National Petroleum Council

Global Oil and Gas Study

Status Update

February 15, 2007

Secretary Bodman Questions

- What does the future hold for global oil and natural gas supply?
- Can incremental oil and gas supplies be brought on-line, on time, and at a reasonable price to meet future demand without jeopardizing economic growth?
- What oil and gas supply strategies and / or demand-side strategies does the Council recommend the United States pursue to ensure greater economic stability and prosperity?

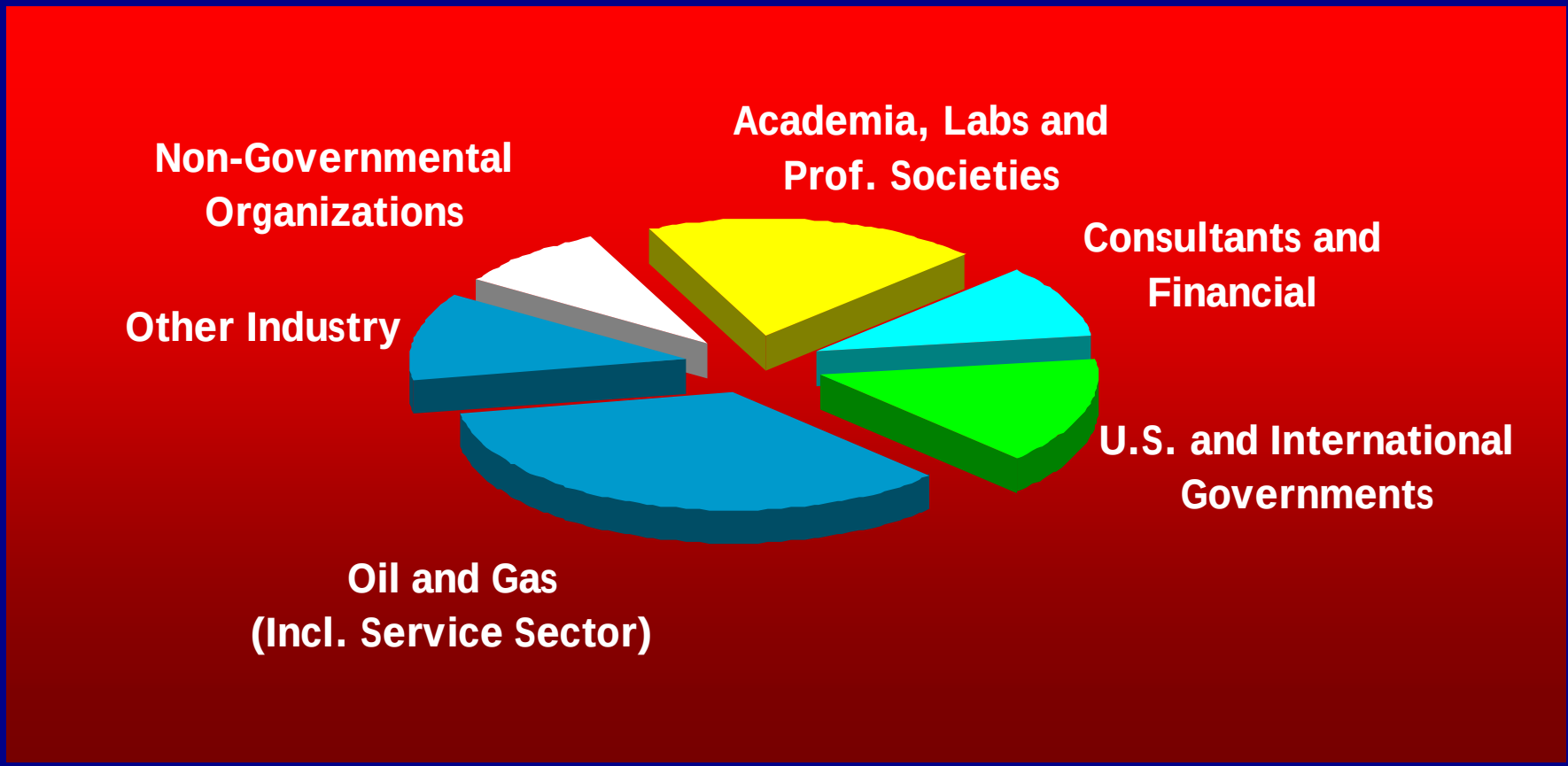
Study Principles

- Not another “grassroots” energy forecast.
- Gather and analyze public and aggregated proprietary data.
- Input solicited from a broad range of interested parties.
- Emphasize long-term conditions, not near-term volatility.
- Recommendations supported by sound data and science.
- All study teams work within scope and on time.
- Full compliance with antitrust laws and regulations.

Study Coordinating Subcommittee Roster

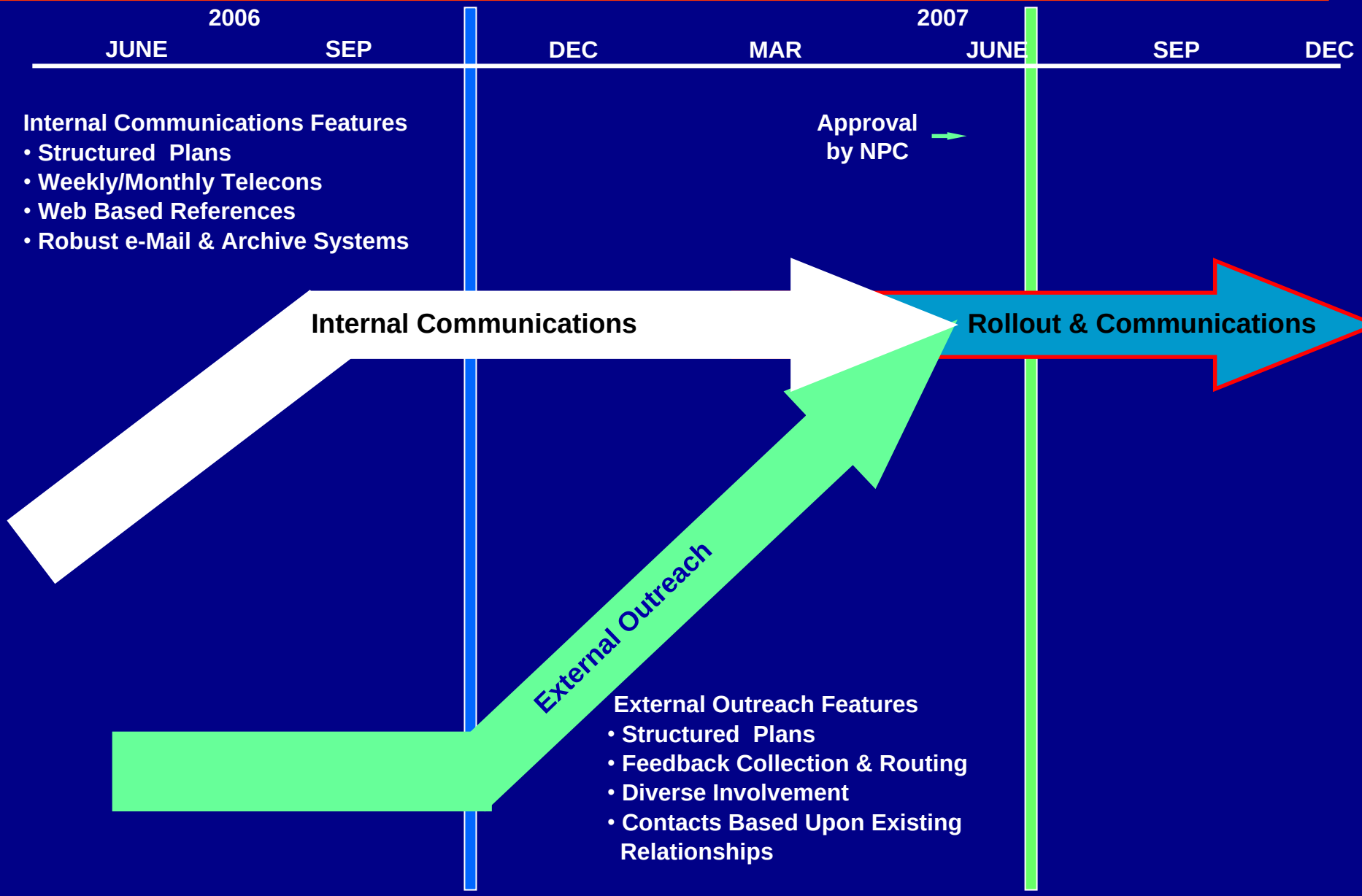
DOE	Jim Slutz	Jeff Jarrett	Chevron	Don Paul	Frank Verrastro
EIA	Guy Caruso		CERA	Jim Burkhard	David Slump
IEA	Fatih Birol	Bill Ramsay	RFF	Phil Sharp	Marvin Odum
Deutsche Bank	Adam Sieminski		Schlumberger	Rod Nelson	David Bellman
Alliance to Save Energy	Kateri Callahan		JPMorgan	Doug Petno	David Seaton
ExxonMobil	Alan Kelly		NPC	John Guy	Cliff Cook

350+ Study Participants



~500+ Individuals Involved Through Outreach

Communications and Outreach Plan



Outreach Learnings

Completed 24 outreach sessions reaching over 500 participants world-wide.....

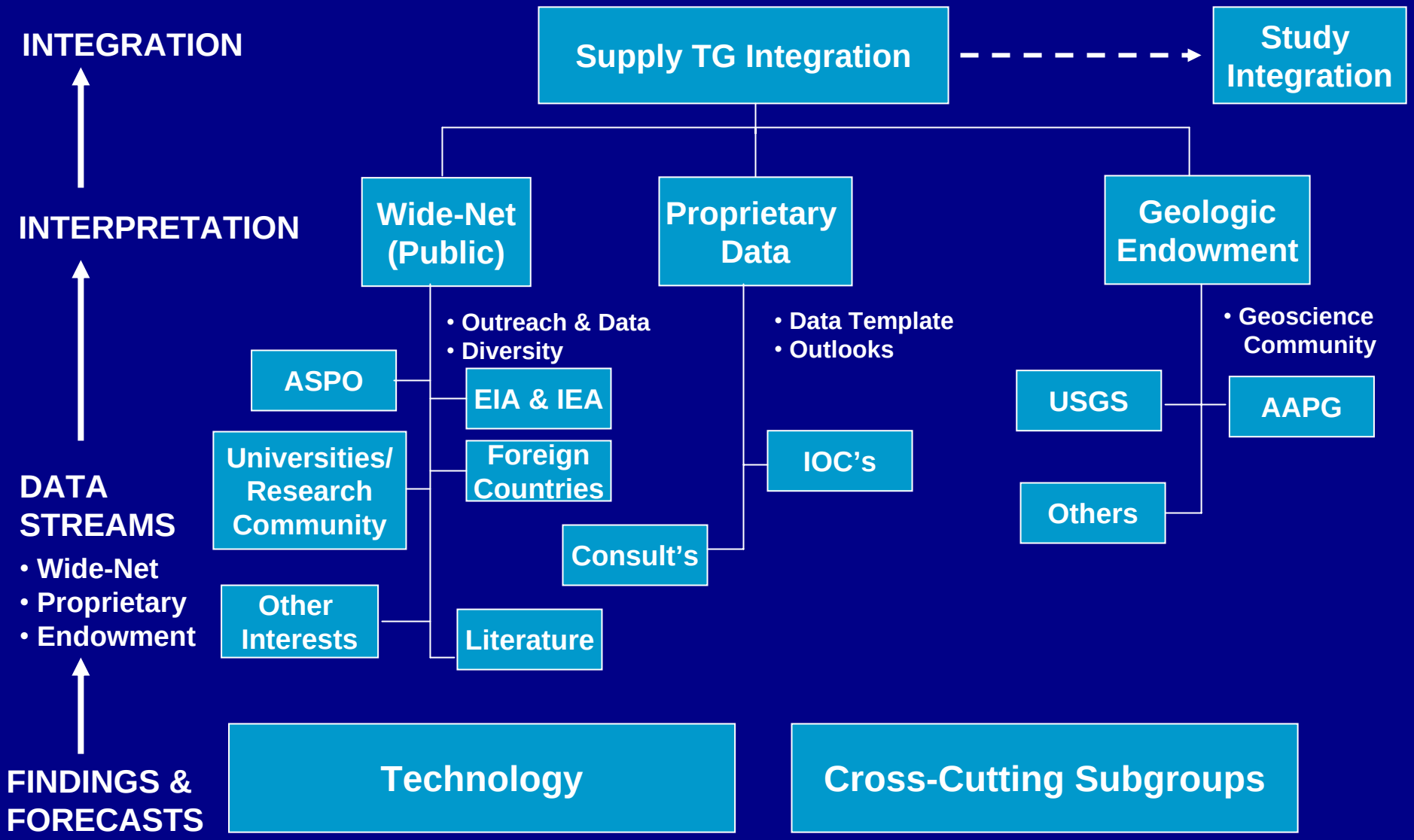
- Worthwhile study with exhaustive and challenging scope; some questioned added value.
- Some belief that conclusions already formed; perception of XOM led study.
- Diversity of participants is very important; how will consensus be reached?
- Early briefing on conclusions preferred; before media and public release.
- Energy education (politicians and public) is vital
  - Recommendations should be concise and easy to understand
  - New communication methods should be considered
  - Resources for follow-up will be important (continued)

Outreach Learnings (cont'd)

- Handling of carbon management topic will be critical to credibility
- Alternative fuels and energy efficiency are important topics.
- Skilled and unskilled labor shortage is major concern.
- National security issues (e.g. import dependency/potential supply disruptions) are very important
  - Energy Independence not realistically achievable for U.S.
- Importance of energy poverty, equity, technology and infrastructure for developing countries.
- Infrastructure and construction capabilities for conventional energy and emerging technologies are a major concern.
- Some questioned quality of global supply and demand data and incentive for foreign countries/companies to provide improved data.

Supply

Supply Task Group - Data Integration



Supply

Supply Task Group Status

- Preliminary findings developed and reviewed in Dec – Feb
- Nine subgroups support Supply Task Group
  - Biomass and Biofuels
  - Data Interpretation and Warehouse
  - Hydrogen
  - Infrastructure
  - LNG and GTL
  - Refining and Manufacturing
  - Renewables
  - Resource Endowment
  - Wide-Net (Non-Proprietary Data)
- Supply Task Group Integration Workshop in mid-Feb
- Supply Task Group summary findings to CSC by end of Feb

Demand

Demand Task Group Status

- Preliminary findings reviewed in Dec – Feb
- Six Subgroups support Demand Task Group
  - Demand Data Evaluation
  - Cultural, Social, and Economic Trends
  - Coal Impact
  - Industrial Energy Efficiency
  - Power Generation Efficiency
  - Residential / Commercial Efficiency
- Demand Task Group Integration workshop in mid-Feb
- Demand Task Group summary findings to CSC by end of Feb

Technology Task Group - Subgroups

- Technology Development and Deployment
- Human Resources: “The Big Crew Change”
- Carbon Management
- Conventional Resources (includes EOR and Arctic)
- Exploration Technology
- Deepwater Technology
- Unconventional Gas (includes Coal and Shale gas)
- Heavy Oil and Bitumen
- Oil Shale
- Gas Hydrates
- Coal to Liquids and Gas
- Nuclear Outlook and impact on Oil and Gas demand
- Transportation Efficiency
- Biomass and Biofuels (with Supply Task Group)

Technology Task Group Status

- 120+ industry, academia, government and NGO participants
  - Sound, balanced organizational model
  - All topics covered in detail by experts
- Outreach to topical organizations, examples:
  - Methane Hydrate Advisory Council
  - Council for Liquefied Natural Gas
- Subgroup initial work completed on time
- Results shared with Task Group & CSC in early December
- Continued leadership of integrated Carbon Management theme
- Integration effort continues to further develop Human Resources, Nuclear, Coal-to-Liquids, Gas and Unconventional Gas
- Technology Task Group summary findings to CSC by end of Feb

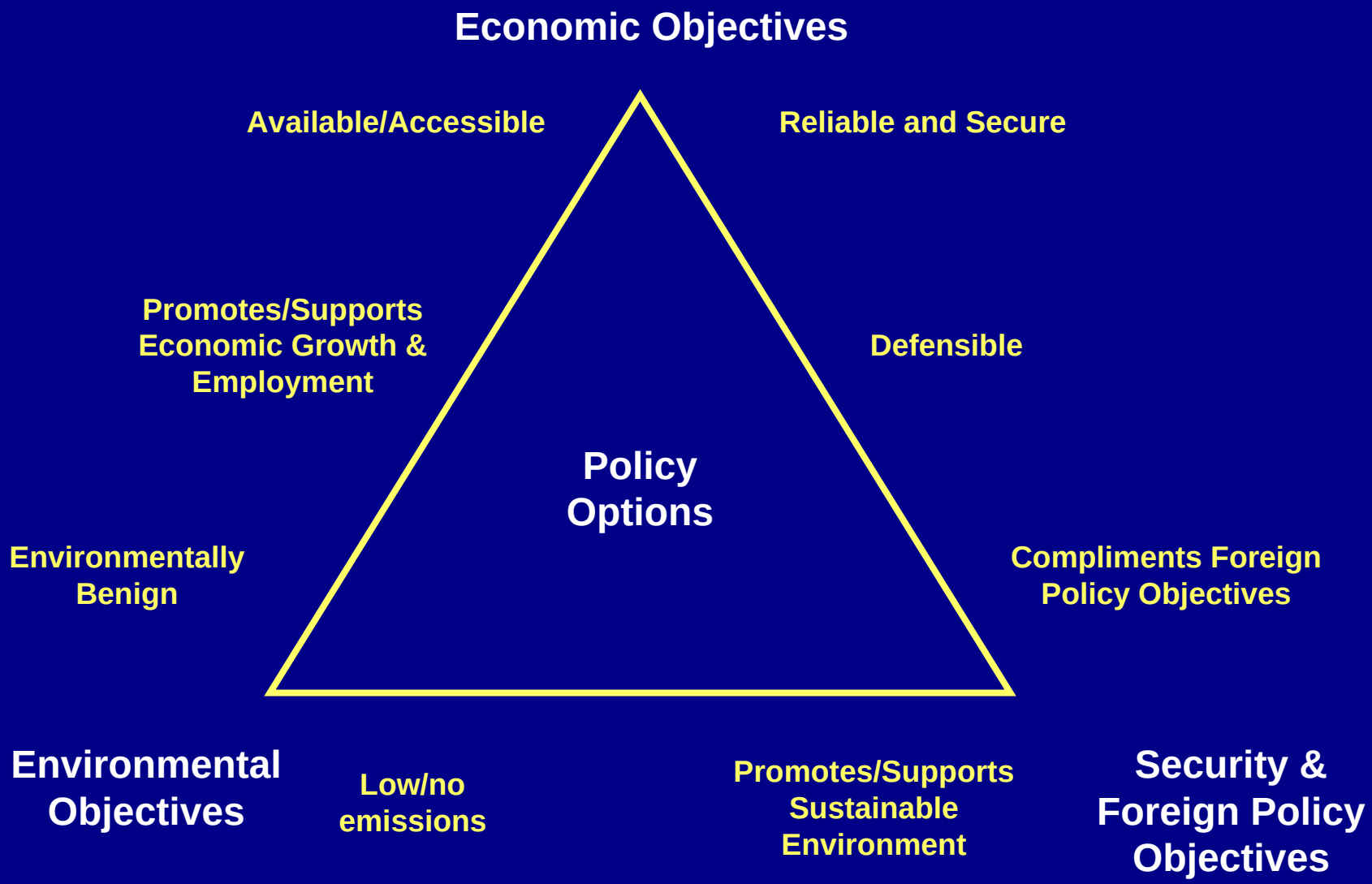
Geopolitics Subgroup - Activity

- Conducted literature review of geopolitical analyses
- Bifurcated approach involved establishing “core” geopolitics team to look at global issues while relying on CSIS regional scholars for political analysis
- Issues group focused on key topics of energy security, governance, globalism, and the environment
- Targeted outreach to NGOs, environmental and diplomatic communities
- Develop framework for identifying and analyzing key geopolitical trends and issues across national, regional and global lines
- Currently working with Issue group “leads” to identify findings and conclusions
- Summary findings to be completed by mid-Feb and presented to CSC by end of Feb

Policy Subgroup - Approach

- Review recent Energy Policy Reports
- Establish and populate “core” policy team, including representatives from NPC Task Groups, CSC, USG as well as other (outside) policy experts
- Identify “Facilitator” to assist in policy options/development discussion with CSC
- Develop framework/approach for discussing, framing and evaluating study findings and developing policy options and recommendations

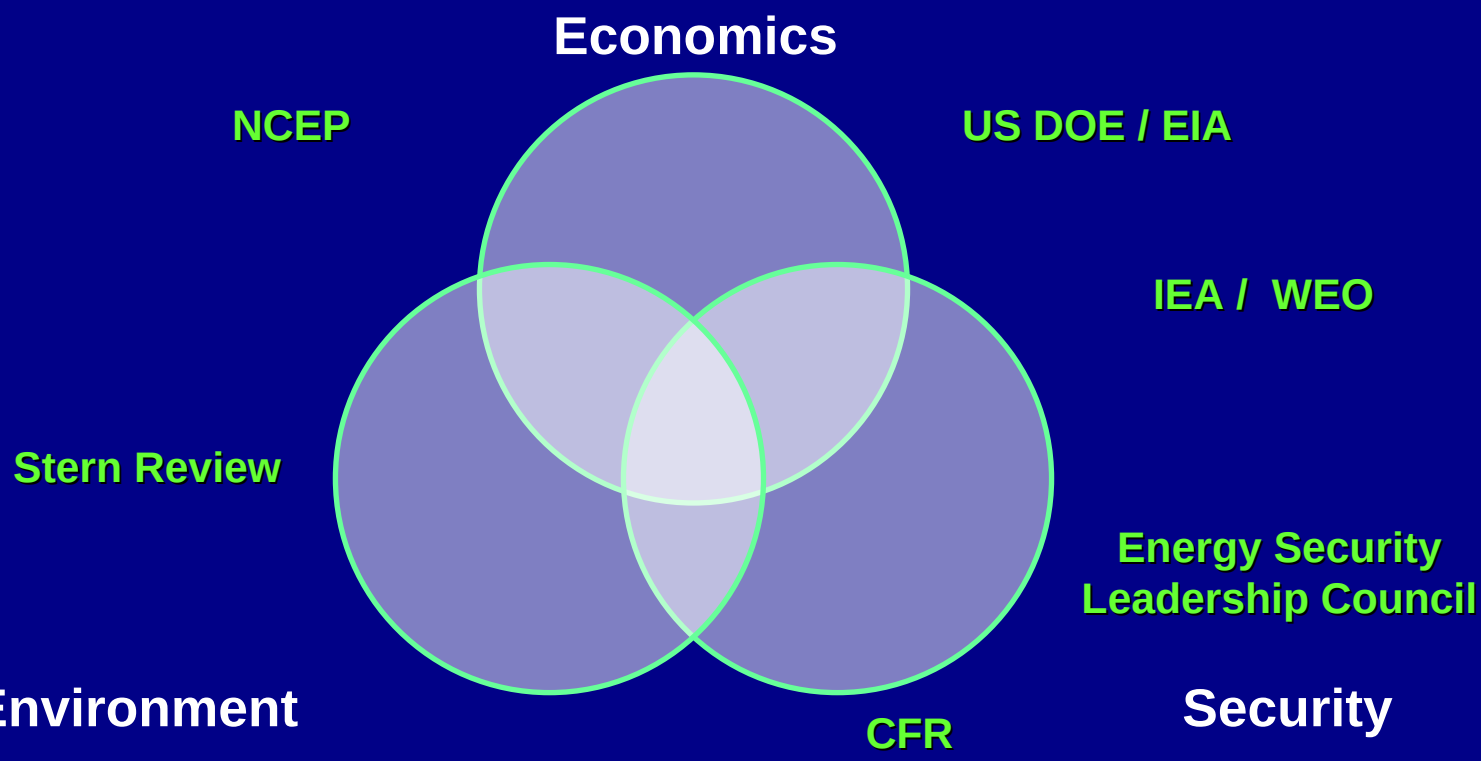
Key Policy Dimensions



Coordinating Subcommittee

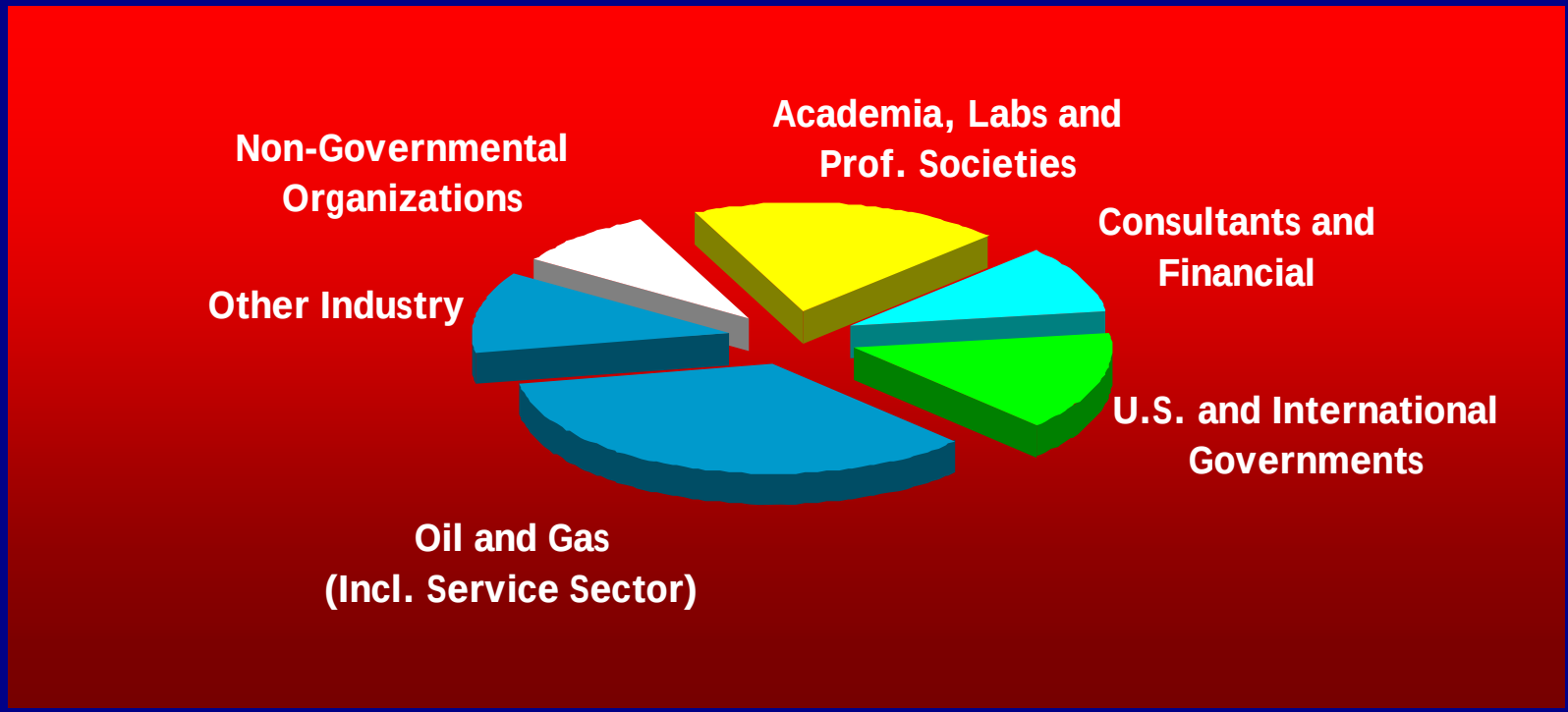
Parallel Studies

- Most public studies dominated by one or at most two of the three key concerns.
- Optimum strategies for US to pursue to ensure greater economic stability and prosperity are likely found at intersection three circles.



Differentiation – Broad Participation

Broad inclusion creating unique, value added opportunity
.....differentiating study from one DOE could "purchase"



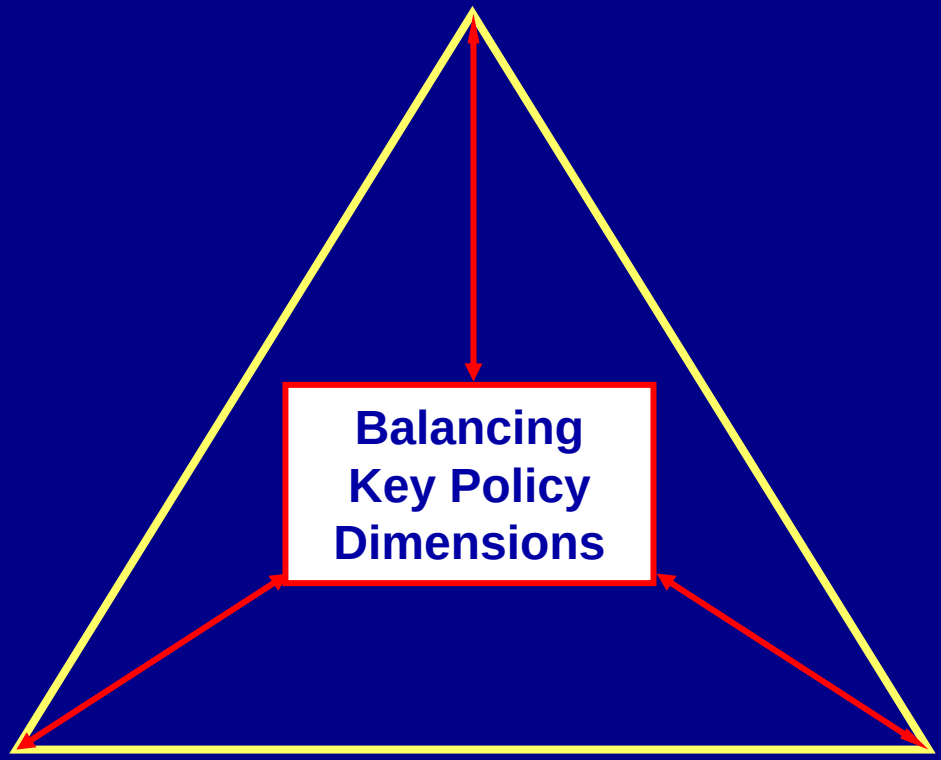
- Ability to tap knowledge and expertise of diverse NPC Membership
- Efficient proven committee system
- Access to international government agencies and industry participants
- Inclusion of non-NPC participants through subgroups and outreach efforts

Differentiation - Analytical and Technical Foundations

- Comprehensive data warehouse enabling assessment of:
  - Historical data and trends
  - Multiple public and aggregated proprietary long range outlooks
  - Assumptions and drivers behind varying perspectives
- Expert analytical resources covering key issues:
  - Resource endowment
  - Infrastructure & supply chain enablers
  - Demand trends and impact of improved energy efficiency initiatives
- In depth Technology analysis providing:
  - Outstanding quality of technology group resources
  - Focus on core technical themes
  - Review of likely technology penetration in key sectors / time horizons

Differentiation – Assessing the Options

Economic Objectives



Environmental Objectives

Security & Foreign Policy Objectives

Challenges & Goals

- Stay on task, within scope and meeting tight timelines
- Understand the end game:
  - Transform data into information
  - Transform information and knowledge into policy options
- Maintain alignment and buy-in among diverse participants
- Acknowledge differing views and sensitive political climate
- Draft crisp and meaningful report:
  - Implement effective participant vetting process
  - Build consensus on vital recommendations
  - Engage full range of study participant expertise
- Engage Committee & NPC for report consensus and approval
- Develop communications plan for rollout and handoff

Study Forward Plan

- Complete initial outreach activities
- Complete analysis of public and aggregated proprietary data:
  - Development of supply / demand strategies for oil and gas
- Complete technical and geopolitical teams' findings
- Finalize integration plans for transcending teams:
  - Carbon Management
  - Macroeconomics
  - Energy Efficiency
  - Parallel Studies
- Implement policy development & report writing process
- Finalize sustainable long term communications rollout plan
- Continue to conduct periodic reviews with key stakeholders
- Develop first draft report April '07; final report end of June '07