S. government may afford itself the ability to be proactive with regards to issues of the future. As a means to institutionalizing this ability, the Panel recommends a House Annual Commission on Forward Engagement, as well as a Senate Annual Commission on Forward Engagement, be formed to address the current lack of future orientation of existing Congressional committees. These proposed Commissions would be tasked with planning and implementing Congressional Forward Engagement Sessions, the result of which is a Forward Agenda for the Congress.

While this panel was given a mandate to focus exclusively on the Legislative Branch, its work is part of a broader effort to impart forward thinking on the entire U.S. government. For recommendations regarding parallel changes to the Executive Branch, please refer to the reports submitted by previous Blue Ribbon Panels.

This report should be read as a work in progress. Feedback is not only welcome, but requested. Our objective is to make government more flexible and agile, and thus better able to respond to the issues that experts see on the horizon.

Please forward all comments and questions to the undersigned. We thank you in advance for your feedback.

Sincerely,

Justin M. Zorn
Chair

Blue Ribbon Panel on Forward Engagement

Enclosure

[SIMULATION: For Classroom Purposes Only]



**Final Report of the
Blue Ribbon Panel on Forward Engagement**

Joint Congressional Task Force on Responsiveness to Future Challenges

December 2005

Blue Ribbon Panel on Forward Engagement

[SIMULATION: For Classroom Purposes Only]

Blue Ribbon Panel on Forward Engagement

Panel Chair

Justin Zorn

Members

Mario Skunca
Jean Ricot Dormeus
Jessica Chasen
Kristi Tunila
Skyler Badenoch
Tara Levasseur

Members

Nicholas Peter
Matthew Varthalamis
Nancy Peterson
Daphne Kaufman Topf
Corinne Ilgun
Dave Butler

Blue Ribbon Panel on Forward Engagement

Table of Contents

Executive Summary..... 1

Introduction..... 2

Future Contingencies of Interest..... 4

 Global Pandemics Intensified by Multi-Drug Resistance..... 9

 Life Expectancy Reaches 100 Years..... 9

 Humans Attain Ability to Forecast and Manipulate Long-term
Weather Patterns..... 10

 Converging Sciences Yield Thorough Understanding of
Brain Operations..... 11

 Biological Basis of the “Human Soul” is Discovered..... 12

 Governments Attain the Ability to Track All Citizens..... 13

 The End of Energy Scarcity..... 14

 The End of Water Scarcity..... 14

 US Loses Control over Internet..... 15

 Oil Production Reaches its Peak Prematurely..... 16

Proposed Legislative Structure..... 17

 Special Commissions..... 17

 Tasks and Cycle of the Special Commissions..... 17

 Membership..... 18

 HACFE and SACFE Staffs..... 18

 Agenda..... 19

 Influence through High Level Information and Public Outreach..... 20

 Funding Discretion and Role of Outside Resources..... 20

Forward Engagement Cycle..... 22

 FCI – Implementation of the Forward Engagement Cycle..... 24

Global Component..... 25

 GFO Functional Structure and Membership..... 26

Conclusion..... 28

Appendix I: Glossary..... 29

Appendix II: HACFE Draft Legislation..... 32

Blue Ribbon Panel on Forward Engagement

Table of Figures

Figure 1.0 FCI Matrix.....	6
Figure 2.0 HACFE Organizational Chart.....	19
Figure 3.0 Sample Commission Budget Chart.....	21
Figure 4.0 Annual Congressional Forward Engagement Cycle....	23
Figure 5.0 Global Futures Organization / UN Economic and Social Council Chart.....	25
Figure 6.0 Global Futures Organizational Structure Chart.....	26

Blue Ribbon Panel on Forward Engagement

Forward Engagement:

“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.”

--Leon Fuerth

EXECUTIVE SUMMARY

Society stands on the precipice of great change unprecedented in both scale and velocity. From the peak of oil production to the end of energy scarcity, from global pandemics to converging technologies yielding new cures, challenges and opportunities promise to arrive rapidly and alter every aspect of human life. The United States Congress must constantly keep pace. To do so, it must transcend a short-term view of governance and adopt a long-term, forward thinking posture. It must go forward to operate within this new, complex, and accelerated world by discerning new issues quickly in increasingly interconnected fields. All of this is essential to preserve the sovereign power and representation of the American people.

Recognizing these necessities, the Joint Congressional Task Force on Responsiveness to Future Challenges convened the Blue Ribbon Panel on Forward Engagement in the fall of 2005 to further develop the previous panel’s findings. This Panel’s mission was twofold: first, to improve the consistency and “forwardness” of the so-called **Future Contingencies of Interest (FCI)**; and second, to prepare draft legislation embodying the previous panel’s recommendations for institutional innovations in the Congress. After using a variety of forecasting techniques to develop a range of advanced FCIs, or complex future events, this panel was able to identify necessary changes to the previous panel’s institutional model and compose draft legislation.

Future Contingencies of Interest (FCI) 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.

The legislation calls for the creation of a **House Annual Commission on Forward Engagement (HACFE)** as well as a **Senate Annual Commission on Forward Engagement (SACFE)** to address the current lack of future orientation of existing Congressional committees.

These Commissions would be composed of representatives from their respective chambers of Congress. The Special Commissions would each be tasked with planning and running the “Congressional Forward Engagement Sessions” (CFES), which would take place in January, at the start of each Congressional Session. Upon the conclusion of

Blue Ribbon Panel on Forward Engagement

the CFES, the Commissions would be tasked with fleshing out the findings of the hearings, considering the inputs of Members of Congress, and using the outcomes of the CFES to compile a Forward Agenda for Congress. Both Houses would be required to come to an agreement on the prioritization of Future Contingencies of Interest through the drafting of individual reports. Drawing from each report, a July conference would create a new and final unclassified report to be distributed to each Member of Congress, the media and the public. The report would not make policy recommendations; it would summarize the findings of the Forward Engagement (FE) session and incorporate follow-up findings.

This panel made a series of changes to the previous panel's institutional model. First, it established a system of balanced party membership for HACFE and SACFE with chairmanship falling to the majority party in each respective chamber. Second, it established guidelines for the Commission staffs to include traditional personnel as well as critical liaisons from Executive Branch. Third, the panel proposed that Commissions draw on information from partner institutions including selected universities and non-governmental organizations (NGOs). Fourth, it established funding guidelines and proposed a \$4 million annual budget to cover operating expenses and external research grants. Finally, it proposed a wide range of access to information requiring high-level security clearance for members of the Commissions and the Staff Directors in order to empower the proposed institution with credibility, prestige, and unique capacities.

This new institution would serve as a lighthouse for a Congress in increasingly turbulent waters. Its aim is *not* to advocate a particular point of view on an issue but rather to identify approaching challenges and opportunities before they overtake the Legislative Branch. Through an aggressive public outreach program, its work would be accessible to a wide audience that includes the Congress, the United States Federal Government, and the public at-large. It is the position of this panel that both HACFE and SACFE, as well as the CFES are necessary to engage the rapidly approaching future that our nation will face; such institutional structures are the best way to help the Congress keep pace with the rapidly changing that world in which we live.

INTRODUCTION

It is a central contention of this report that the onset of events with far reaching implications is accelerating globally, and that science and technology are major drivers of resultant change. Contemporarily, multiple fields of science and technology are undergoing a **convergence**, with innovation in each building upon the other. To adapt to an accelerant rate of change, institutions of governance must look increasingly further into the future in order to see potential threats to stability as well as potential opportunities for development. As a starting point, trends or events with the potential to profoundly

Convergence is the meeting or joining of several separate parts that form an altered whole. In the context of this paper, convergence refers to four fields of science and technology: nanotechnology, biotechnology, information technology and cognitive science. Innovation in each field can yield advances in the others, such that the rate of growth is exponential. Each of these fields is currently undergoing a phase transition from a science to an applied technology. As the next phase is ushered in, developments in any one of the four fields could usher in sweeping change comparable to the Industrial Revolution.

Blue Ribbon Panel on Forward Engagement

transform the organization of human life should be systematically considered by policymakers. In this report we provide examples of such trends and events as FCIs.

We contend that government has a responsibility to *systematically harness expert opinion* in assessing the most critical FCIs on the basis of their potential impact, likelihood, and the vulnerability of the system to their effects. Because change is rapid, accelerant, and rooted in a wide array of variables, the task of identifying the direction of future developments requires concerted effort and imagination. The speed of these changes in society will eventually surpass the speed at which existing governance structures can implement effective policy to address these changes.¹ Therefore, this report proposes an institutional structure designed to identify future contingencies and to inform Congress, so that legislative means can be enacted to respond efficiently, intelligently, and authoritatively to both technological evolutions occurring at increasing rates and rapidly developing disasters with unique and immediate requirements. Such input to the governance structure would enable a capacity for rapid-reaction on a national level to shape the outcomes of a broad range of contingencies, both positive and negative. Not only must Congress mitigate future damage to society, but it must capitalize on opportunities presented by new challenges and discoveries.

Contemporarily, certain limitations—institutional, organizational, and procedural—hamper US Congress from effectively addressing FCIs. First, Congress lacks the framework to assess priorities. The legislature does not at present have a mechanism to rank the many threats, vulnerabilities and opportunities for advancements it must consider during every legislative session - a particular problem because of the tendency for the institution to tend towards the status quo.

Without a mechanism to attempt to rank the issues currently facing the United States, Congress continues to view outdated threats and opportunities as the most vital, leaving newer issues that may be more pressing, not to mention impending threats, often unaddressed. With an institution bogged down with short-term fixes and diverted by special interests, these problems are certain to remain unchanged so long as pressure groups, narrow interests, and the 24-hour media cycle force Members into a reactive mode and constrict them into short-term thinking. While nothing can change the pervasiveness of the global media or the outbreak of crises that can dominate the political agenda, action can be taken to set aside time on the legislative calendar specifically designated for Forward Engagement.

A further challenge stems from the fact that Members of Congress are accountable to their constituents. To remain in office, they feel compelled to demonstrate the positive developments they have helped achieve for those constituents. Thus, prevention appears a less desirable option, because when prevention succeeds, nothing usually happens. This contributes to the tendency of Congress to be reactive rather than forward-thinking.

¹ This dynamic can already be seen with the “catch-up” mentality of legislation resulting from social changes due to the emergence of the Internet.

Blue Ribbon Panel on Forward Engagement

However, most problematic are the inflexibilities and time limitations characterizing the legislative branch. These pressures, particularly the time issue, significantly reduce the ability of Members to understand issues in a complicated context. In sum, Congress lacks time and sufficient expertise to properly process all the information on pertinent issues, much less ascertain the complexity and ramifications of FCIs.

The limitations delineated above would seem to indicate that Congress as an institution is largely an impediment to change. Drawing this conclusion overlooks the advantages that Congress possesses and the potential the institution has to act as an agent of change. In particular, Congress has the unique ability to appreciate and incorporate the human dimension because of its close ties to its constituents, who will be affected by the FCIs, or who will benefit from preventing negative channeling positive FCIs. Because Members of Congress already deal with a wide set of issues, they have a broader awareness that will make it easier to grasp interrelations. It is also in their interest to identify cross-cutting issues that may hamper or aid legislative priorities. Finally, in contrast to the Executive branch, Congress holds tremendous amounts of institutional memory.

In order to integrate an institutional awareness of future contingencies into Congress, scientific knowledge and technical expertise should be incorporated into the existing legislative structure (and, ultimately, into executive and even global organizational structures). Ideally, science and technology should gradually migrate from the current advisory role of think tanks, foundations, and academies to one on par—and fully integrated—with congressional committees and departmental staff. The goal of such institutions should be to make intelligent projections in order to consider laws and policies regarding the investment of resources in preparing for, reacting to, and shaping the outcomes of future contingencies and critical transitions.

To address the topics described above, the Panel has divided this paper into five distinct sections. The introduction has offered definitions of key terms and has described the mission of the proposed institutions. The following section provides an overview of the ten FCIs collated by the Fall 2005 panel. Third, we describe our institutional recommendations, based on the creation of HACFE and SACFE, and highlight the modifications this panel proposes. Key among these are: modifications to the institutions' proposed membership structure addressing the issue of partisanship; funding discretion and the role of outside resources. Fourth, we break down the **Forward Engagement cycle** then incorporate a proposed **Global Component** in the report's last section. A glossary, as well as our proposed legislation for the enactment of these Commissions, can be found in the final section of the document.

FUTURE CONTINGENCIES OF INTEREST

Blue Ribbon Panel on Forward Engagement

While it is important to have robust and flexible institutions for dealing with FCIs, identifying potential FCIs as far in advance as possible facilitates effective mitigation and/or capitalization of the particular issues and effects involved. Identifying FCIs requires a combination of intuition and analysis - imagining possibilities and projecting trends. Once a scenario for an FCI is created, one begins plotting its effect upon various aspects of society and planning for mitigation and/or capitalization strategies.

In order to call attention to potential future developments with which government should be engaged, the Fall 2005 panel has compiled a collection of ten FCIs that represent an attempt to identify potentially transformative developments or events on the basis of thorough research. However, unlike those in the past, this panel has applied two unique foci to the FCIs represented in this report. First, our FCIs are unprecedentedly advanced. These are not descriptive summaries of trends that we currently find ourselves in the midst of; rather, many of the FCIs in this report represent departures from the status quo, and several may even seem the progeny of science fiction. We were able to venture into these unknown territories largely because the Fall 2005 panel utilized a resource available for the first time: a series of books published by the National Science Foundation (NSF) provided us with a compilation of predictions and research by leading experts in nanotechnology, biotechnology, information technology (IT) and cognitive science. The convergence of these sciences, a second unique focus of the FCIs generated by the Fall 2005 panel, emerges as a force that will portend massive transformation in all spheres of human life. Our FCI list draws upon the notion of converging sciences illustrated concentrated in the NSF series in our extrapolation of ten future contingencies of interest.

The FCIs developed for this project were evaluated relative to five areas of societal impact: Social institutions (including culture, religion, and philosophy), Science and Technology, Economics, Governance, and Security. It should be stressed, again, that the interactions and interrelationships between effects in an individual FCI might be generally positive or negative in nature, and of either acute or prolonged duration. The most important considerations for long-term institutional and policy development involve analyzing common themes of vulnerability and probability across multiple FCIs, and determining critical **nodes** that can be effectively addressed with foresight and preparation. The following is a matrix summarizing the FCIs developed by the Fall 2005 panel, followed by a more detailed description of each FCI along with related issues in the realms of science and technology governance, economics, and security.

Nodes: Network organizational structures consisting of interactive patterns linking interdependent elements within a system. The elements that are thus connected are referred to in network theory as 'nodes.' In a network analysis of markets, for example, individual actors as well as firms and organizations may be considered nodes. In conceptualizing human societies as interacting in networked forms of organization, the Fall 2005 panel treats as critical nodes four central areas of the human experiences: science and technology, governance, security, and economics. Significant events in each area have the potential to transformatively influence the others.

Blue Ribbon Panel on Forward Engagement

Figure 1.0 FCI Matrix

FCI	Science & Technology	Economics	Security	Governance
Global Pandemics Intensified by Multi-Drug Resistance	Scientific and technological investment will be directed at combating the outbreaks and their effects by developing new medications and methods of identifying the presence of virus in humans and environment for efficient containment purposes	<p>Mortality, disability, and quarantine yield labor shortages and economic strain</p> <p>Economic resources invested heavily in health sector</p> <p>Global economy devolves as developing nations collapse and advanced economies are weakened and tend to isolate themselves</p>	<p>Security priorities center on identifying and containing outbreaks and enforcing order on migration flows of global scales</p> <p>Waves of migration and population density create widespread patterns of urban violence</p> <p>Globally, relatively isolated countries (i.e. North Korea) may gain power if they are relatively spared from viral outbreaks</p>	<p>Institutions of governance contend with the chaos that fear, panic, and high mortality rates engender</p> <p>Newly prioritized functions of institutions of governance include identifying and isolating potential and actual virus carriers and providing medical care</p>
Life Expectancy Reaches 100 Years	Converging bio- and nanotechnologies extend lives by enabling the development of machines to execute surgeries without external implements and molecular compounds that perform repairs at the cellular level	<p>Neurological diseases and psychiatric illnesses represent the greatest threat to lifestyles and economies</p> <p>Resources become increasingly scarce due to overpopulation</p> <p>Drug and health care industries grow, as do industries serving the emerging centenarian market</p>	<p>Social unrest develops as life expectancy gaps between 'haves' and 'have-nots' expands</p> <p>Despotic rulers and terrorists lengthen their stay in power and influence</p>	<p>Governments face increased scarcity of natural resource caused by increased life expectancy and overpopulation</p> <p>Retirement programs and medical coverage are re-invented</p> <p>Euthanasia laws and regulations become a focal point of political and social debate</p>
Humans Attain Ability to Forecast and Manipulate Long-Term Weather Patterns	<p>Acceleration of funds devoted to research on sustainable agriculture research</p> <p>Exploration of geo-engineering options that control the climate, such as by adding various gases to the atmosphere</p>	<p>Changing weather patterns affect agriculture, fish and wildlife, water and energy</p> <p>New markets and areas of economic productivity develop as vast areas of land not previously arable become easily inhabitable and productive</p> <p>Mass migration movements pose economic challenges to regions and states subsequently flooded with people, and to those left behind</p>	<p>New balance of power dominated by the developer of weather manipulation technology</p> <p>Mass migration movements result in tension within states, and border controls will be an increasingly crucial component of security</p> <p>In less developed states, tenuous order is replaced by anarchy, leading to a surge in global crime and terrorism</p>	<p>Global hunger is reduced as a result of agricultural enhancement</p> <p>Revolt in countries that cannot stop large meteorological catastrophes as states are perceived to be incapable of protecting citizens</p>

Blue Ribbon Panel on Forward Engagement

<p style="text-align: center;">Converging Sciences Yield Thorough Understanding of Brain Operations</p>	<p>Intelligence systems begin to evolve independently of human</p> <p>Humans are vulnerable as a result of a lack of control over intelligent systems ubiquitous in the most basic human functions, such as exemplified in brain-machine interfaces</p>	<p>Robots replace labor and blue-collar workforce</p> <p>New industries are created in robotics and cognitive software and brain-controlled machines and devices</p> <p>Mind-to-mind communication engenders greater transparency in business transactions and more efficient machine-brain communications yields greater economic efficiency</p>	<p>Robotics and unmanned vehicles, autonomous systems of mass destruction, end of human combat deployment</p> <p>Access to individual's information stored in brain-applications in military and law enforcement</p>	<p>Increased unemployment causes social unrest</p> <p>Governance institutions challenged by potential for governance by intelligent decision-making systems</p> <p>Privacy and property rights issues engendered by transparency in brain-to-brain or brain-to-machine communication</p>
<p style="text-align: center;">Biological Basis of the "Human Soul" is Discovered</p>	<p>Genetic manipulation of spiritual and intangible qualities</p> <p>Intelligent systems begin to develop new technologies independent of human input</p> <p>Scientists and engineers lose ability to test, study, or recreate technologies that independent cognitive systems develop</p>	<p>"Genetic spiritual therapy" becomes a lucrative business, replacing religious institutions</p> <p>Ownership of sentient mechanical beings</p> <p>Fundamentalists revert to traditional economic systems, rejecting new societies built on biologically-determined spirituality</p>	<p>"Genetically indoctrinated" human armies for complete ideological homogeny</p> <p>Autonomous Intelligent systems become capable of mass destruction</p> <p>New threat of terrorism from fundamentalists who seek to destroy societies that accept religious characteristics to be matters of biology</p>	<p>Ownership of sentient mechanical beings prompts concerns over new slavery</p> <p>The rise of single-ideology states based on genetic manipulation of both faith and reason</p> <p>Populations cede more power to governments as once-powerful religious institutions diminish in importance</p> <p>Fundamentalist religious factions oppose and resist scientific discoveries; adherents turn towards traditional life</p>
<p style="text-align: center;">Governments Attain the Ability to Track All Citizens</p>	<p>Personal camouflage technologies proliferate for private denial and deception of government tracking techniques</p> <p>Biometric and DNA identification technology is incorporated into surveillance systems</p> <p>Governments pour funding into nano- and biotechnological research and development for human tracking and surveillance equipment</p>	<p>Surveillance nanotechnology creates a new dynamic for advertisers and consumers, as they are capable of identifying personal trends and consumer movement</p> <p>With the implementation of the human microchip implant, monetary transactions occur with an arm swipe rather than currency trade</p> <p>Biotechnology decreases financial loss for both businesses and citizenry, as the microchip protects against identity fraud</p> <p>Corporations will be able to decrease security costs and lower overhead, translating into lower prices for the public and higher consumption</p>	<p>Security and policing are boosted with new inventions, reducing the rate of premeditated crime and terrorism significantly</p> <p>Advanced surveillance and data access empowers defense structures</p> <p>Black market sales of the human microchip are high</p>	<p>Government's ability to track all inter-and intrapersonal data exchange puts pressure on individuals or groups to defend individual freedoms</p> <p>Political parties use the information for political gain, as they now have the ability to redistrict regions of the nations based on accurate demographics</p> <p>Government must create and implement legislation guaranteeing an individual's protection of privacy, creating conflict between controllers of information flow and individuals demanding government accountability</p>

Blue Ribbon Panel on Forward Engagement

The End of Energy Scarcity	<p>Space industry thrives and new space launch vehicles are introduced</p> <p>Drastically reduced reliance on fossil fuels reduces greenhouse gas emissions, curbs global warming</p> <p>Nanotechnology advances aid in satellite design necessary for communication and navigation on-orbit devices needed for the increased traffic in common orbits.</p>	<p>Major oil and energy producing countries lose their main source of revenue, leading to the collapse of these economies</p> <p>Development of new energy industries (Creative Destruction)</p> <p>Humans attain the ability to mine for new materials deep into the Earth's crust</p> <p>Consumption in the developed world increases by orders of magnitude</p>	<p>New geopolitical context with the collapse of former major oil and energy producing countries.</p> <p>Arms race to ensure free access to lunar resources</p>	<p>International forums are established to discuss the sovereignty issues surrounding the moon's resources</p> <p>Shifts in global alliances with the end of oil dependence</p> <p>Nations dispute the monopoly that the developed world has on the moon's energy supply</p> <p>Lesser developed nations demand equal access to new technologies</p>
The End of Water Scarcity	<p>Public institutions of governance around the world hotly debate whether nanotechnology development and ownership should be private, public, or both</p>	<p>Profit boon to developers of nanotech applications to eliminating water shortages</p> <p>Transformation of landscape further sectors such as tourism and agriculture</p> <p>Formerly drought afflicted regions become globally competitive</p>	<p>Resolution of existing water-related conflict and prevention of potential such conflict</p> <p>Abrupt social change as people migrate to previously uninhabitable areas challenge stability</p>	<p>Vast power conferred upon develop of technologies, and challenged globally</p> <p>Migratory flows and accompanying turbulent social change require measures of governance in ensuring a smooth transition period</p>
US Loses Control of the Internet	<p>Increased IT research in Asia and throughout the developing world</p> <p>Emergence of different technical standards limiting the interoperability of the new networks</p>	<p>Global trade systems that rely on the Internet transactions become defunct</p> <p>Global playing field "flattens," as US loses initial advantage</p> <p>IT sector in US declines</p>	<p>States limit the exchange of information and therefore reduce the efficiency of collaborations</p> <p>Proliferation of cyber-wars and attacks among rivals systems</p>	<p>English loses its position as lingua franca of the global economy and diplomacy; rise of Mandarin, Spanish, as well as Hindi and Arabic as main spoken-languages</p> <p>EU and China make relative gains in "soft power"</p>
Oil Production Reaches its Peak Prematurely	<p>Conversion to a "hydrogen economy" is accelerated</p> <p>"Crisis mentality " spurs unprecedented investment from public and private sectors into the development of new efficient methods of energy production</p>	<p>Economic markets are in turmoil and tax-revenue for many governments is slashed</p> <p>Textiles, consumer goods, and building materials based on petroleum byproducts become prohibitively expensive or unavailable</p> <p>Globalization is halted as transport industries fail</p>	<p>Severe energy scarcity necessitates the construction of fission nuclear reactors at an unprecedented pace to help fill the energy gap; the rush to complete these projects leads to quality control and safety</p> <p>Economic collapse of oil-rich states leads to chaos and a rise in terrorist activity</p> <p>Terrorism becomes more effective, as consolidation in energy production and distribution leads to a small number of critical nodes/single-points-of-failure in the energy infrastructure</p>	<p>Emergence of failed states in places with oil-based economies</p> <p>Populations shift as workers move closer to workplaces. Inability to afford long commutes leads to decline of the suburbs</p>

Global Pandemics Intensified by Multi-Drug Resistance

Humans develop multi-drug resistance to currently curable ailments such as malaria, tuberculosis, typhoid fever, and staph infections. Medications previously used to treat these diseases become obsolete. These illnesses, which were largely benign in developed countries, become life-threatening epidemics, possibly wiping out large portions of the population. As a result of successive outbreaks of disease, social, political, and economic global landscapes are ravaged.

Science and Technology: As present-day medications are rendered useless, medical researchers will have to start from scratch in order to discover new medications. Technology will be developed to instantaneously identify carriers and the presence of disease through ubiquitous sensors.

Governance: In some regions, outbreaks of bacterial disease engender chaos caused by fear, panic, and the massive mortality rates. Existing institutions of governance lose legitimacy in the eyes of people when these institutions prove impotent at alleviating the effects of the mutated diseases. New prioritized functions of governance center on the need to identify and quarantine potential and actual disease carriers and to provide medical care.

Economics: Increased mortality and disability leads to major labor shortages, less economic production, and a great strain on the economy. Economic resources of institutions of governance are concentrated in the health sector for medical costs and research and development for the discovery of new medications. Less advanced nations virtually drop out of the global market system, and weakened economies of advanced countries coupled with the development of isolationist political and economic tendencies further decentralize the global economy.

Security: Security priorities revolve around identifying and containing outbreaks and enforcing order on migration flows of global scales. Waves of migration result in an expansion of patterns of urban violence- such as gang warfare and organized crime- as population density increases in relatively safe locations. In some regions, epidemics cause chaos and societal disintegration. New dynamics of global security emerge, as the extent to which a region, nation, or society are spared from the epidemic relative power.

Life Expectancy Reaches 100 Years

Life expectancy reaches 100 years as a result of new medicines and prosthesis driven by bio- and nano-technology advancements. As the population ages, less people die from heart disease, cancer, and other vital organ failures, and more people suffer from neurological diseases and psychiatric illnesses. The world's population increases due to longer life expectancy, as so does the demand for the world's limited resources.

Science and Technology: As more and more individuals live longer into their lives,

Blue Ribbon Panel on Forward Engagement

demand for life extending procedures, medicines, and organ transplants grows at an accelerated rate. Convergence of bio- and nanotechnology revolutionize healthcare care by developing machines to execute surgeries without external implements, help wounds heal faster through molecular compounds that aid the production of scar tissue and skin cells, and perform daily repairs at the cellular level as preventive care.

Governance: Governments face increased scarcity of natural resources caused by increased life expectancy and overpopulation. Safety nets such as retirement programs and medical coverage become obsolete and unmanageable while euthanasia laws and regulations become a focal point of political and social debate.

Economic: Neurological diseases and psychiatric illnesses represent the greatest threat to lifestyle and economy. Beyond the untold human suffering, the economic burden of brain-related illness reaches in excess of \$5 trillion (currently \$1 trillion). Resources become increasingly scarce due to overpopulation causing prices to increase. Drug and health care industries grow at an unprecedented rate; new markets emerge to serve centenarians' needs.

Security: A life expectancy gap develops between elites and average citizens causing friction and possible scrambles for power in the interest of securing the means for sustaining longer life. Dictators, despotic rulers, and terrorists live longer, lengthening their stay in power and influence.

Humans Attain Ability to Forecast and Manipulate Long-term Weather Patterns

Advances in information technology and cognitive sciences have evolved computer-based modeling and forecasting to a level where seasonal weather patterns can be reliably forecast up to three years in advance. Development of a technology capable of controlling the weather patterns in a predictable fashion (control of winds or the creation of layers of artificial ionization in the upper atmosphere, period of rapid cooling) is at hand.

Science and Technology: Science and technology will be engaged in combating shortages in natural resources and in exploring geo-engineering options that control the climate, such as by adding various gases to the atmosphere. Acceleration of funds devoted to research on sustainable agriculture research.

Governance: Global hunger is reduced as a result of agricultural enhancement. Around the world, the role of institutions of governance is to prevent an emergence of anarchy precipitated by diminishing resources and uncertainty about the future. Many societies are destabilized and there is a defiance of national systems as they are perceived to be incapable of protecting citizens.

Economic: Changing weather patterns affect agriculture, fish and wildlife, water and energy. New markets and areas of economic productivity develop as vast areas of land

Blue Ribbon Panel on Forward Engagement

not previously arable become easily habitable and productive. Mass migration movements pose economic challenges to regions and states subsequently flooded with people, and to those left behind. End of globalization.

Security: New geopolitical context and world order occur due to a new balance of power dominated by the developer of this technology, as the weather-control weapon could be offensive, but also defensive. Mass migration movements could result in tension within states, and border controls will be an increasingly crucial component of security. In less developed states, tenuous order is replaced by anarchy, leading to a surge in global crime and terrorism.

Converging Sciences Yield Thorough Understanding of Brain Operations

Advances in the Human Gnome Project yield a near complete understanding of the operations and dimensions of the human brain. Neuromorphic engineering allows for the transmission of thoughts and biosensor output from the human body to devices for signal processing. Applications include the development of computer ‘personal assistants’ and of machine enabled augmentation in human sensory, motor, cognitive, and communication performance. Additionally, information technology enables the development of intelligent systems, such as neural networks, genetic algorithms, autonomous agents, logic-based learning programs, and sophisticated information storage systems, capable of intelligent decision-making equal, and often superior to, to that of the human brain.

Science and Technology: Intelligent systems capable of self-replication begin to develop new technologies independent of human input. Technologies are created that humans cannot understand or study, also by machine that are capable of interfacing with the human brain.

Governance: The growing ubiquity of intelligent systems challenges systems of governance, rapid social change is ushered in, resulting, for example, in displaced labor forces contributing to a surge in homelessness and domestic unrest; and the premise of human leadership is questioned as cognitive robotic systems demonstrate decision-making capacities superior to those of humans. Transparency engendered by brain-to-brain and brain-to-machine communication poses challenges to governance in creating new regulations regarding privacy, intellectual privacy rights, and the use of information collected from brain-to-brain or brain-to-machine communication in criminal prosecution.

Economic: Intelligent robotic systems largely replace the human workforce for physical labor and blue-collar industries. Concurrently, new industries are created to support robotics and cognitive software agents, while new markets emerge for brain-controlled machines such as cars, household appliances, and computers. Mind-to-mind communication engenders greater transparency in business transactions, and economies

Blue Ribbon Panel on Forward Engagement

become more efficient due to increased communication performance with machines and individuals.

Security: Technologies of intelligent systems are applied to robotics and unmanned vehicles used for power projection. Autonomous systems are developed for mass destruction capabilities. States develop the ability to wage war without human combat deployment. Through neuromorphic applications and resultant advances in mind-to-mind communication, individuals have access to personal thoughts, secrets, and confidential information stored in the brains of others. This access is applied in law enforcement and military interrogations.

Biological Basis of the “Human Soul” is Discovered

The mystery of the holistic science behind the human soul is unraveled. Scientists discover the location in the brain of the genes and mechanisms that determine the placement and characteristics of the human soul.

Science and Technology: Scientists begin efforts to genetically manipulate the soul. Science holds the power to create the “perfect” individual by manipulating intangible characteristics. Intelligent systems begin to develop new technologies independent of human input. Similar to nanosystems, these robotic systems are capable of self replicating and even innovation. Technologies are created that humans cannot understand or study. System complexity advances beyond human comprehension. Scientists and engineers are unable to test, study or recreate the technology that cognitive systems develop.

Governance: The population displays more trust and faith in the government as once-powerful religious institutions relinquish control. Government role in the every-day life of citizens is strengthened. Government is able to pass legislation, reforms more easily; however, it becomes more susceptible to corruption due to its increased power. Initially, for legislative purposes, it becomes easier to distinguish between the “advanced human like machines” and human beings due to the newly found criteria. However, soon the mapped soul can be recreated and thus truly human machine artificially created. The rights of animals and even plants are redefined in the light of the discovery of the soul. Cognitive robotic systems challenge all areas of human leadership in society from government to business. Unemployment surges contributing to homelessness. Lower class citizens fall deeper into poverty. Ownership of sentient mechanical beings prompts concerns over new slavery. Single-ideology states based on genetic manipulation of both faith and reason arise. Fundamentalist religious factions oppose and resist scientific discoveries, turning to traditional life.

Economics: Increased spending in science. “Genetic soul therapy” becomes a lucrative business. Human workforce for physical labor largely replaced with robotic systems.

Security: Concerns about the possibility of creating “genetically-indoctrinated” humans if genetic technology enters the wrong hands (i.e. “Perfect Christian, Muslim, or Atheist

Blue Ribbon Panel on Forward Engagement

soldier”). These new humans with malicious or single-minded souls could wreak havoc on society. Conventional application to robotics and unmanned vehicles are used for power projection. Autonomous systems become capable of mass destruction. Nations employing this technology fully remove humans from combat operations. The lack of physical danger alters how specific nations decide when and where to wage war. Religious fundamentalists launch reactionary terrorism.

Governments Attain the Ability to Track All Citizens

Governments implement human identification and tracking to counter surges in terrorism and unrest. Current nanotechnology-driven deployment allows surveillance technology to be placed in public and private areas of society, proliferating live video feeds throughout governmental and global information networks. Human microchip implants enable electronic storage of an individual’s life, from personal identification to banking, and allow for GPS tracking via satellite. Advances in nanotechnology and cognitive science lead to the invention of mental scanners and non-invasive medical testing (including advanced multi-method probing). An individual’s life is no longer his own, as technology has eliminated the boundary between privacy and national security.

Science and Technology: Governments pour funding into nano- and biotechnological research and development for human tracking and surveillance equipment. In response, personal camouflage technologies proliferate for private denial and deception of government tracking techniques. Encryption and decryption technologies advance for information systems. Biometric and DNA identification technology is incorporated into surveillance systems.

Governance: Government’s ability to track all inter- and intrapersonal data exchange puts pressure on individuals or groups to defend individual freedoms. Government must create and implement legislation guaranteeing an individual’s protection (however limited) of privacy, creating a conflict between those who control information flow and those demanding accountability of governmental surveillance programs. Political parties use the information for political gain, as they now have the ability to redistrict regions of the nations based on accurate demographics.

Economic: Surveillance nanotechnology creates a new dynamic for advertisers and consumers, as they are capable of identifying personal trends and consumer movement. With the implementation of the human microchip implant, monetary transactions occur with an arm swipe rather than currency trade. Biotechnology decreases financial loss for both businesses and citizenry, as the microchip protects against identity fraud and therefore material theft. Corporation will be able to decrease security costs and lower overhead, translating into lower prices for the public and higher consumption.

Security: Internal security and policing are boosted with new inventions, reducing the rate of premeditated crime and terrorism significantly. Advanced surveillance and data access empowers defense structures. However, black market sales of the human

microchip are high, as is the personal threat (“skinned alive”) to individuals implanted with the device.

The End of Energy Scarcity

Renewable energy sources (Fusion, Establishment of Lunar Energy Station) are developed and harnessed, eliminating the need for energy conservation. Spaceflight developments continue and a moon base is constructed in order to advance scientific knowledge and exploit energy resources. Nanotechnology enables factory processes which are able to mine the moon surface for raw elements. Oxygen byproducts of these processes are harnessed for human use. Enclosed eco-systems are maintained with advanced solar fuel-cell technology providing adequate energy. Importantly, the moon base eventually provides an abundant source of energy for use on Earth. Helium-3, a non-radioactive and light isotope of helium, is thought to exist on the moon and is sought-after for use in nuclear fusion. Several space powers such as Russia and China consider the use of Helium-3 for energy production by the end of the next decade.

Science and Technology: The discovery of renewable energy sources initially has positive environmental effects in the realization that there will never be a shortage of energy sources. Increased energy supply fuels the technologically driven society. Space industry thrives and new space launch vehicles are introduced.

Governance: Nations dispute the monopoly that the developed world has on the moon’s energy supply. Lesser developed nations demand equal access. International forums are established to discuss the sovereignty issues surrounding the moon’s resources.

Economics: Major oil and energy producing countries lose their main source of revenue, leading to the collapse of these economies. New energy industries are developed through Creative Destruction. Humans attain the ability to mine for new materials deep into the Earth’s crust. Consumption in the developed world increases by orders of magnitude.

Security: New geopolitical context with the collapse of former major oil and energy producing countries. An arms race ensues to ensure free access to lunar resources.

The End of Water Scarcity

Nanotechnology applications to the desalinization of ocean water and the purification of waste water provide a dramatic solution to a growing water crisis. This technology emerges in a world in which most regions have been affected by increasing instances of drought in the face of the demands of continuously growing populations. Nanotechnology applications include the use of nano-biosensors to monitor contaminants, nanoscale filter membranes for desalinization, and advanced water-filtering membranes capable of purifying wastewater.

Blue Ribbon Panel on Forward Engagement

Science and Technology: The global transformation ushered in by nanotechnology in eliminating water shortages precipitates an awareness shared by publics and institutions of governance regarding the pivotal role nanotechnology is to play in the future of humanity. Heated debate ensues regarding the roles of the private and public sectors in developing or owning nanotechnological innovations.

Governance: Issues arise regarding ownership of the technologies, considering their criticality in ameliorating the survival prospects of a vast proportion of the global population. Whether a commercial enterprise or a national government controls the technology, institutions of global and national governance pose challenges due to the unprecedented power that ownership of these technologies confer. Migratory flows and accompanying turbulent social change require measures of governance in ensuring a smooth transition period.

Economics: The developers of the nanotechnology applications to eliminating water shortage control one of the most critical technologies to human survival and, whether government or commercial, are rewarded economically. Unlimited water resources provide the potential to transform landscapes, in accordance with commercial interests such as agriculture or tourism. Countries whose progress had been curtailed by lack of access to adequate water resources begin to participate in the global marketplace.

Security: Escalating water-related conflicts, especially urgently in the Middle East, are resolved. Migration patterns decentralize as people flock to previously uninhabitable areas: security concerns including maintaining an orderly flow and ensuring that chaos doesn't erupt where new societies are abruptly created and old ones transformed.

US Loses Control over Internet

The United States loses control over Internet (domain name, Internet Protocol numbers, root servers, technical standards). The US government refuses to compromise with the international community's request to transfer the control of the Internet from the American organization ICANN (Internet Corporation for Assigned Names and Numbers) to an international institution based on the model of the International Telecommunication Union (ITU). Subsequently, a series of new networks emerge, with new technical standards and various degrees of stability and openness, destabilizing therefore the modern economies, societies, and even governments.

Security: The inter-operability of defense systems between the North Atlantic Treaty Organization (NATO) members ends. States limit the exchange of information and therefore reduce the efficiency of current and future collaborations. Proliferation of cyber-wars and attacks among rivals systems.

Governance: English loses position as lingua franca of the global economy; rise of Mandarin, Spanish, as well as Hindi and Arabic as main spoken-languages. The US government loses control of global exchange of ideas.

Blue Ribbon Panel on Forward Engagement

Economy: Global trade systems that rely on the Internet transactions become defunct. Due to the proliferation of spam, viruses and other hacking attacks, the utilization of networked infrastructure is reduced, leading to the slowdown of the global economy. The IT sector in the US collapses. The loss of competitiveness in this vital sector of its economy leads the US to an economic recession.

Science and Technology: Different technical standards limiting the interoperability of the new networks emerge and results in an increase of IT research over the world. New centers of excellence emerge in IT in Asia based on new cognitive process.

Oil Production Reaches its Peak Prematurely

Liberal estimates regarding peak world oil production are proven incorrect. Supplies fail to decline gradually post-peak as predicted, but instead drop severely and suddenly due to lack of advanced extraction technologies, political instability in key oil-producing countries, and both natural and man-made disasters in petroleum transportation and refinement processes. Fuel prices soar – individuals pay higher prices for less energy and, as a result, the economy begins to contract with the increase in price and following decrease in demand. Inability to deal with a crash in worldwide oil production suggests societal upheaval without the emergence of replacement energy sources.

Science and Technology: Conversion to a “hydrogen economy” is accelerated, but cannot be implemented in time to prevent major disruptions in society. Non petroleum-based hydrogen collection technologies have not had time to mature, and the rising cost and lowered availability of gasoline has hampered establishment of the required infrastructure. The crisis mentality has spurred unprecedented investment from government and private industry in the development of more efficient methods, energy replacement technologies, and substitute/synthetic products.

Governance: Populations shift as workers move closer to workplaces; inability to afford long commutes leads to decline of suburban populations. Entire governments have collapsed in parts of the world with oil-based economies. Tax payers are livid, and largely hold governments responsible for their lack of foresight and industry ties. Civil unrest and regional conflict are commonplace. Terrorism becomes a very effective tactic, as consolidation in energy production and distribution has led to a small number of critical nodes/single-points-of-failure in the energy infrastructure. Vast numbers and areas of people can be affected by an attack on a single, vulnerable, high-value target.

Economy: Existing energy supplies are extremely expensive. Markets are in turmoil and tax-revenue for many governments is slashed, as transportation and industry are negatively impacted. There is massive unemployment and a worldwide recession occurs, extending to outright depression in many areas. The airline industry has failed, along with many household-name multi-national corporations. Other entire sectors of the economy—along with their supporting infrastructure—are in shambles.

Blue Ribbon Panel on Forward Engagement

Security: Severe energy scarcity necessitates the construction of fission nuclear reactors at an unprecedented pace to help fill the energy gap. The rush to complete these projects leads to compromises in quality control and safety. Economic collapse of oil-rich states leads to chaos and a rise in terrorist activity. Terrorism becomes more effective, as consolidation in energy production and distribution leads to a small number of critical nodes/single-points-of-failure in the energy infrastructure.

PROPOSED LEGISLATIVE STRUCTURE

In countering such future threats, the report issued by the Spring 2005 panel made evolutionary leaps in addressing forward engagement policy planning for the Congress. However, the Fall 2005 panel felt it necessary to integrate a number of modifications to their original model. We believe the result is a proposed legislative structure that would have an enhanced capacity for identifying, processing and communicating FCIs. The current panel would like to note that many of the recommendations are similar for both the House and the Senate. We acknowledge that these models may be simplified and may thus need to be tailored for each House of Congress in the future. The following list outlines each component of the proposed legislative structure.

Special Commissions

The Spring 2005 panel suggested the establishment of Commissions on Forward Engagement in each chamber of Congress to encourage Members of Congress to consider FCIs when formulating and voting on policy options. These commissions would be called the House Annual Commission on Forward Engagement (HACFE) and the Senate Annual Commission on Forward Engagement (SACFE). This model addressed concerns that a unicameral body would be unable to reconcile divergent interests represented by both Congressional bodies. The current panel endorses the HACFE and SACFE proposal.

Tasks and Cycle of the Special Commissions

The Spring 2005 panel described the Special Commissions as responsible for planning and running Congressional Forward Engagement Sessions (CFES), which take place in January, at the start of each Congressional Session. Upon the conclusion of the CFES, the Commissions would be tasked with fleshing out the findings of the hearings, considering the inputs of Members of Congress, and using the outcomes of the CFES to compile a Forward Agenda for Congress. The HACFE and SACFE would spend February-September conducting follow-up research and hearings in order to prepare the Annual Report/Agenda for Forward Engagement in the Congress. Each Commission

Blue Ribbon Panel on Forward Engagement

would endure one year, from September to September. New Members would be appointed into the Commission before the start of the summer recess. The Fall 2005 panel supports this proposed one year cycle.

Membership

The Spring 2005 panel recommended that the HACFE consist of eight Representatives and the SACFE consist of eight Senators. The goal was a bipartisan Commission in each side of Congress. The leaders of the Republican and Democratic parties in the Senate would each appoint four Senators to the SACFE. The leaders of the Republican and Democratic parties in the House of Representatives would each appoint four Representatives to the HACFE. The current panel is critical of a purely bipartisan recommendation. Further, we believe that the majority party would not be in favor of such a proposal.

The Fall 2005 panel therefore suggests the establishment of a chairperson and vice chairperson position in each commission. These positions would serve as the leadership for each body. The majority leader in the House and Senate would appoint the chairperson of the HACFE and SACFE, respectively. Additionally, the minority leader of the House and Senate would appoint the vice chairperson of the HACFE and SACFE, respectively. The leadership of each party in the House and Senate would appoint the remaining six members (three from each party) of the Commissions.

HACFE and SACFE Staffs

Commission staffs were described by the previous panel as groups of individuals with diverse backgrounds, particularly in the fields of science, technology, economics, security, and governance. Each of the two Commissions would have a Staff Director with a three-year term. The Spring 2005 panel recommended the Speaker of the House nominate a Staff Director for the HACFE and must be confirmed by two-thirds of the House. Likewise, the Senate Majority Leader would nominate a Staff Director for the SACFE. In addition to permanent staff, the previous panel suggested that Congressional Fellows from various independent organizations and from executive branch agencies be included. The Fall 2005 panel supports the recommendation for a Staff Director and a three-year term, but feels that the role and composition of the Commissions' staff was not adequately developed by the Spring 2005 panel.

The Fall 2005 panel has updated the role of the Commissions' staff. The strength of the staff would be built on its expertise, knowledge and access to information. Utilizing a vast network of resources from the government, industry, and academia, the staff would focus on assembling information in order to develop FCIs. The Staff Director for each Commission would determine the exact number of general staff members. In many instances, staff members may have to access sensitive information in order to develop and assess FCIs; therefore the current panel suggests that all staff members possess necessary security clearances. The Staff Director would determine the adequate clearance levels for

Blue Ribbon Panel on Forward Engagement

the members of the staff. The previous panel did not outline the security element of the Commissions' staff membership.

The staff would also include a small number of senior executive branch representatives from the Department of Defense, Office of the Director of National Intelligence, National Security Council, and Joint Chiefs of Staff. The current panel believes the role of the executive branch, while peripheral, adds significant value to the Commissions' staff. These representatives would serve as critical liaisons between the Commissions' staffs and any relevant sensitive information that is controlled by the respective agencies or departments.

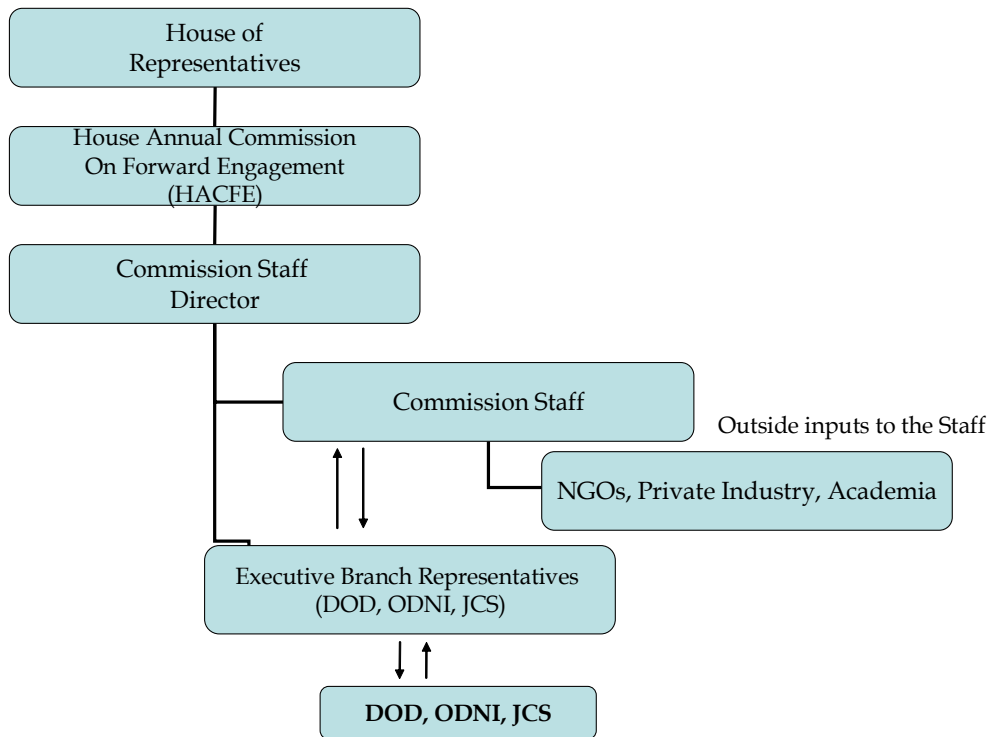


Figure 2.0: The organizational chart only represents the HACFE. While the SACFE may closely resemble this structure, the panel recognizes that each Commission may have to implement minor changes in order to tailor the body to address the distinct needs of each respective House of Congress.

Agenda

The previous panel outlined an agenda that only focused on FCIs that could be potentially detrimental to US security. The Fall 2005 panel believes that it is imperative for the Commissions to consider how the US will harness positive FCIs as well. We have therefore updated the agenda to recognize and consider all types of FCIs. The agenda would be determined by conducting a general assessment among the FCIs considered by the Commission. The assessment would consider three factors in order to prioritize future contingencies of interest:

Blue Ribbon Panel on Forward Engagement

Impact – If this FCI comes to fruition, what will be the level of impact to the economy, government, and/or industry? How will this FCI affect other potential FCIs?

Likelihood – Each FCI will be evaluated to determine how likely it is that the FCI will materialize.

Preparedness – What structures or mechanisms are already in place that may be able to harness or control the effects of the FCIs? How will the US reap the benefits of a potential technological breakthrough? Level of security and vulnerability will be evaluated for critical infrastructure and/or aspects of national security that will be affected should a given FCI come to realization.

Influence through High Level Information and Public Outreach

The Spring 2005 panel proposed the establishment of an External Relations Office, intended to enhance public perception of the relevance and criticality of potential human repercussions of FCIs and of the import of a governmental mechanism designed to forwardly engage. The mission of the External Outreach would be to actively engage the public's interest and involvement in actions taken by government to pro-actively address future contingencies of interest. An active and interested public would in turn provide prestige and potential political capital for *forwardly engaged* politicians.

An integral part of the outreach effort involves the role of the External Relations Office in fostering relationships with academia, with the private sector, and with non profit and professional organizations. With the cultivation of a networked community of influential partnering individuals and organizations, information and awareness would be disseminated through a variety of established communications networks.

While the Spring 2005 emphasized public outreach efforts as a means of bestowing prestige and potential influence upon the Commissions, the Fall 2005 panel has introduced an additional component that we believe would enhance the influence enjoyed by the Commissions. We believe that in government, information can constitute a lever of power. Therefore, by providing a wide range of access to information requiring high-level security clearance to Members of Congress and to the Staff Director of the Commissions, staffers and temporary experts would be briefed on a 'need-to-know' basis in order to address departmental security concerns. We empower the Commission with credibility, with prestige, and with unique capacities that would differentiate it from existing Committees and previous Commissions.

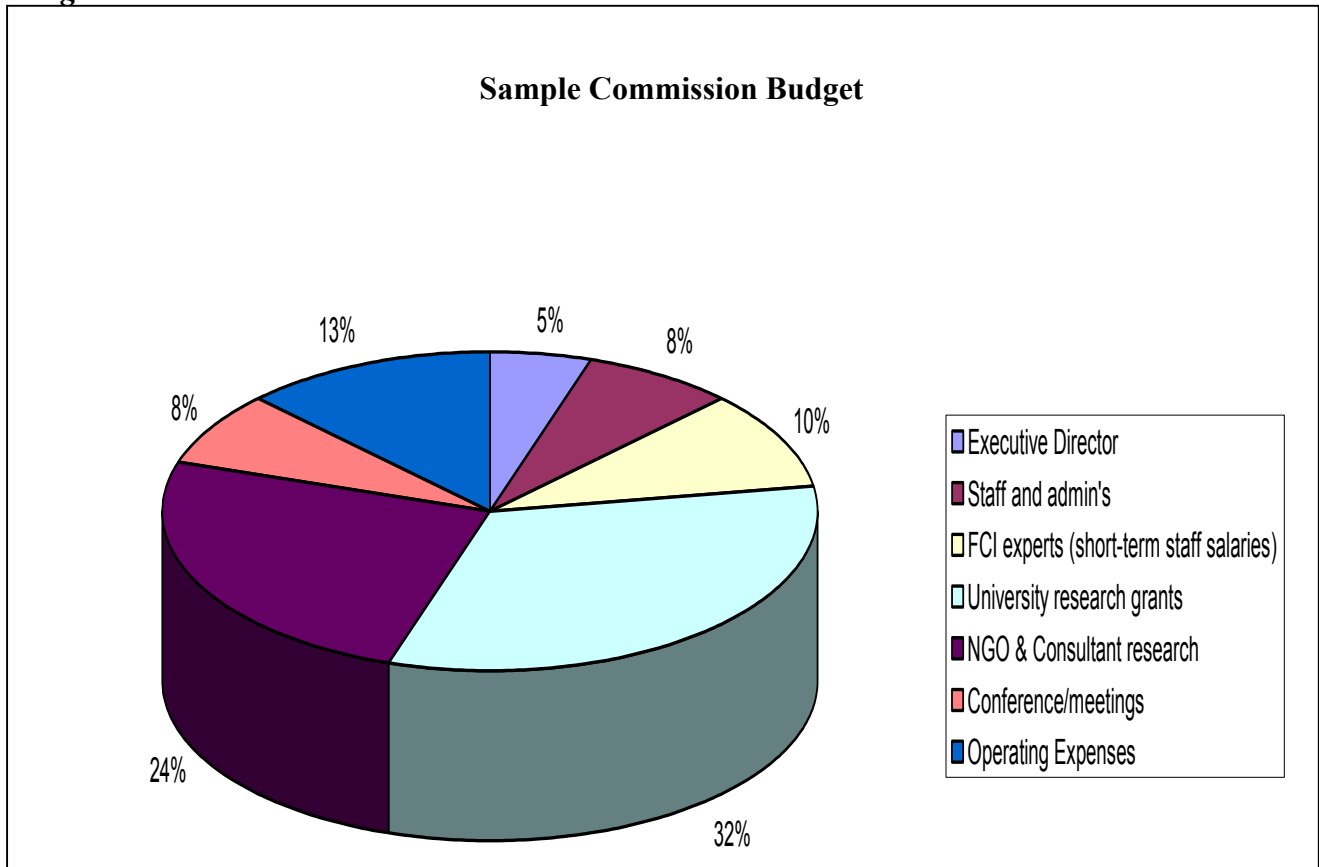
Funding Discretion and Role of Outside Resources

Upon approval of the legislation to create the HACFE and SACFE, Congress would assume responsibility for funding the Commissions. Using the 9/11 Commissions as a baseline, HACFE and SACFE would each be allotted \$4 million annually. This budget would cover staff salaries, operating expenses, outside research grants, and any related

Blue Ribbon Panel on Forward Engagement

meetings and conferences. As the Commissions become an established part of the Congressional structure, out-year budgets may increase to allow the addition of staff and resources as needed. Per the Figure 3.0 below, the first year budget would roughly breakout as follows:

Figure 3.0



As stated above, HACFE and SACFE would pull resources from outside government to ensure fresh ideas are constantly considered and that the Commission's staffs are able to analyze rather than generate all ideas. The use of NGOs and private industry would be key to keeping the Commissions saturated with new, broader and longer-range FCIs to discuss.

NGOs, consulting firms and universities would be considered "partners" of the Commissions. NGOs like the World Future Society, Aspen Institute; Consulting/Research Firms like Booz-Allen Hamilton, RAND, Raytheon, and Stratfor; and Universities, both public and private, would be used to: 1) research/report on FCIs; 2) testify before the Commissions on FCIs under Commissions consideration and emerging FCIs the Commissions has not yet considered; 3) engage international institutions/partner-NGOs for information and possibly foster international action/engagement on FCIs.

Blue Ribbon Panel on Forward Engagement

In addition to funding outside research, the Commissions would hire issues experts, specific to the FCIs under review, to assist with staff research and HACFE/SACFE annual reports. These experts would come from the same NGO, consulting, and university arenas outlined above as well as from private industry. Per the Forward Engagement cycle (see Figure 4.0) experts would be hired on for 4-6 months.

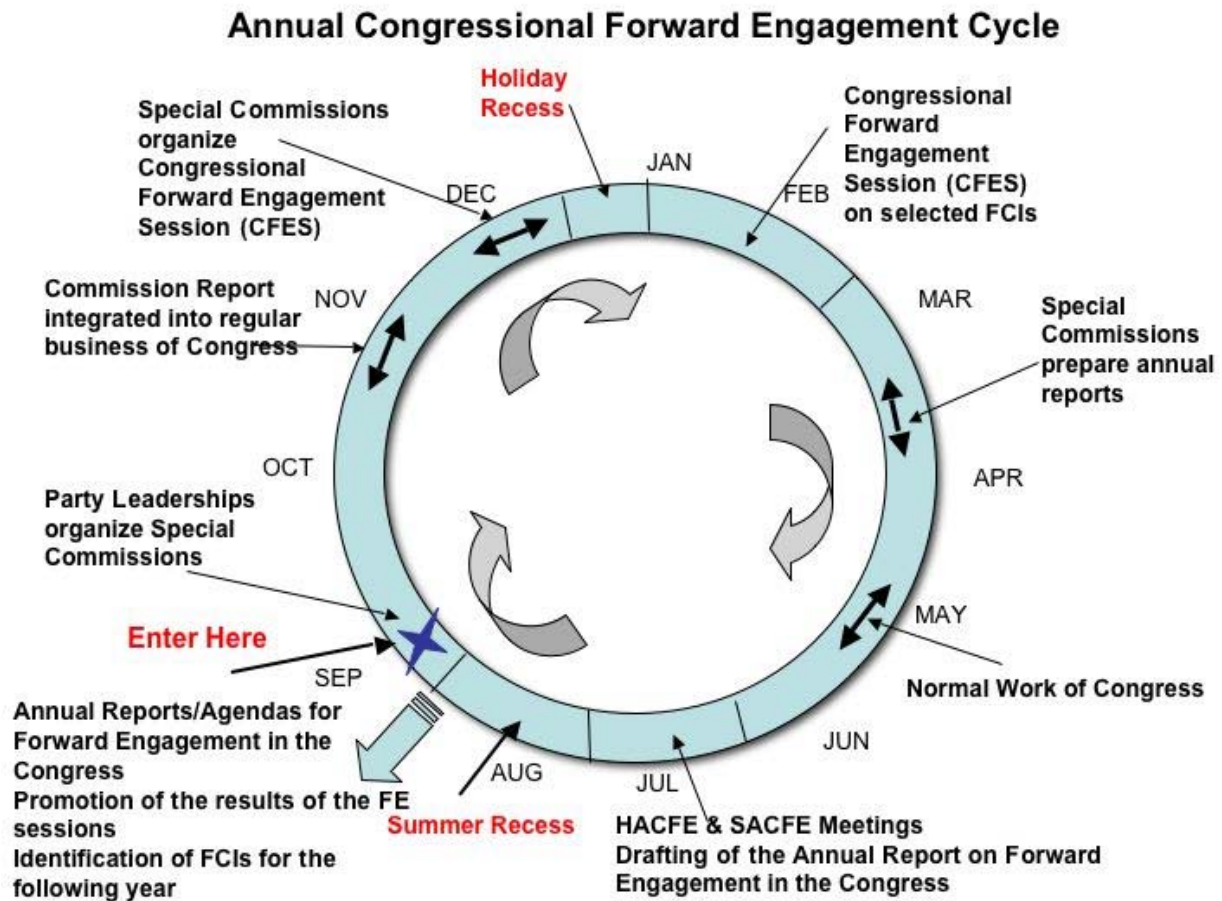
Private industry, spurred by protection of self interests, would also inform the actions of the Commissions and may ultimately help to implement some of the Commissions' recommendations. Multi-national corporations, defense contractors, energy conglomerates and others potentially affected by FCIs would: 1) testify before the Commissions on FCIs under consideration; 2) report on the potential affects (positive or negative) of action on FCIs; 3) take un-legislated steps to address FCI issues (incentivised by Congress).

Some private industry representatives may lobby against what the Commissions recommend. However, those industry contacts that Congress can influence to make changes would lead the way in working with government to address FCIs. The prestige factor of becoming an industry leader in a certain arena (best practices) can be self motivating. Nevertheless, Congress should not rule out tax breaks or other incentives for companies that take action on FCI issues (e.g. changing business practices to prevent future economic or ecological problems). Favorable responses from private industry would be highly dependent on Congressional action inspired by related recommendations from a Commission.

FORWARD ENGAGEMENT CYCLE

Due to the limited resources and time available for both the HACFE and SACFE only a limited number of FCIs would be reviewed each year as determined by the Commissions' chairperson. However, all FCIs would be reviewed both by the Senate and the House. First, the FCIs presenting the biggest risk for the United States of America but also the FCIs presenting the most beneficial opportunity would be considered. Secondly, other FCIs irrespective of their risk or opportunity would be evaluated to allow a periodic feedback loop and monitor the evolution of FCIs. By focusing on a small number of FCIs, it would allow an efficient monitoring of the development of each FCI, and the evaluation of the results of policy recommendations proposed earlier by both the HACFE and SACFE.

Figure 4.0



The “Forward Engagement Cycle” would be as follows:

September - December: The HACFE and the SACFE would dedicate time to self-organization and planning the FE Sessions - preparation for the hearings during the FE Sessions that would deal with forward-thinking issues identification and FCIs of concern.

January - February The HACFE and the SACFE would run the Forward Engagement Session on FCI of concern (the most critical, plus other FCIs in the framework of the continual process evaluation). Each FCI would be the subject of a dedicated session. Each Forward Engagement Session lasting for a half a day would be cover the multi-dimensional aspects of each FCI (science and technology, governance, economy and security issues)

March - June: Drawing from the lessons learned during the FE Session, the HACFE and the SACFE would spend this period preparing separate reports outlining priority FCIs and adequate policy recommendations.

Blue Ribbon Panel on Forward Engagement

July: The HACFE and the SACFE would meet to discuss their reports. A final report - the Annual Report on Forward Engagement in the Congress - would be prepared. This report would summarize the findings of the Forward Engagement Session and incorporate follow-up findings.

September - December: The HACFE and the SACFE while promoting the results of the FE sessions would identify the FCIs of concern to be considered in the following year.

FCI – Implementation into the FE Cycle

Using the cycle outlined above, each commission would conduct simultaneous research and discussion on different FCIs. To better illustrate this process, the following case study tracks a specific FCI as it moves within the HACFE. It can be assumed that other FCIs would proceed through HACFE and SACFE in a similar fashion.

Based on existing research the HACFE staff determines that “life-expectancy reaches 100” to be a critical FCI for this year’s Forward Engagement cycle. In order to further develop this FCI the commission hires two experts - a medical professor of geriatrics and gerontology from the John’s Hopkins University Medical School and senior analyst from American Association of Retired People (AARP). These two experts would assist the commission director and staff in choosing appropriate outside research organizations and analyzing research outputs.

Upon review of available NGOs, consultants and universities, the HACFE staff decides to provide research grants to RAND Corporation, the Duke University Center for Aging and Human Development, and UC Berkeley Labor Center. After receiving reports, the commission staff organizes the critical nodes of the FCI and briefs congressional Commission Members. Hearings are held, with testimony from the National Council on Aging, Department of Health and Human Services, Social Security Administration, National Association of Mutual Insurance Companies and the Department of Labor.

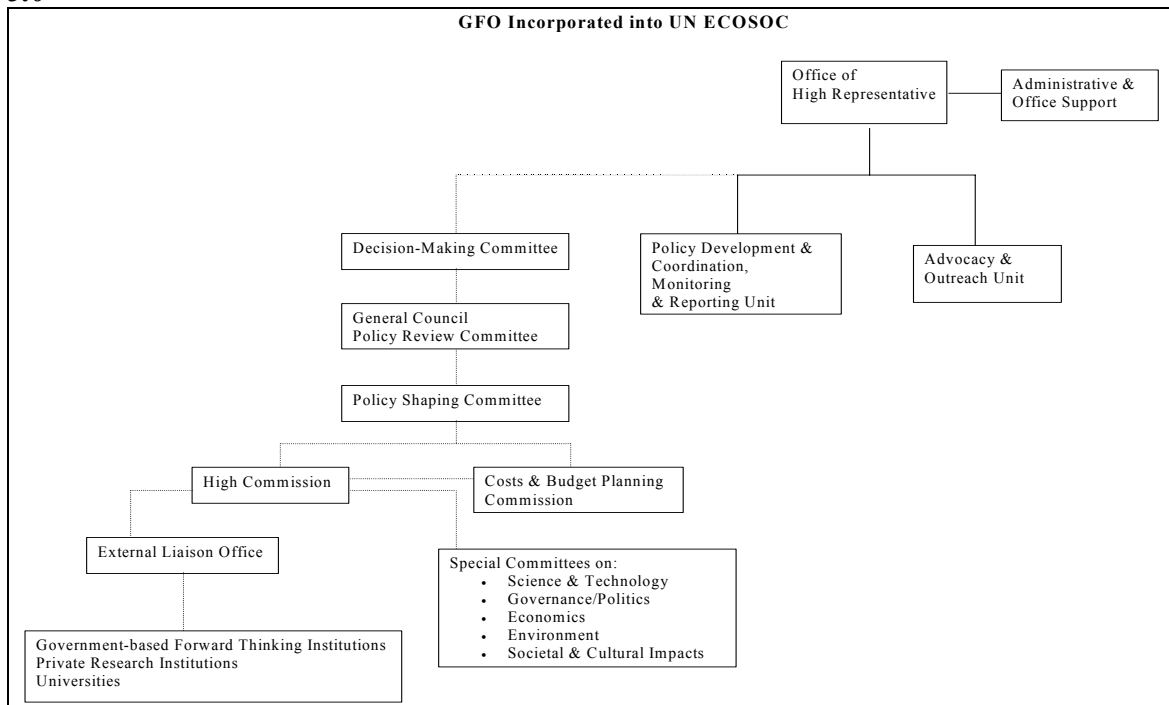
Incorporating all outside research, testimony and any internal government data collected by the staff, HACFE drafts their final report. The report is first sent to all Members of Congress following the summer recess, for their review. The report is then made public and distributed to the Executive branch (White House, related government agencies), and interested international counterparts. While no policy recommendations are made, the commission chair is responsible for presenting the report on the floor of the House. Any further legislative action would be the responsibility of existing House committees. As new information becomes available, future commissions would monitor critical indicators of this FCI to determine if it should be re-investigated in a new cycle.

GLOBAL COMPONENT

As some FCIs would be global events with far reaching consequences for a great variety of stakeholders, some believe that a global organization should be established in the mid-term. Such a global institution should: 1. Identify global FCI, and 2. Shape adequate global policies. We proposed naming this global institution the “Global Futures Organization” (GFO).

In order to take advantage of existing multilateral structures, the proposed global component could be linked to the United Nations’ Economic and Social Council (ECOSOC).²

Figure 5.0



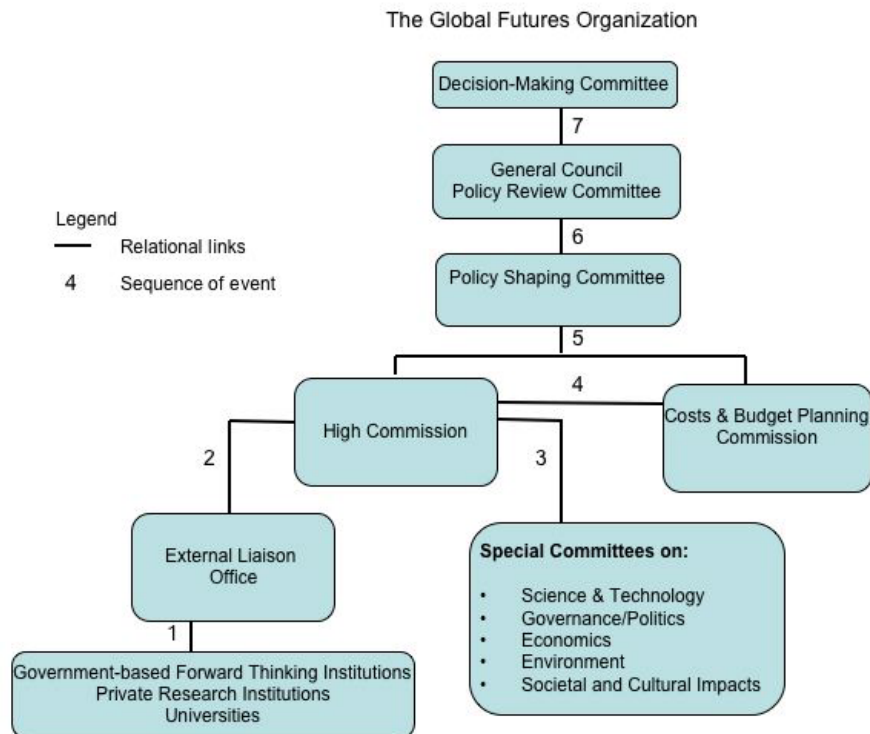
² ECOSOC’s mandate is to encourage economic and social advancement; promote collaboration and cooperation; review the results of such efforts by the international community. It serves as a forum for: 1) discussing international economic and social issues, 2) formulating policy recommendations addressed to member states and the UN system. It coordinates public-private alliances for Development, various functional committees, regional committees: for Africa, Asia & the Pacific, Europe, Latin America & the Caribbean, and Western Asia. Finally, it coordinates committees on non-governmental organizations and on Negotiations with Intergovernmental Agencies. ECOSOC works with expert bodies such as the UN Committee of Experts on Public Administration, and the UN Committee on Economic and Social Rights. It has the power to make or initiate reports on a wide range of issues of global significance. To achieve this, ECOSOC consults with academics, business sector representatives, and NGOs.

Blue Ribbon Panel on Forward Engagement

The Global Futures Organization (GFO) should be a consensus-based institution, whereby decisions reflect negotiation among members. Both governments and private sectors should contribute to the functioning of GFO. The GFO should be funded by governments, private foundations, and research centers so as to prevent agenda co-option by the leading developed countries. Voting should be avoided as it raises power issues between developed and developing countries. That way, discriminatory rules may be avoided. For additional transparency purposes, the decisions made should be available as media briefings accessible to various funding foundations, research centers, universities and other international institutions.

The overall structure of the Global Futures Organization is described below:

Figure 6.0



GFO Functional Structure & Membership

The functioning of the GFO should be ensured by a bottom-up organization between: an External Liaison Office (ELO), a High Commission (HC), special committees, a Costs and Budget Planning Commission (CBP), a Policy Shaping Committee, a General Council-Policy Review Committee, and last, an executive body: the Decision-Making Committee (DMC).

Blue Ribbon Panel on Forward Engagement

1. Global FCIs identified by the government-based Forward Thinking institutions/ private research institutions are linked to the GFO through the External Liaison Office (ELO). A symposium center should be sponsored by those nations that already have Forward Thinking Commissions, private sector (foundations, private research centers, think tanks, private industry partners, etc.) to spur other governments to develop their own Forward Thinking commissions, and develop connections. Such connections could, in turn, lead to greater cooperation on common issues.
2. The ELO communicates its records to the High Commission.
3. The High Commission dispatches information and commissions special Committees on: Science & Technology, Governance/Politics, Economics, Environment, Societal/Cultural impacts. The latter special committees need informal cross-sectoral interaction to brainstorm ideas in an efficient manner. These committees should be working together with private research centers, universities, think tanks, etc. A Request for Proposal System should be created.
4. The High Commission communicates with the Costs and Budget Planning Commission that assesses the financial aspects of dealing with identified FCIs.
5. The High Commission and the Costs & Budget Planning Commission inform the Policy Shaping Committee (PSC). The PSC is in charge of negotiations among members. Consultants should be working within the PSC so to be more cost-effective, and draft policy proposals independent from governments' agendas. Besides, having consultants handling the negotiation process would facilitate negotiations and would alleviate permanent staff-related costs for the GFO.
6. Once policy options are developed, the Policy Shaping Commission presents its policy options to the General Council - Policy Review Committee (GC). The GC is in charge of the implementation of chosen policy options and is composed of field experts.
7. The GC then presents final policy proposals for identified global FCI to the Decision-Making Committee (DMC). The Decision Making Council should be kept relatively small in order to reach consensus more easily. Two regional-based representatives should be elected on a rotating mandate, making sure that each country of each region is represented in turn. The country representatives should be the ministers of relevant fields, as they would serve as field experts. In the DMC, all thematic should be represented. The DMC would therefore cover all the relevant issues. Member governments should commit themselves to notify the GFO about any domestically identified potential global FCI and any domestic legislative evolution that may have international repercussions. The Decision-Making Committee should meet when the General Council - Policy Review Committee is ready to present the various policy options concerning identified FCIs. It is felt that there should not be a need for the Decision-Making body to meet on a regular scheduled basis. Once decisions are made, they should be made public through the ELO.

CONCLUSION

As part of its mission, the Fall 2005 panel worked to improve the consistency and “forwardness” of FCIs and prepare draft legislation embodying the previous panel’s recommendations for institutional innovations in the Congress.

The FCIs identified and examined in this report are uniquely advanced beyond the scope of traditional forecasting. Each FCI represents a departure from the status quo, and several are driven by the convergence of nanotechnology, biotechnology, information technology (IT) and cognitive science. It is the conclusion of the panel that the indicators and realization of these FCIs will emerge at an increasingly accelerant rate.

In its review of the Spring 2005 Forward Engagement Report, the Fall 2005 panel adopted and made modifications to the general framework for the establishment of the HACFE/SACFE. The modifications improve the political feasibility, collaborative capacity, financial security, and investigative ability of each Commission, allowing for critical input required for the Congress to respond efficiently, intelligently, and authoritatively to opportunities and threats represented by FCIs.

The modified Commissions will benefit from their close connection with individual Members of Congress, an attribute that other Commissions do not enjoy. This relationship should lead to a sense of trust in the Commissions’ analysis by providing some control over the output that ultimately enters the political arena. Although involving Members in the Forward Engagement process opens the risk for premature politicization of FCIs or the political manipulation of the Forward Engagement agenda, the countering weight from opposition parties and outside experts should help mitigate this danger.

Finally, it should be remembered that the benefits of such Commissions and Sessions might not just help avoid long-range threats. Once in place, these instruments of Forward Engagement can help the United States anticipate opportunities and realize the potential of future developments. Instituting these changes, in our judgment, will restore a sense of creative energy and intellectual power in the legislative branch that will make the United States Congress more relevant in the 21st century and a better servant of the people.

Therefore, with this final report, the Fall 2005 Blue Ribbon Panel on Forward Engagement respectfully submits these recommendations and draft legislation for the establishment of the House Annual Commission on Forward Engagement for consideration and urges their adoption.

APPENDIX I: Glossary

Commission:

A commission is a government agency or group formally authorized to have certain administrative, legislative, or judicial powers or duties. In the context of this proposal, both the HACFE and the SACFE would be annual commissions authorized to report back to their respective legislative bodies on FCI issues requiring their attention.

Committee:

A committee is a group of persons or fellow legislators chosen by a legislative body to consider, investigate, report, or take action regarding some legislative matter. In the context of this proposal, certain Senate and House Committees would have representatives on their respective Annual Commissions on Forward Engagement, for the purposes of reporting back to committee on FCI issues needing to be addressed.

Complexity:

Complexity is a property of systems comprised of interconnected, interdependent, and adaptive parts that make up an involved or intricate structure. Complexity describes properties of the relationships between elements within a system: in a complex system relationships are non-linear; relationships contain feedback loops; and relationships are interdependent such that an initial slight perturbation may cascade into system-wide change. Each FCI presented by the Fall 2005 Panel involves complex, continuous interactions between diverse realms of the human experience, as opposed to parallel and contained events.

Convergence:

Convergence is the meeting or joining of several separate parts that form an altered whole. The point of convergence is of a greater magnitude than the individual points that form the union or common conclusion. Each of the FCI is made up of an advanced set of applications related to economics, governance, security, and science and technology. These applications converge to form new events or outcomes. Additionally, FCIs described by the Fall 2005 Panel focus on development yielded by the convergence of nanotechnology, biotechnology, information technology and cognitive science as described by leading experts in a series of books published by the National Science Foundation.

Forward Engagement:

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

Blue Ribbon Panel on Forward Engagement

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.”³

Forward Engagement Cycle:

The basic premise of forward engagement is that early awareness and early preparation for potentially major events is preferable than awaiting their unambiguous onset. In the first stage of the forward engagement cycle, the HACFE and SACFE organize and plan FE sessions. In the second stage, the HACFE and SACFE would identify FCI and their implications. In the third and fourth stages, HACFE and SACFE would prepare reports and FCI and would meet to discuss the results of these reports and issue a summarizing report. In the final stage, the HACFE and the SACFE, while promoting the results of the FE sessions, would identify the FCI of concern to be considered in the following year.

Future Contingencies of Interest:

Future Contingencies of Interest 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.

HACFE:

House Annual Commission on Forward Engagement. This is a proposed body that would meet annually (along with its Senate counterpart) to identify Future Contingencies of Interest, collect data regarding their impact, and define questions and issues the Legislative Branch must address.

Integration:

Integration is the process of identifying and analyzing FCIs across traditional categorical classifications by interlocking multiple disciplines (economics, science and technology, security and governance) with possible social implications.

Issue:

An issue can be described as consisting of a question of potential import and of surrounding implications and consequences. In the context of this report, the Fall 2005

³ Fuerth, Leon. “Forward Engagement.” Accessed 11-27-05: <http://home.gwu.edu/~esialsf/>

Blue Ribbon Panel on Forward Engagement

panel separates the concept of an issue from related normative issues: it is the contention of this panel that government bodies created to forwardly engage should be charged with raising awareness of issues, and with monitoring indicators related to issues. However, we emphasize that policy prescriptions and recommendations are beyond the purview of the forward engagement mechanisms described in this report.

Network:

A network is a group, structure, or organization of interconnected components. In the network system, information penetrates quickly and thoroughly through the organization allowing for greater flexibility and adaptability. The components that make up a network generally

have significant power within the system. A network structure is a direct contrast to the top-down approach. If the government was organized as a network structure, then it would be able to quickly receive, process, and respond to information.

Node:

A node is a network structure of organization consists of interactive patterns linking interdependent elements within a system. The elements that are thus connected are referred to in network theory as ‘nodes.’ In a network analysis of markets, for example, individual actors as well as firms and organizations may be considered nodes. In conceptualizing human societies as interacting in networked forms of organization, the Fall 2005 panel treats as critical nodes four central areas of the human experiences: science and technology, governance, security, and economics. Significant events in each have the potentially to transformatively influence the others.

Policy:

Policies are funded mandates that include detailed objectives, allocated resources and the financial means for its compliance. They are equations coupling the ends (an articulated, detailed desire outcome) and the means (the calculated approach to achieving the ends). It is the goal of forward engagement that policy might be future-oriented, in light of the accelerating pace of impacting events. However, the forward engagement mechanism described in the Fall 2005 panel report stops short of engaging in policy design, recommendation, or implementation. Rather, the intention is that by providing policy makers with resources and incentives with which to raise awareness of potential future developments, the culture of policy making may be broadened to include a systematic integration of future contingencies in policy decisions and in the allocation of resources

SACFE:

Senate Annual Commission on Forward Engagement. This is a proposed body that would meet annually (along with its House counterpart) to identify Future Contingencies of Interest, collect data regarding their impact, and define questions and issues the Legislative Branch must address.

IN THE HOUSE OF REPRESENTATIVES

December 13, 2005

A BILL

To establish a House Commission to identify, investigate and inform Congress on future contingencies that may have transformative positive or negative effects on all realms of the human experience, specifically on science and technology, governance, security, and economics.

Be it enacted by the House of Representatives of the United States of America in Congress assembled,

SEC 1. SHORT TITLE.—This Act may be cited as the **House Annual Commission on Forward Engagement**.

SEC 2. ESTABLISHMENT OF COMMISSION

There is established in the legislative branch the House Annual Commission on Forward Engagement (in this title referred to as “Commission”).

SEC 3. PURPOSES OF THE COMMISSION

- (a) **PURPOSES.**—The purpose of the Commission is to—
- (1) investigate and identify national and global future contingencies that would have transformative positive or negative effects on all realms of the human experience, specifically on science and technology, governance, security, and economics.
 - (2) gather information through research, expert testimony, committee hearings, and past Commission reports on the identified future contingencies.
 - (3) make projections on the positive or negative scope and impact of identified future contingencies.
 - (4) report to Congress on the Commission’s findings, allowing for the legislative opportunity to respond efficiently, intelligently, and authoritatively to opportunities and threats that lie beyond traditional means of forecasting.
 - (5) enhance public perception of the relevance and criticality of potential human benefits or repercussions of identified future contingencies and the import of a governmental mechanisms designed to preemptively address these issues.

SEC 4. COMPOSITION OF THE COMMISSION

- (a) **MEMBERS.** The Commission shall be composed of 8 members, of whom—
- (1) 1 member shall be appointed by the majority leader of the House of Representatives, who shall serve as chairperson of the Commission;
 - (2) 1 member shall be appointed by the minority leader of the House of Representatives, who shall serve as vice-chairperson of the Commission;
 - (3) 3 members shall be appointed by the senior member of the leadership of the House of Representatives of the Republican Party, who shall serve as members of the Commission;
 - (4) 3 members shall be appointed by the senior member of the leadership of the House of Representatives of the Democratic Party, who shall serve as members of the Commission
- (b) **QUALIFICATIONS:**
- (1) **DEADLINE FOR APPOINTMENT.**—New members of the Commission shall be appointed on or before June 1 of each year.
 - (2) **INITIAL MEETING.**—The Commission shall meet and begin the operations of the Commission on or after September 1 of each year.
 - (3) **CONGRESSIONAL FORWARD ENGAGEMENT SESSIONS.**—The Commission will meet before February 1st of each year to separately address each identified future contingency and its implications for science and technology, governance, national security, and the economy.
 - (4) **QUORUM; VACANCIES.**—After its initial meeting, the Commission shall meet upon the call of the chairperson or a majority of its members. Five members of a Commission shall constitute a quorum. Any vacancy in a Commission shall not affect its powers, but shall be filled in the same manner in which the original appointment was made.
 - (5) **TERMS; TERM LIMITS.**—Members will serve the Commission for no more than 1 year beginning in September of each year. Any member may be reappointed to membership of the Commission consistent with 4a of this title, with the exception that no member shall serve more than 1 year consecutively.

SEC 5. FUNCTIONS OF THE COMMISSION.

- (a) **IN GENERAL.**—The functions of the Commission are to—
- (1) conduct an investigation that:
 - (A) identifies national and global future contingencies that

would have a transformative positive or negative effects on all realms of the human experience, and may include relevant facts and circumstances relating to—

- (i) science and technology;
- (ii) governance;
- (iii) security;
- (iv) economics; and
- (v) other areas of the public and private sectors determined relevant by the Commission for their inquiry.

- (2) reviews, evaluates, and determines the likelihood and timeframe of the realization of identified future contingencies
- (3) identifies structures or mechanisms already in place that may be able to exploit the opportunities or minimize the threats of identified future contingencies.
- (4) submits to the Congress such reports containing such findings and conclusions as are required by Section 12 of this title.

(b) **RELATIONSHIP TO PREVIOUS COMMISSION'S PRIORITIES.**—When investigating facts and circumstances relating to the future contingencies, the Commission shall

- (1) first review the information compiled by, and the findings, conclusions, and recommendations of the previous Commission; and
- (2) after that review pursue any appropriate area of inquiry if the Commission determines that—
 - (A) the previous Commission had not investigated that area
 - (B) the previous Commission's investigation of that area had not been complete, or
 - (C) new information not reviewed by the previous Commission had become available with respect to that area.

SEC 6. POWERS OF COMMISSION

(a) **IN GENERAL.**—

- (1) **HEARINGS AND EVIDENCE.** The Commission or, on the authority of any member thereof, may, for the purpose of carrying out this Title shall:
 - (A) hold such hearings and sit and act at such times and places, take such testimony, receive such evidence, administer such paths; and
 - (B) subject to paragraph (2)(A), require, by subpoena or otherwise, the attendance and testimony of such witnesses and the production of such books, records,

correspondence, memoranda, papers, and documents as the Commission or such designated subcommittee or designated member may determine advisable.

(2) **SUBPOENAS.**—

(A) **ISSUANCE.**—

(i) **IN GENERAL.**—A subpoena may be issued under this subsection only

(I) by the agreement of the chairperson and the vice-chairperson; or

(II) the affirmative vote of 5 members of the Commission.

(ii) **SIGNATURE.**—Subject to clause (i), subpoenas issued under this subsection may be issued under the signature of the chairperson or any member designated by a majority of the Commission, and may be served by any person designated by a majority of the Commission.

(B) **ENFORCEMENT.**—

(i) **IN GENERAL.**—In the case of contumacy or failure to obey a subpoena issued under subsection (a), the United States district court for the judicial district in which the subpoenaed person resides is served, or may be found, or where the subpoena is returnable, may issue an order requiring such person to appear at any designated place to testify or to produce documentary or other evidence. Any failure to obey the order of the court may be punished by the court as contempt of that court.

(ii) **ADDITIONAL ENFORCEMENT.**—In the case of any failure of any witness to comply with any subpoena or to testify when summoned under authority of this section, the Commission may, by majority vote, certify a statement of fact constituting such failure to the appropriate United States attorney, who may bring the matter before the grand jury for its action, under the same statutory authority and procedures as if the same statutory authority and procedures as if the United States attorney had received a certification under sections 102 through 104 of the Revised Statutes of the United States (2 U.S.C. 192 through 194).

(3) **CONTRACTING.**—The Commission may, to such extent and in such amounts as are provided in appropriations for this Title, enter into contracts to enable the Commission to discharge its duties under this title.

- (4) **INFORMATION FROM FEDERAL AGENCIES.--**
- (A) **IN GENERAL.**—The Commission is authorized to secure directly from any executive department, bureau, agency, board, commission, office, independent establishment, or instrumentality of the Government, information, suggestions, estimates, and statistics directly to the Commission, upon request made by the chairperson, the chairperson of any subcommittee created by the majority of a Commission, or any member of designated by a majority of a Commission.
- (A) **RECEIPT, HANDLING, STORAGE, AND DISSEMINATION.**—Information shall only be received, handled, stored, and disseminated by members of the Commission and its staff consistent with all applicable statutes, regulations, and Executive orders.
- (5) **ASSISTANCE FROM FEDERAL AGENCIES.—**
- (A) **GENERAL SERVICES ADMINISTRATION.**—The Administrator of General Services shall provide to the Commission on a reimbursable basis administrative support and other services for the performance of the Commission’s functions.
- (B) **OTHER DEPARTMENTS AND AGENCIES.**—In addition to the assistance prescribed in paragraph (1), departments and agencies of the United States may provide to the Commission such services, funds, facilities, staff, and other support services as they may determine advisable and as may be authorized by law.
- (6) **GIFTS.**—The Commission may accept, use and dispose of gifts or donations of services or property.
- (7) **POSTAL SERVICES.**—The Commission may use the United States mails in the same manner and under the same conditions as departments and agencies of the United States.

SEC 7. NONAPPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT

- (a) **IN GENERAL.**—The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Commission.
- (b) **PUBLIC MEETINGS AND RELEASE OF PUBLIC VERSIONS OF REPORTS.**—The Commission shall-
- (1) Hold public hearings and meetings to the extent appropriate; and
 - (2) Release public versions of the reports required under Section

12 (b) of this Title.

- (3) **PUBLIC HEARINGS.**--Any public hearings of the Commission shall be conducted in a manner consistent with the protection of information provided to or developed for or by the Commission as required by any applicable statute, regulation, or Executive order.

SEC 8. STAFF OF COMMISSION

(a) **IN GENERAL.**—

(1) **PERSONNEL AND ADMINISTRATION**

COMMITTEE—The Commission shall have a Personnel and Administration Committee composed of the chairperson, the vice-chairperson, and the senior ranking Commission member.

(A) **COMMITTEE FUNCTIONS.**—All decisions

pertaining to the hiring, firing, and fixing of pay of Commission staff personnel shall be by a majority vote of the Commission, except that-

- (i) The chairperson shall be entitled to appoint and fix the pay of the executive director, and the vice-chairperson shall be entitled to appoint and fix the pay of his senior staff person; and
- (ii) The chairperson and vice-chairperson each shall have the authority to appoint, with the approval of the Commission, at least five professional staff members who shall be responsible to the chairperson or the vice-chairperson (as the case may be) who appointed them. The Commission may appoint and fix the pay of such other staff personnel as it deems desirable.
- (iii) **COMPENSATION.**—Commission staff will be hired without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates, except that no rate of pay fixed under this subsection may exceed the equivalent of that payable for a position at level V of the Executive Schedule under section 5316 of title 5, United States Code.

(2) **PERSONNEL AS FEDERAL EMPLOYEES.**

(A) **IN GENERAL.**—The executive director and any personnel of the Commission who are employees shall be employees under section 2105 of title 5, United States

Code, for purposes of chapters 63, 81, 83, 84, 85, 87, 89, and 90 of that title.

(B) **MEMBERS OF COMMISSION.**—Subparagraph (A) shall not be constructed to apply to members of the Commission.

(3) **DETAILEES.**—Any Federal Government employee may be detailed to the Commission without reimbursement from the Commission, and such detailee shall retain the rights, status and privileges of his or her regular employment without interruption.

(4) **CONSULTANT SERVICES.**—The Commission are authorized to procure the services of experts and consultants in accordance with section 3109 of title 5, United States Code, but at rates not to exceed the daily rate paid a person occupying a position at level IV of the Executive Schedule under section 5315 of title 5, United States Code.

SEC 9. SECURITY CLEARANCES FOR COMMISSION MEMBERS AND STAFF

(a) **IN GENERAL.**—The appropriate Federal agencies or departments shall cooperate with the Commission in expeditiously providing to the Commission members and appropriately cleared staff to the extent possible pursuant to existing procedures and requirements, except that no person shall be provided with access to classified information under this title without the appropriate security clearances.

SEC. 10 APPROPRIATIONS FOR COMMISSION

(a) AUTHORIZATION; DISBURSEMENTS

(1) There are authorized to be appropriated to the Commission for each fiscal year such sums not to exceed \$4,000,000 for purposes of the activities of the Commission under this Title.

(2) Appropriations to the Commission shall be disbursed on vouchers approved –
(A) jointly by the chairperson and the vice-chairperson, or
(B) by a majority of the members of the personnel and administration committee established pursuant to section 8(a) of this Title.

(3) Official reception and representational expenses not to exceed \$15,000 of the funds appropriated to the Commission for each fiscal year may be used for official reception and representational expenses.

(c) **FOREIGN TRAVEL FOR OFFICIAL PURPOSES.**—Foreign travel for official purposes by Commission members and staff

may be authorized by either the chairman or the vice-chairman.

SEC 11. COMPENSATION AND TRAVEL EXPENSES

- (a) **COMPENSATION.**—Each member of the Commission may be compensated at not to exceed the daily equivalent of the annual rate of basic pay in effect for a position at level IV of the Executive Schedule under section 5315 of title 5, United States Code, for each day during which that member is engaged in the actual performance of the duties of the Commission.
- (b) **TRAVEL EXPENSES.**--While away from their homes or regular places of business in the performance of services for the Commission, members of the Commission shall be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in the Government service are allowed expenses under section 5703(b) of title 5, United States Code.

SEC 12. REPORTS OF COMMISSION; TERMINATION.

- (a) **INTERIM REPORTS.**—The Commission may submit to committees of Congress or the entire body of the House of Representatives interim reports containing such findings, and conclusions as have been agreed to by a majority of Commission members.
- (b) **FINAL REPORT.**—Not later than July of each year, the Commission shall submit to the Congress a final report containing such findings and conclusions as have been agreed to by a majority of Commission members.
- (c) **TERMINATION.**—
 - (1) **IN GENERAL.**--The Commission, and all the authorities of this title, shall terminate upon a majority vote for its termination in the House of Representatives.
 - (2) **ADMINISTRATIVE ACTIVITIES BEFORE TERMINATION.**—The Commission may use a 90-day period for the purpose of concluding its activities, including providing testimony to relevant committees of Congress concerning its reports and disseminating the final report.

SEC 13. PRINTING AND BINDING COSTS

- (a) For purposes of costs relating to printing and binding, including the costs of personnel detailed from the Government Printing Office, the Commission shall be deemed to be a committee of the Congress.