

HEPAP Orientation - Part 1

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DOE Office of High Energy Physics

John Kogut, Executive Secretary
Marsha Marsden, Committee Manager

HEPAP

- ◆ Established in 1967 to **advise** Federal Government on national program in experimental and theoretical high energy physics research
- ◆ The **official channel for advice from field** (community) to Government
- ◆ Operates in accordance with the Federal Advisory Committee Act (**FACA**, Public Law 92-463; 92nd Congress, H.R. 4383; October 6, 1972) and all applicable FACA Amendments, Federal Regulations, and Executive Orders
- ◆ A relatively large Advisory Panel; **meets in public** 3-4 times per year
- ◆ **Joint ownership** by DOE and NSF since October 2000 (chartered by DOE).
- ◆ Reports to Director of the Office of High Energy Physics (OHEP) in DOE and Assistant Director of the Mathematical & Physical Sciences (MPS) Directorate in NSF, who provides the charge to the committee annually or as needed

HEPAP

- ◆ The charter allows HEPAP to provide:
 - ↖ Periodic reviews of elements of HEP program and recommendations based thereon
 - ↖ Advice on long-range plans, priorities, and strategies for national HEP program
 - ↖ Advice on appropriate levels of funding to develop those plans, priorities, and strategies and to help maintain appropriate balance between competing elements of HEP program
 - ↖ Advice on scientific aspects of HEP issues of concern to the DOE and NSF as requested by the senior managements in DOE and NSF
- ◆ HEPAP provides Advice and Recommendations
- ◆ HEPAP does NOT make decisions
 - ↖ Making decisions require budgetary authority and management responsibility (which come with accountability)

HEPAP Subpanels

- ◆ Subpanel(s): To facilitate the functioning of the HEPAP, subpanels may be formed. The objectives of the subpanels are to make recommendations to the parent panel (HEPAP) with respect to particular matters related to the responsibilities of the parent panel.
- ◆ Subpanels, appointed by the Chair of HEPAP in consultation with agencies, may meet in closed session but must report to HEPAP in open session. HEPAP considers the recommendations of the subpanel and acts upon them. HEPAP then reports to DOE and NSF.
- ◆ Much of the work of HEPAP occurs between meeting by subpanels.

HEPAP info can be found at

www.science.doe.gov/hep/hepap.shtm

- Charter, Membership
- Meeting schedule
- Agendas, Presentations, Minutes
- Reports
- Current subpanels

Recent HEPAP Subpanels

<u>Panel</u>	<u>Reports to</u>	<u>Topic(s)</u>	<u>Reports Due</u>	
P5	HEPAP	B-factory + Tevatron Ops New initiatives	Dec 2005 Sep 2006	←
NuSAG	HEPAP & NSAC	Double Beta Decay Exp'ts Reactor and off-axis expt's Super nu beam options	Sep 2005 Jan 2006 mid 2006	←
AARD	HEPAP	US Accel R&D program	July 2006	
Dark Energy Task Force	HEPAP & AAAC	Dark Energy techniques	Spring 2006	
CMB Task Force	HEPAP & AAAC	Future CMB initiatives	July 2005	
ILC & LHC	HEPAP	ILC/LHC "synergy" (short version sent to EPP2010)	July 2005	←
HEP Resource Working Group	HEPAP	Are there enough physicists to run the program?	Dec 2005	←

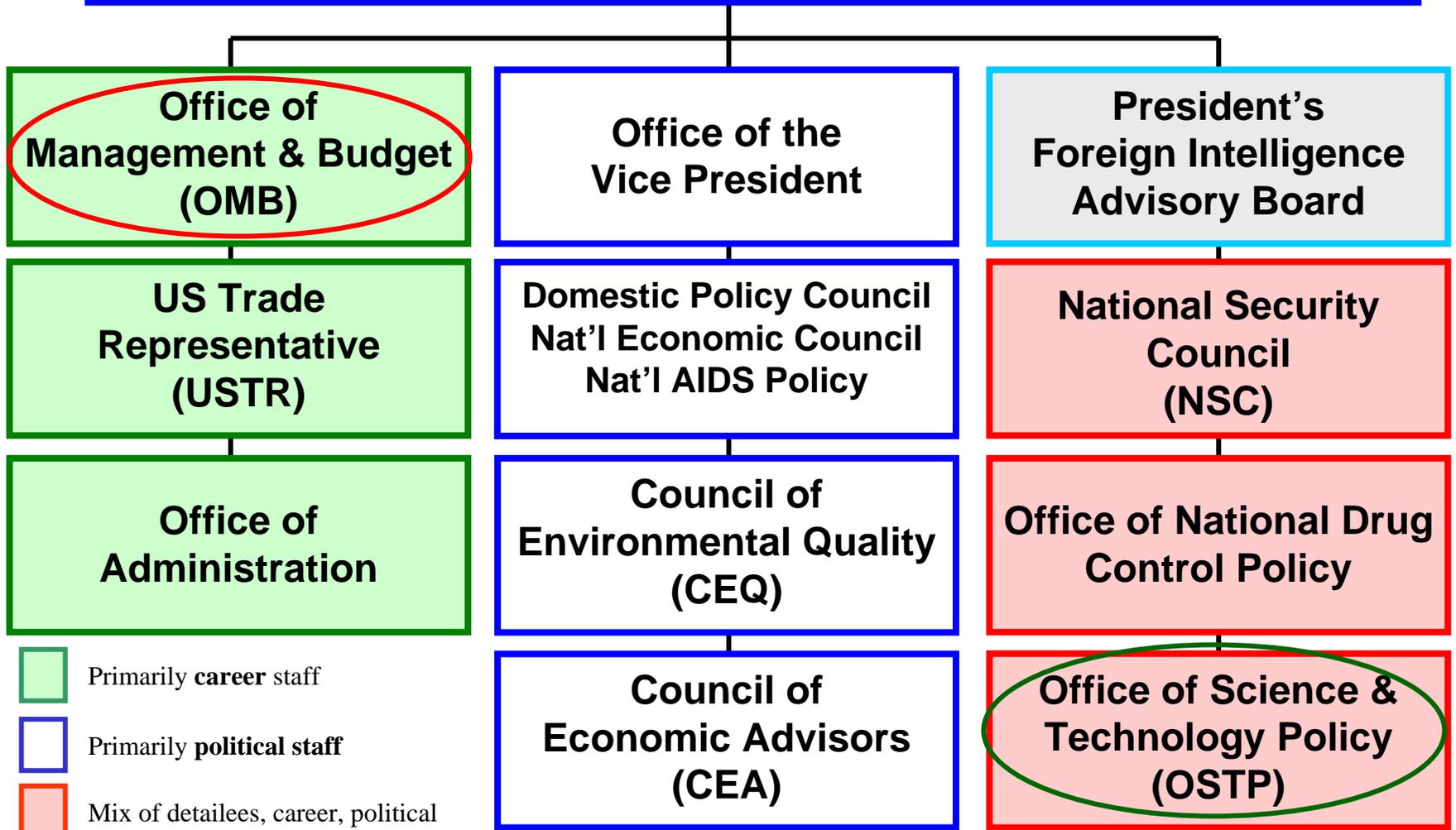
← Scheduled to be discussed at this meeting

The Federal Organizations: **in the Executive Branch**

Executive Office of the President (EXOP)

White House Office

(Homeland Security Council, Office of Faith-Based Initiatives, Freedom Corps)

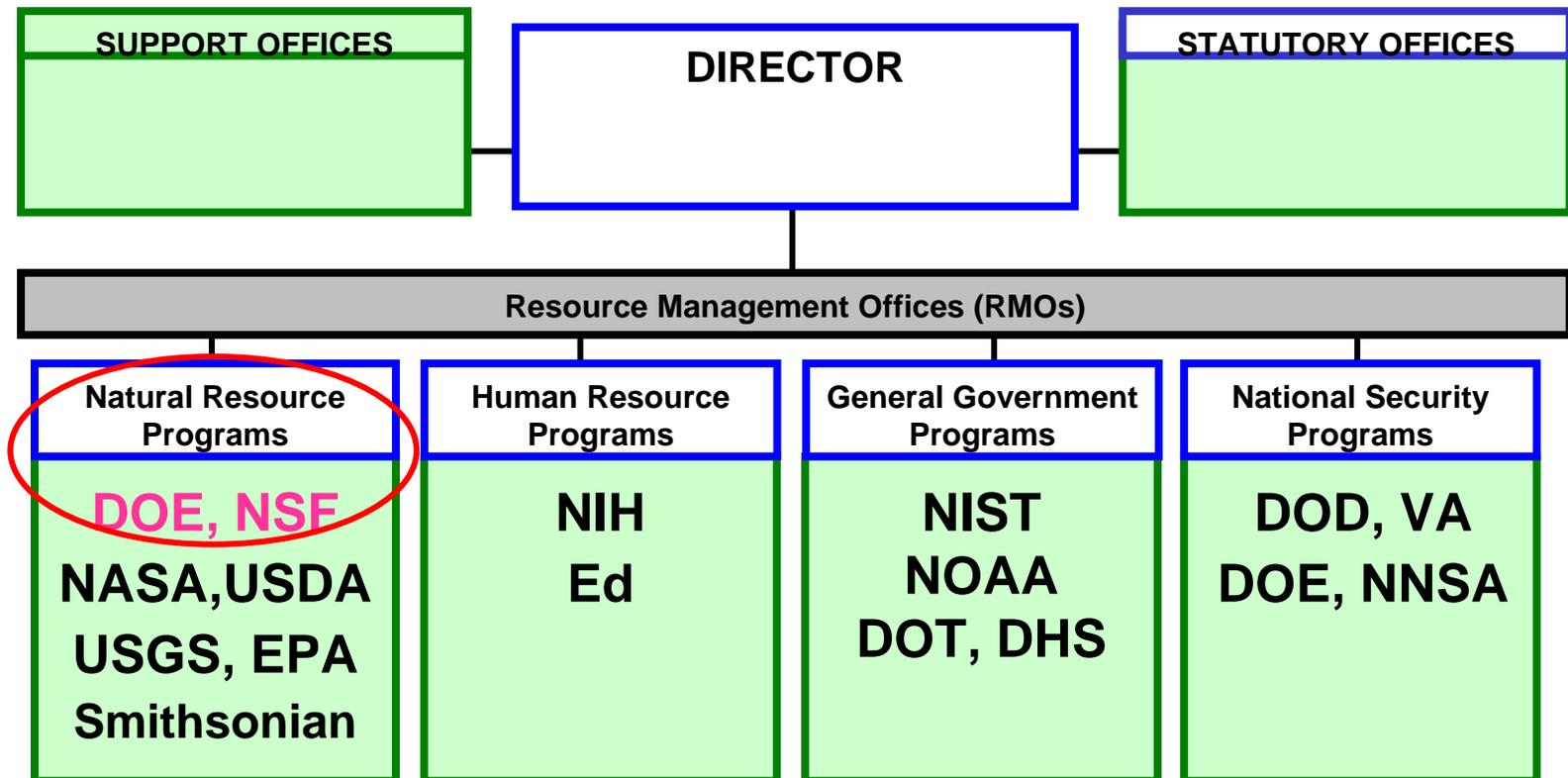


Office of Management & Budget (OMB)

www.omb.gov

Advise and assist the President

- Develop and execute the budget
- Oversee implementation of Administration policies and programs
- Develop and implement management policies for the government



Office of Science & Technology Policy (OSTP)

www.ostp.gov

- Advise the President
 - Provide S&T analysis and judgment with respect to major policies, plans, programs, & budgets
- Lead the interagency effort to develop sound S&T policies and budgets
 - Set forth (along with OMB) the R&D priorities to guide the agencies when developing their budget
 - Co-chair National Science & Technology Council (NSTC)
 - Committee on Science
 - Committee on Technology
 - Committee on Environment & Natural Resources
 - Committee on National & Homeland Security
- OSTP / OMB Guidance Memorandum for R&D Priorities
 - Get posted each year at <http://www.ostp.gov>
http://www.ostp.gov/html/budget/2007/ostp_omb_guidancememo_FY07.pdf
July 2005

OSTP and Federal Agencies



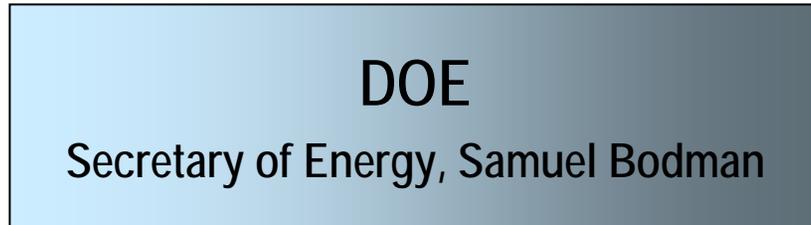
Office of Management and Budget



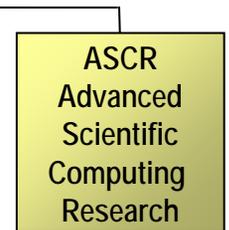
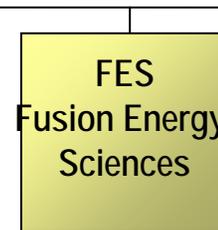
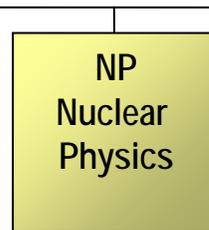
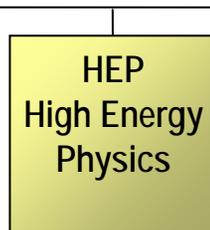
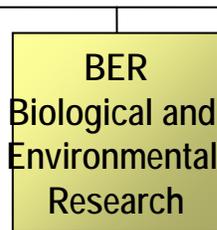
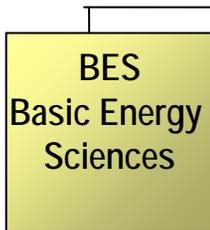
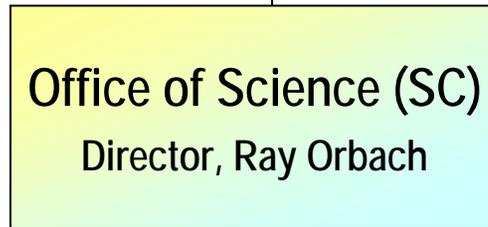
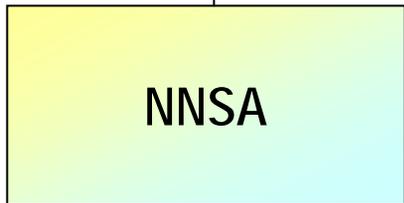
Other Boards, Councils, etc.



DOE & Office of Science (SC)



annual budget ~\$24B



The Advisory Process: **HEPAP, P5, SAG**

Questions on Program Direction

- **Scientific Potential** : to what extent does the program/project have the ability to change our fundamental view of the universe?
- **Relevance**: is the science important to DOE-HEP and/or NSF-MPS mission(s)?
- **Value**: does the level of scientific potential match the level of investment?
- **Alternatives**: are there more cost-effective alternatives to get at the same (or most of the same) physics?
- **Timeliness**: will the results come at the right time to have sufficient impact?
- **International**: are similar efforts underway in other countries? Are there potential international partners for this effort?
- **Infrastructure**: Does the project exploit, or help to evolve, existing infrastructure (including human capital)

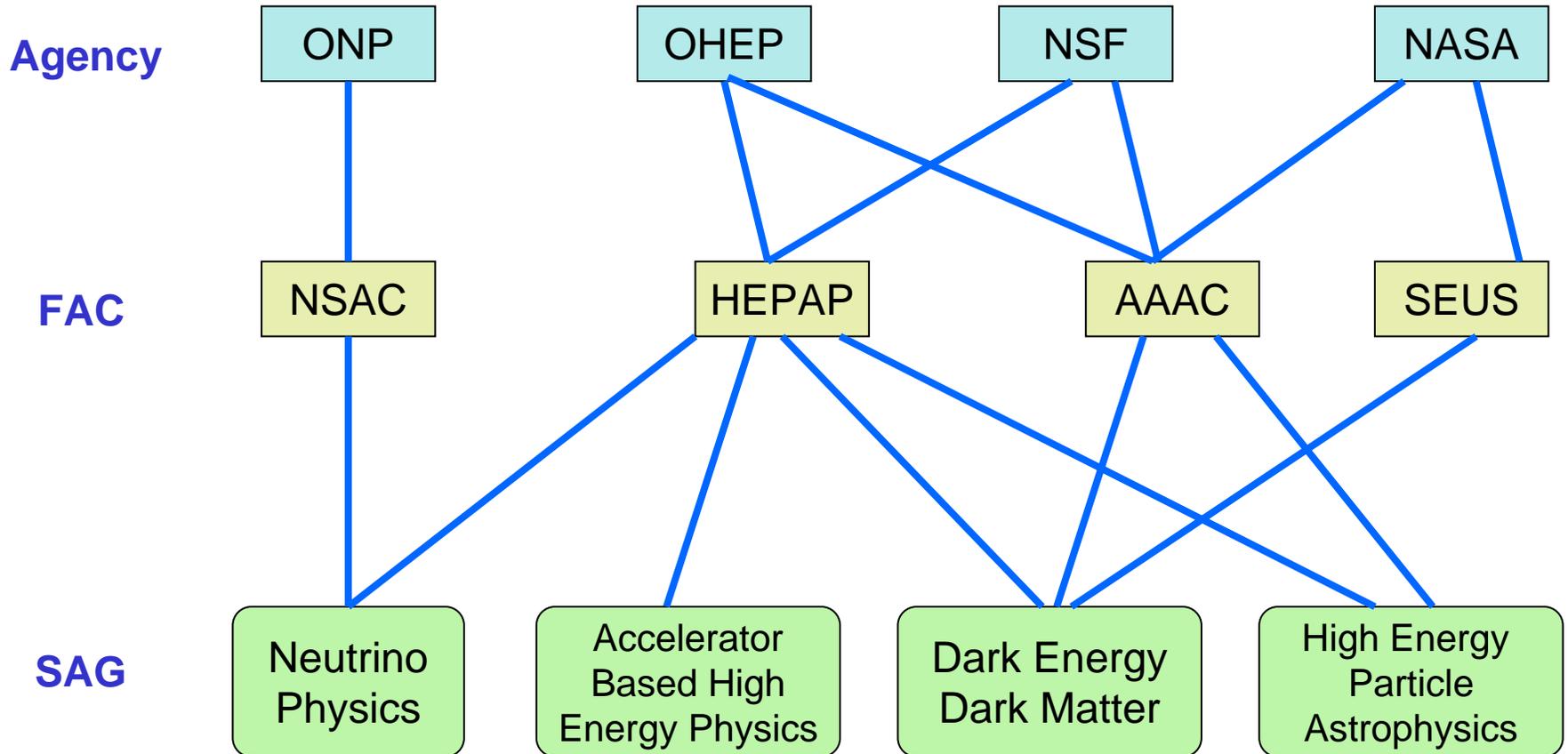
Advisory Process

Many of the new initiatives involve other agencies: advisory panels are not always adequately configured.

A hierarchy of questions to be addressed:

1. Overall shape of field – “grand strategy”
 - National Academies study (EPP2010), HEPAP...
2. What priority to give to area X vs. area Y? – “strategy”
 - P5
3. What is the best project in area X? – “tactics”
 - Scientific Advisory Group (SAG)
 - Anticipate several of these with different reporting lines to cover the various areas

HEPAP Centric Advisory Committee Flow Chart



NSAC: Nuclear Science Advisory Committee (DOE/NP, NSF)

AAAC: Astronomy and Astrophysics Advisory Committee (NASA, NSF, DOE/OHEP)

SEUS: Structure and Evolution of the Universe Subcommittee
(under Space Science Advisory Committee – NASA)

NuSAG

- A Neutrino Scientific Assessment Group (NuSAG) was initiated in 2005
 - Was asked to provide scientific assessments on
 - Options for Reactor neutrino experiments
 - Options for Off-axis neutrino experiment
 - Options for neutrinoless double beta decay experiment
 - Next charge (to be discussed this meeting) is on scientific assessment for next generation high intensity neutrino beam facility.
- NuSAG is a joint subpanel of HEPAP and NSAC
 - Reports through HEPAP to DOE-HEP and NSF;
 - through NSAC to DOE-NP and NSF

Will be setting up an analogous SAG process for other scientific topics such as dark matter, dark energy and particle astrophysics on an as-needed basis.

Role of P5

Role of P5

- Address relative priorities of proposed projects/programs within the program context
- Maintain the roadmap for the field

P5-version #1 expired in November 2004 (created in 2002 for two years)

New P5 established in spring 2005 for two years

- An “umbrella” letter created the panel
- Followed by individual charges

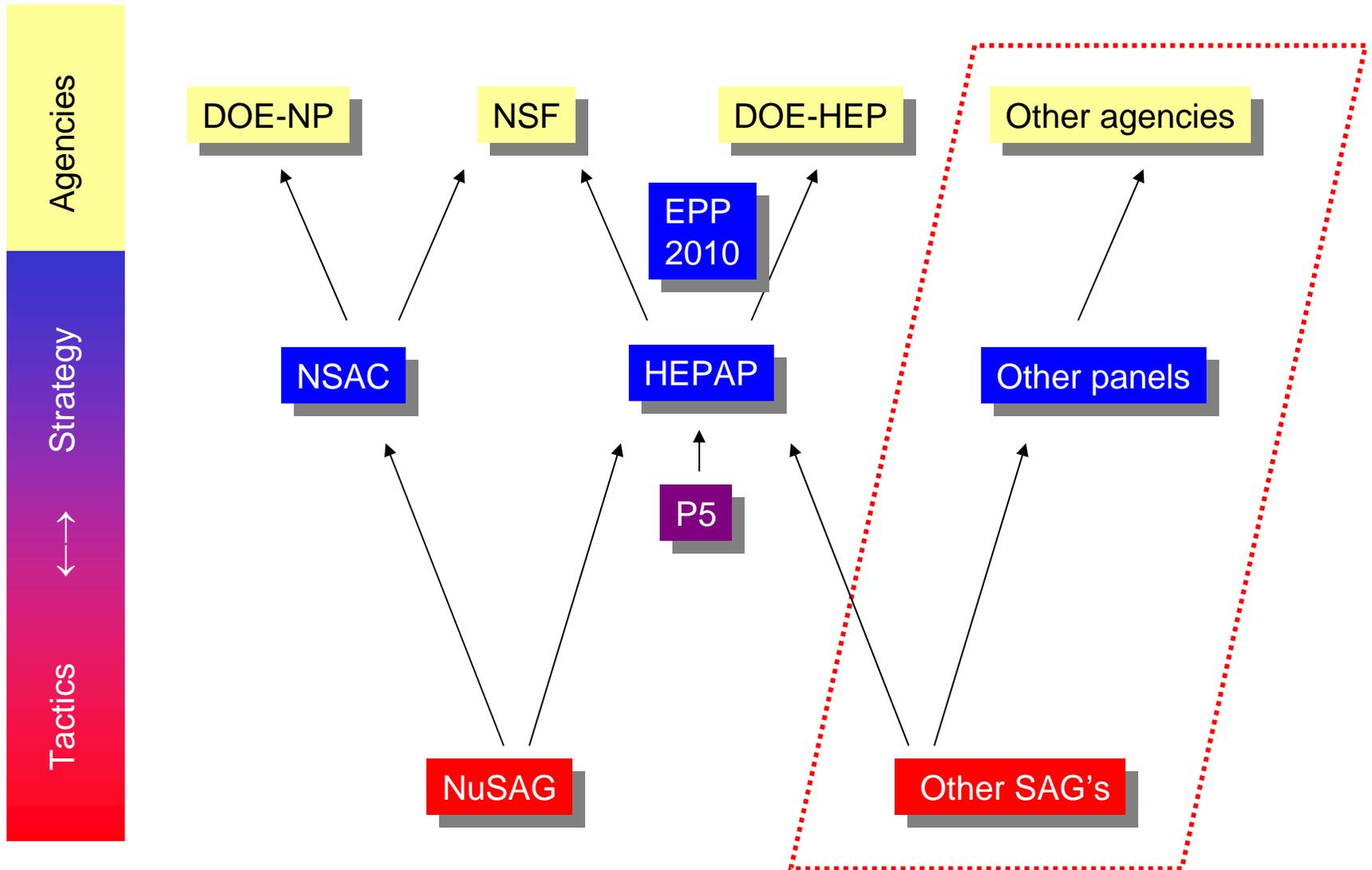
(Ideally) P5 would be asked to compare the recommended options from the SAG process and prioritize relative to one another

(More realistically) P5 will be given a nominal (optimistic but not “blue sky”) envelope of available funding for new initiatives and ongoing programs and asked to prioritize within that constraint

National Academies Panel - EPP2010

- A “decadal survey”
- Lay out the **grand questions** that are driving our field
- Describe the **opportunities** that are ripe for discovery
- Identify the **tools** that are necessary to achieve the scientific goals
- Articulate the connections to **other sciences and to society**
- Foster emerging **worldwide collaboration**
- Recommend a 15 year **implementation plan** with realistic, ordered priorities
- Not your typical high energy physics advisory panel. It includes
 - **Leaders (non-physicists) in industry, government and academe**
 - **Strengthen connections with society**
 - **Sharpen the physics questions**
 - **Non-particle physicists**
 - **Engage other scientific communities**
 - **International participants**
 - **Place US HEP in the international setting**

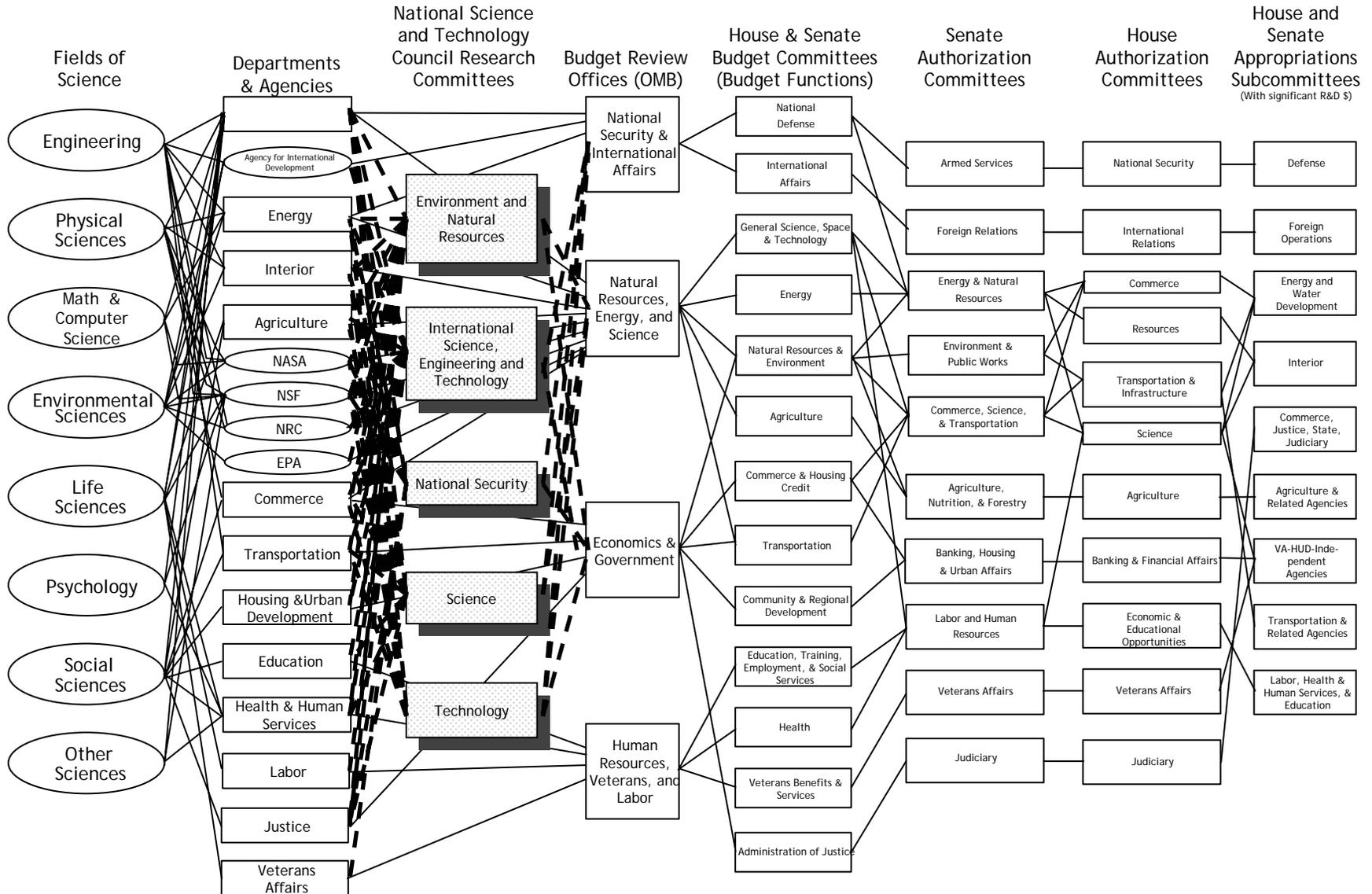
Advisory Committee Flow Chart



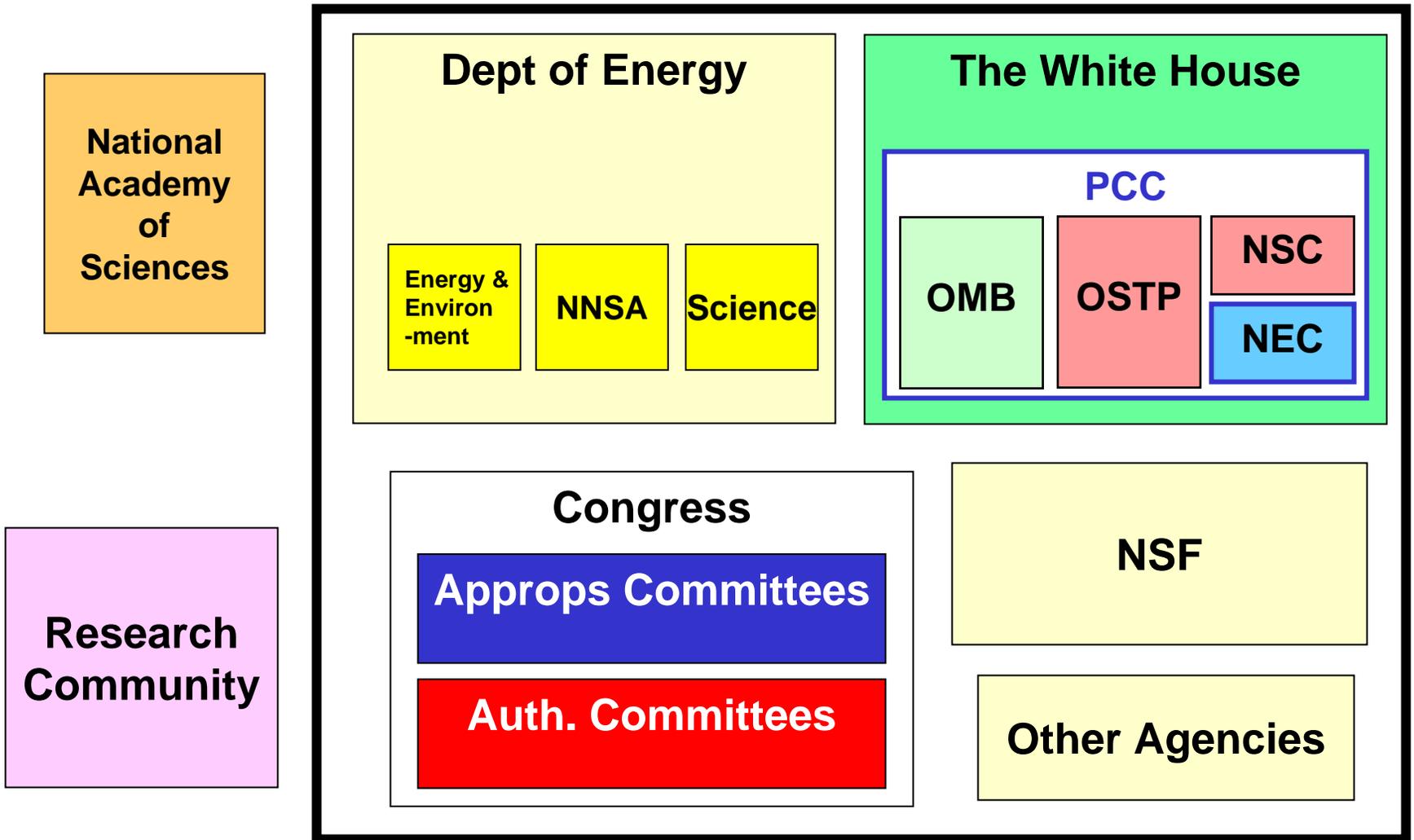
The Federal Budget Process: Case of Office of Science in DOE

Development of the Federal R&D Budget

Showing Fields of Science and Executive and Legislative Decision Units
 Connecting lines indicate location of agency budget decisions, but not decision sequences.



DOE/NSF Process: Key Players



There are Four Big Hurdles in SC Budget Formulation



#1 – Inside SC (Feb – April 2006)

- Each program determines **FY 2008 program priorities** within constraints of the funding guidance (“**Target Budget**”) provided by the Director of SC.
- Each program presents priorities to Director of SC.
- The Director of SC determines program priorities within constraints of the funding guidance provided by DOE.



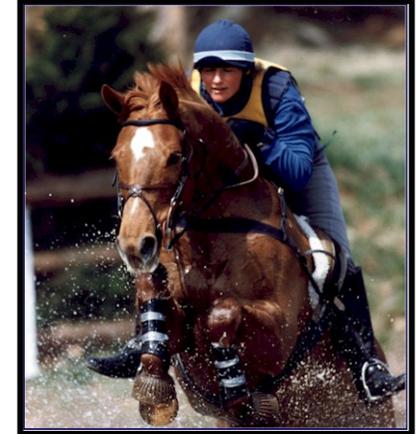
#2 – Inside DOE (May – July 2006)

- The Director of SC and the DOE Assistant Secretaries present their **FY 2008 program priorities** to DOE.
- DOE determines overall agency priorities.
- SC prepares President’s Budget. Each SC program office responsible for preparation of its own program budget which meets the funding guidance (“**the Target Budget**”).



#3 – OMB (Aug – Dec 2006)

- DOE **FY 2008 budget** submitted to OMB.
- Each program defends budget at OMB hearing in September.
- OMB provides “Passback” guidance to DOE in late November.
- Discussions between DOE and OMB refine final budget numbers.
- SC prepares **FY 2008** President’s Budget. Each SC program office responsible for preparation of its own program budget.

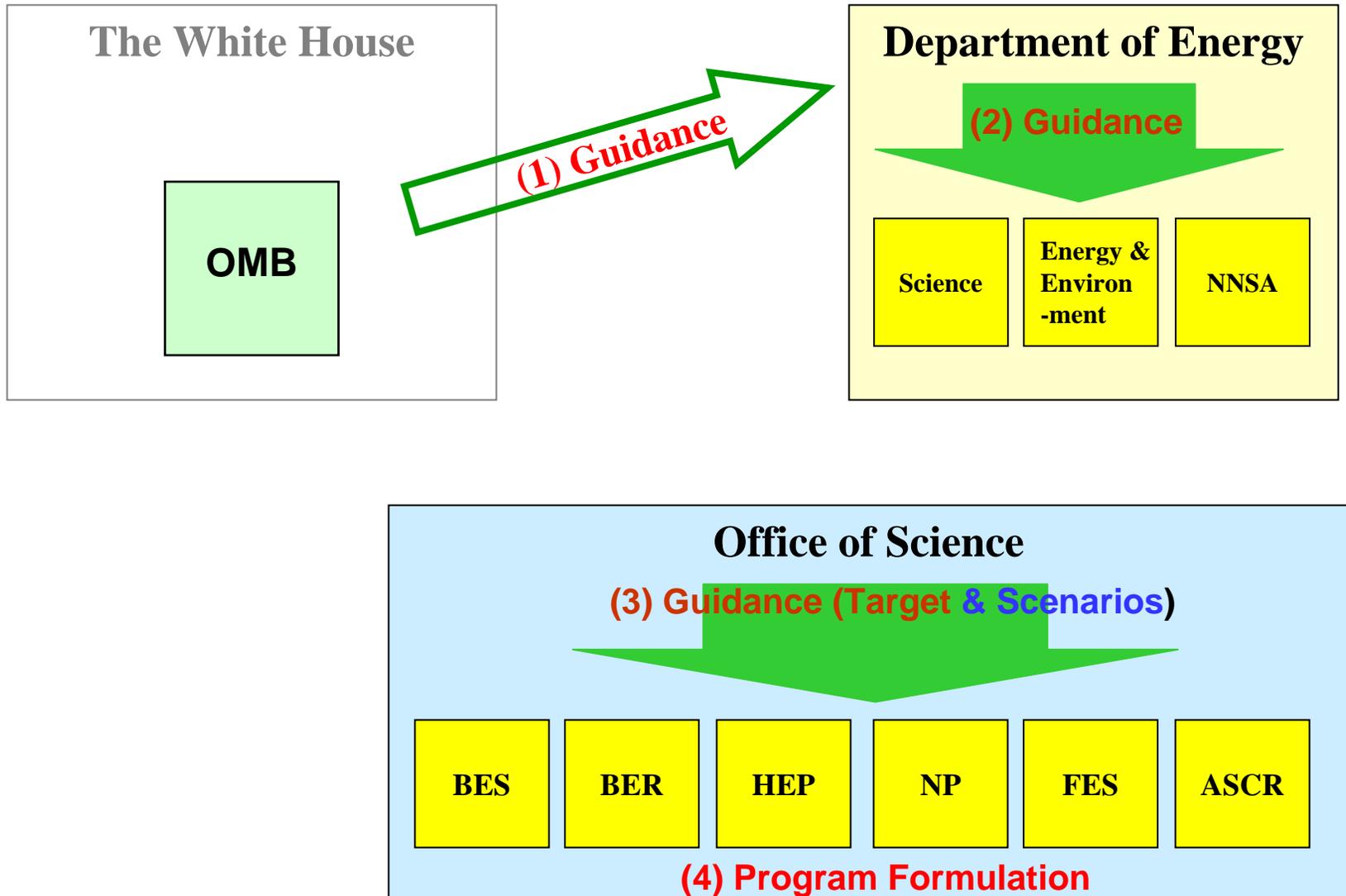


#4 – Congress (Feb 2007)

- **FY 2008 President’s Budget** presented to Congress.
(Mar – Sep 2007)
- Agencies present their budgets to Congress in formal hearings.
- Congress appropriates funding for 13 appropriations bills for **FY 2008**, using the “President’s Budget as a starting point for the Congressional Budget and appropriations.”

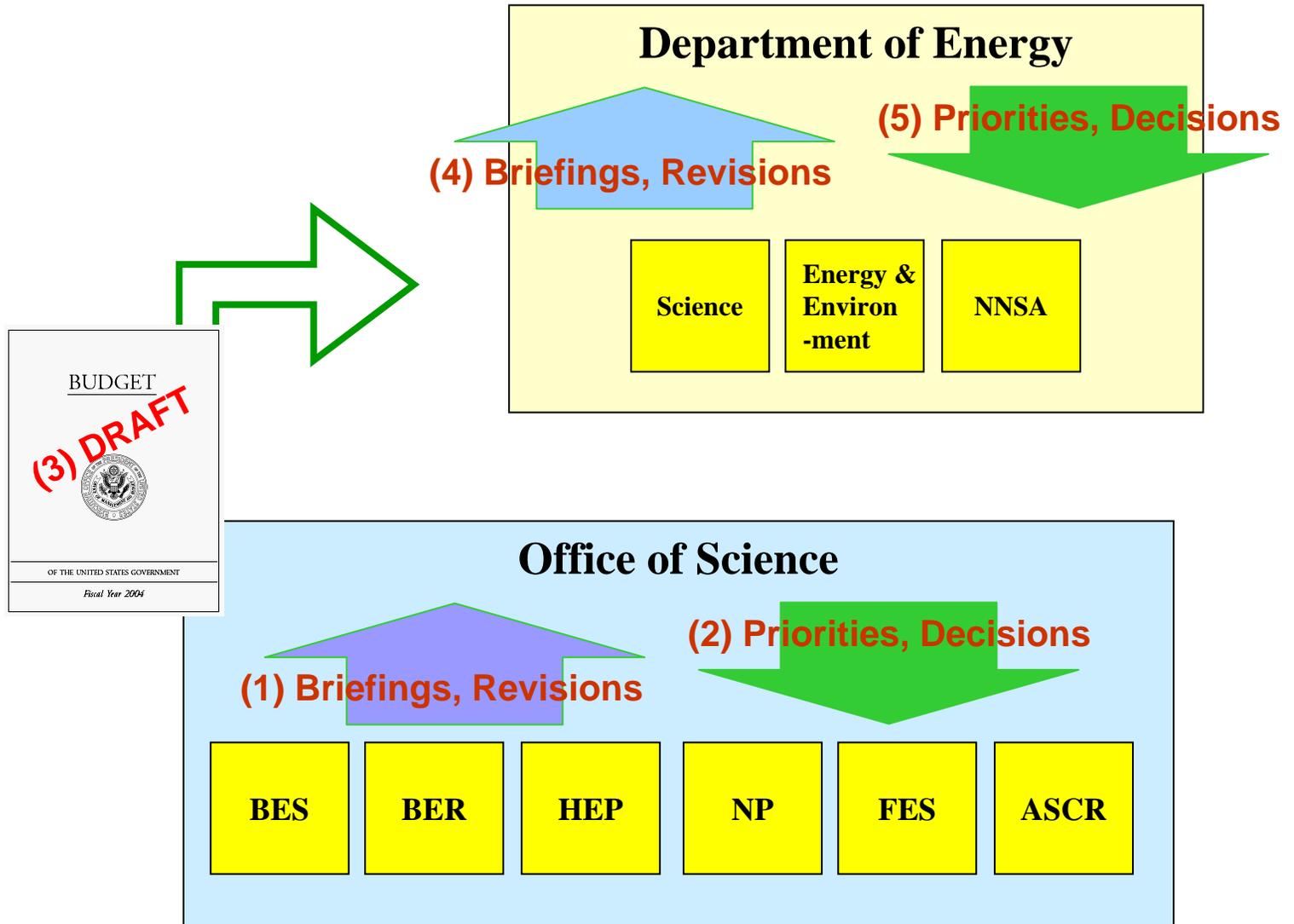
DOE Budget Process

Inside SC (Feb – April): Guidance and Program Formulation



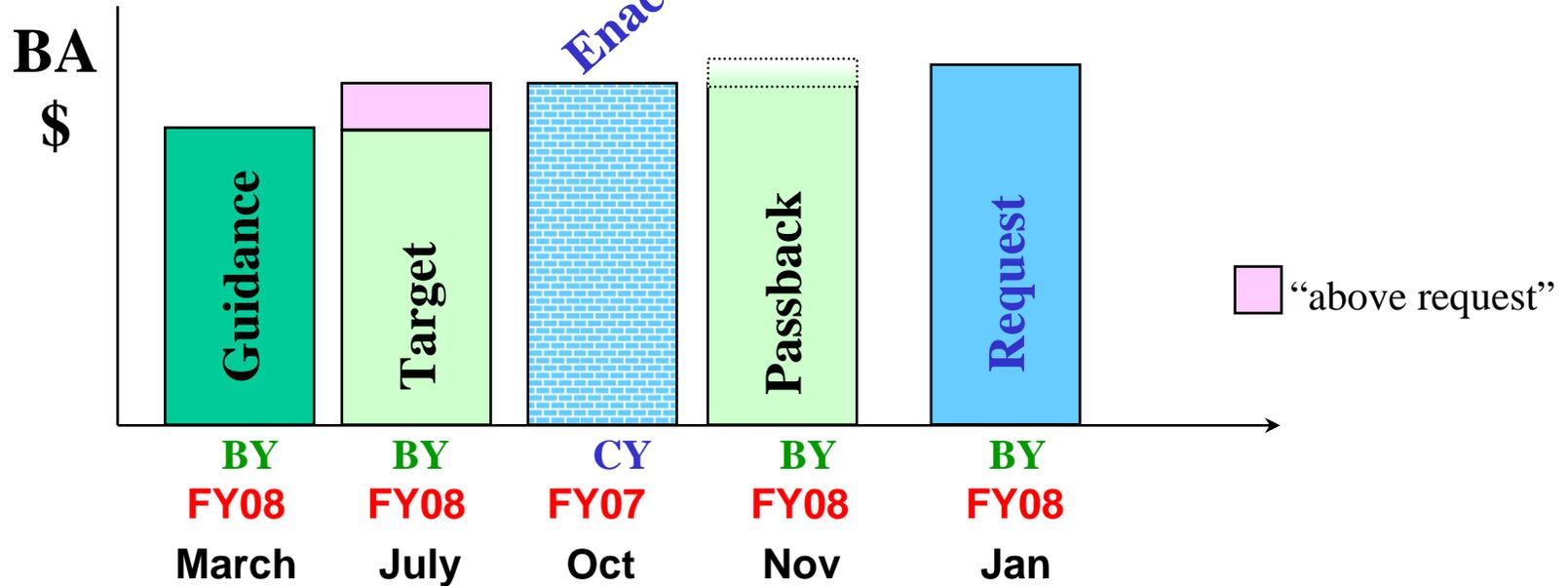
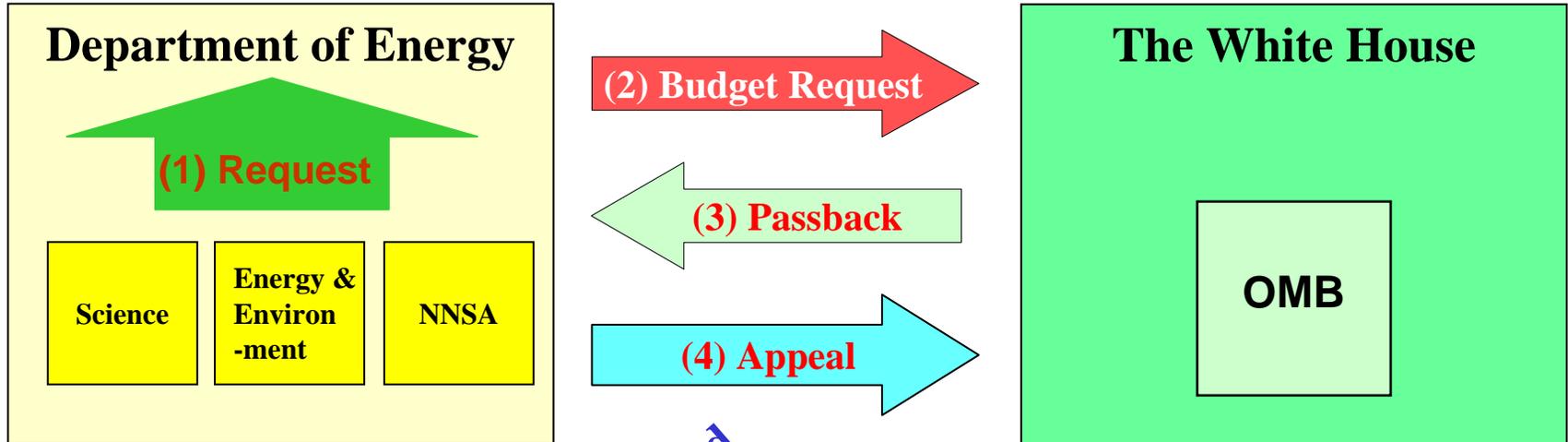
DOE Budget Process

Inside DOE (April – July): Briefings, Priorities, Decisions, Revisions



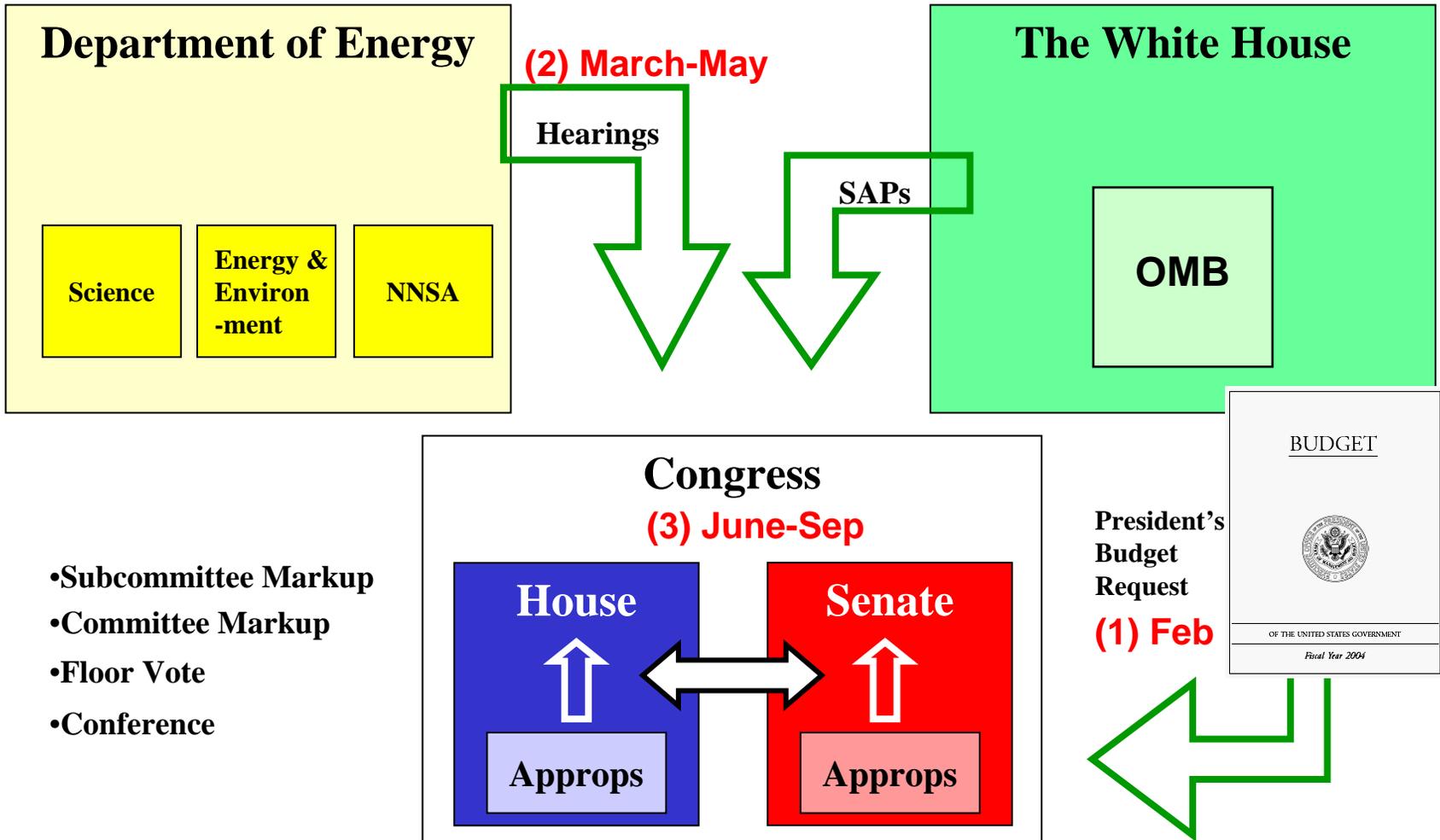
DOE Budget Process

OMB (Aug – Dec): more Briefings, Decisions & Revisions



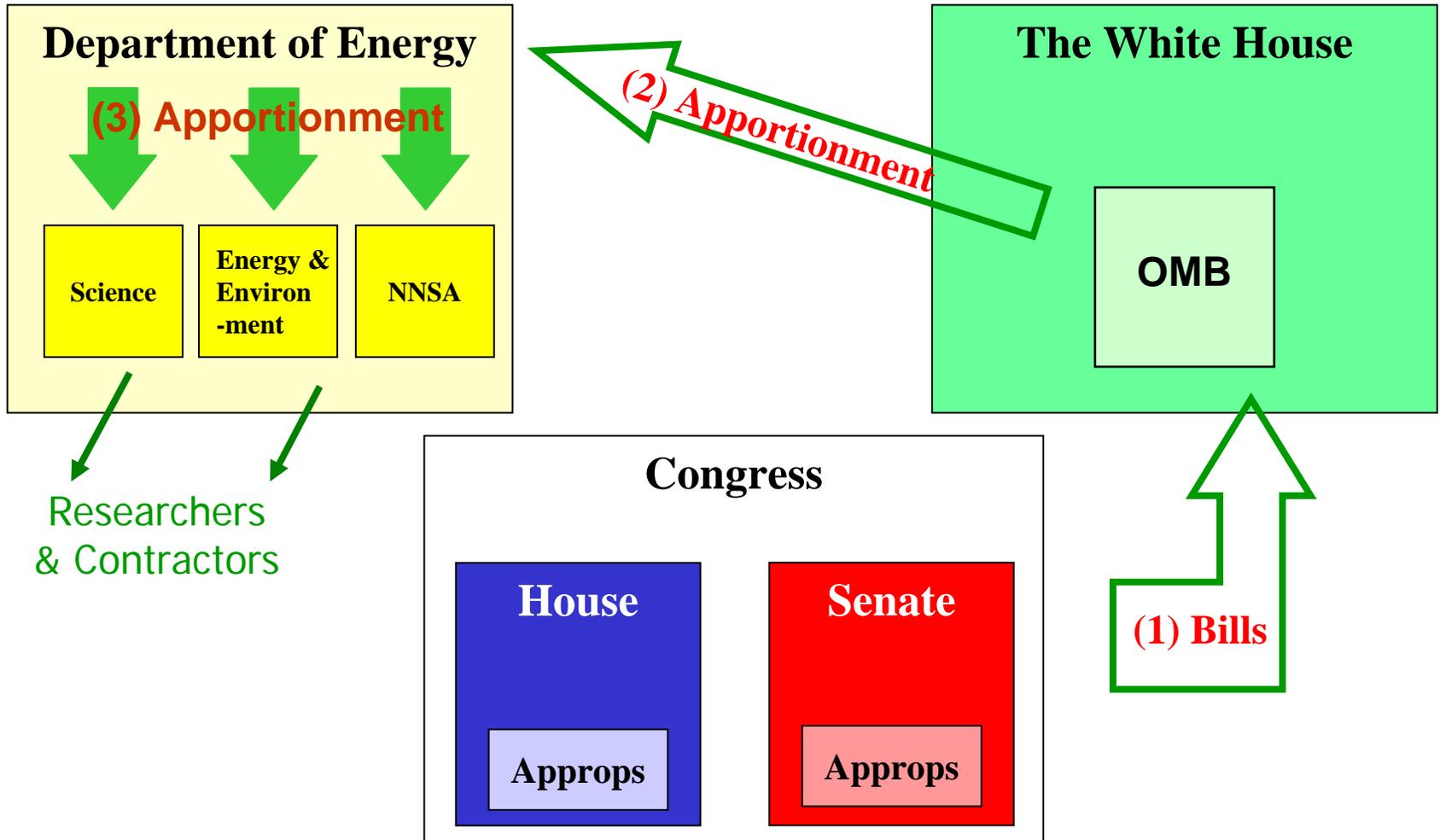
DOE Budget Process

Congress (Feb – Sep?): Roll-out, Hearings, Appropriations

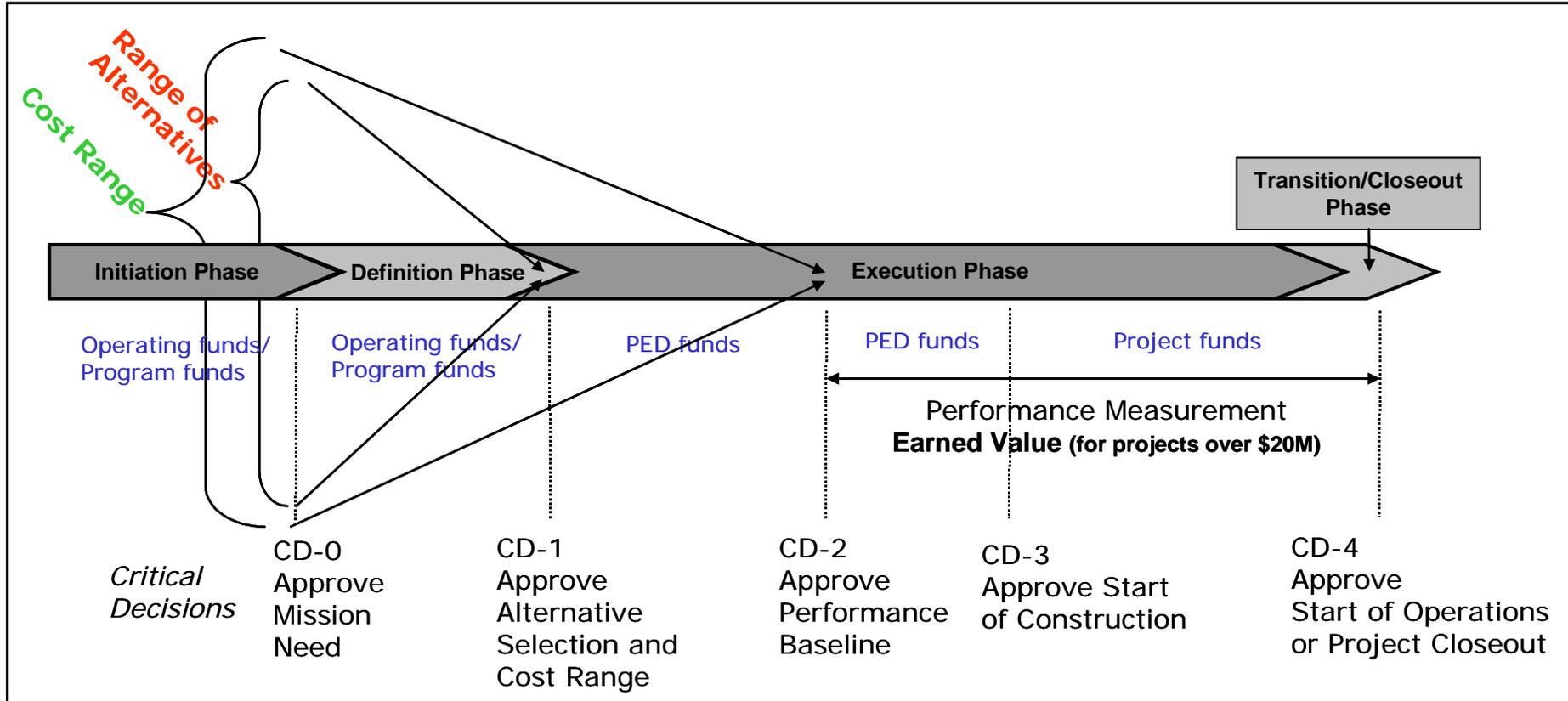


DOE Budget Process

Execution: September (?) - September



DOE Approval Process for new initiatives



CD-0	CD-1	CD-2	CD-3	CD-4
<ul style="list-style-type: none"> • Proceed with Conceptual Design • Request PED funding 	<ul style="list-style-type: none"> • Allow Expenditure of PED Funds for design 	<ul style="list-style-type: none"> • Establish Baseline Budget for the project • Continue design • Request construction funding 	<ul style="list-style-type: none"> • Approve expenditure of funds for construction 	<ul style="list-style-type: none"> • Allow start of operations or project closeout

DOE Project Approval Process

In parallel to budget process, new projects have to go through DOE Project Approval Process

- MIE (Major Item of Equipment)
 - CD-0 approval needed to be included in budget request
 - CD-3 (or CD-3a) approval needed to spend MIE fund
- Construction project
 - CD-0 approval needed to include PED fund (Project Engineering and Design – “design only” funds for preliminary and final design) in budget request
 - CD-1 approval needed to spend PED fund
 - CD-2 approval needed to include construction fund in budget request
 - CD-3 (or CD-3a) approval needed to spend construction fund
- “Approval” nominally needed by June of [FY-2] year (to be included in FY08 budget request, need to get approvals by June 2006)
- Construction project phase in the manual (theoretical)
 - 2 years from CD-0 to CD-2
 - 1.5 years from CD-2 to CD-3
- Averaged data from real projects (since 2001)
 - 1.5 years from CD-0 to CD-1
 - 1 year from CD-1 to CD-2
 - 1 year from CD-2 to CD-3

BACKUP

The Federal Advisory Committee Act

- ◆ Congress formally recognized the merits of seeking the advice and assistance of our Nation's citizens.
- ◆ Under FACA, advisory committees are created only when they are essential to the performance of a duty or responsibility conveyed upon the Executive Branch by law.
- ◆ Through the expertise of the advisory committee members, Federal officials and the Nation have access to information and advice on a broad range of issues affecting Federal policies and programs.
- ◆ FACA requires advisory committees to be fairly balanced in terms of the points of view represented and the functions to be performed. This includes sometimes strongly opposing views of members in order to provide a foundation for developing advice and recommendations to DOE that are fair and comprehensive.
- ◆ Federal Advisory Committees are the only mechanism by which federal officials may obtain consensus advice.

Membership on HEPAP

- ◆ As a panel member, you are entitled to contact Congress as long as:
 - ↖ the issue is related to you personally or your primary employment
 - ↖ you are asked by Congress to do so

- ◆ It is lawful to meet with Members of Congress on subjects as described above while referencing federal documents resulting from advisory committee activities.

- ◆ It is unlawful to organize, or be part of an organized group, to orchestrate a group assault on Congress, using taxpayer dollars. Meaning ... you can't arrange HEPAP or HEP meetings to coordinate and orchestrate a group assault for basic science and research.

- ◆ As a Federal Advisory Committee member, you do not surrender your right under the First Amendment* to petition the Government for a redress of grievances.

** Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.*

Membership on HEPAP

- ◆ **Members are required to recuse themselves from participating in any meeting, study, recommendation, or other Committee activity that could have a direct and predictable effect on the companies, organizations, or agencies with which they are associated or in which they have a financial interest.**
- ◆ **Members should also be aware that section 219(a), title 18, United States Code, makes it a criminal offense for a "public official" to be, or to act, as an agent of a foreign principal required to register under the Foreign Agents Registration Act of 1938. For this purpose the term "public official" has been interpreted to include members of Federal advisory committees.**

The DOE/SC Budget Cycle

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Issuance of Unicall <ul style="list-style-type: none"> CFO issues "Unicall" to the field in December, shortly before the release of President's Budget Request to Congress Call includes guidance from DOE programs and requirements for upcoming budget year submission SC requires that budget proposals from DOE laboratories be submitted in "Field Task Proposal"(FTP) format 			☹☹☹☹									
FTPs Received <ul style="list-style-type: none"> FTPs reviewed by programs Construction Project Data Sheets are also received and reviewed by programs 							☹☹☹☹					
Corporate Review Budget (CRB) Preparation <ul style="list-style-type: none"> SC programs prepare funding plans in April based on guidance from SC-1; program discussions in early May with SC-1 CRB prepared in May for submission to CFO in early June Presentations, negotiations, markups, appeals conducted to determine funding level to be submitted to OMB; final decisions for OMB budget are made in early to mid August 							☹☹☹☹	☹☹☹☹	☹☹☹☹		☹☹☹☹	
OMB Budget Preparation <ul style="list-style-type: none"> OMB budget prepared in August for submission in early September, usually at two levels -- Target and Over Target Presentations to OMB examiner made by programs in September/October OMB "passback" received by Department in late November (Thanksgiving eve) Appeals of OMB recommendations are prepared and returned to OMB Final OMB allowances are received in December for preparation of President's Request to Congress 											☹☹☹☹	☹☹☹☹
Congressional Budget Preparation <ul style="list-style-type: none"> President's Request to Congress prepared for delivery to Congress 			☹☹☹☹	☹☹☹☹	☹☹☹☹							
Budget Delivered to Congress <ul style="list-style-type: none"> Budget delivered to Congress and released to the press during the first week in February Many additional activities associated with release of the budget -- press material; issue papers; fact sheets; Qs&As 					☹☹☹☹							
Congressional Hearings, Markups, Appeals <ul style="list-style-type: none"> SC-1 briefs committee staffs, House Science Committee (early March), House Appropriations Committee (mid March), Senate Appropriations Committee (mid to late March) Massive post-hearing Qs&As; Inserts for the Record for official transcripts Markups and appeals 						☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹		☹☹☹☹	☹☹☹☹
Congressional Appropriation <ul style="list-style-type: none"> Conference committee (joint resolution between House and Senate marks) meets to resolve differences Appropriation bill signed by President in September OR a continuing resolution must be enacted 											☹☹☹☹	☹☹☹☹
Preparation of Initial "Approved Funding Program" (AFP) <ul style="list-style-type: none"> Programs prepare initial financial plans, which are submitted to CFO for allotment to the field 											☹☹☹☹	☹☹☹☹
Preparation of Monthly AFP Changes <ul style="list-style-type: none"> Monthly AFP changes are made, as appropriate, on a schedule established by the CFO 	☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹	☹☹☹☹		☹☹☹☹	☹☹☹☹

Further Information on Federal R&D Budget Process and Analysis

- Budget Process

Albert Teich, "Coordination of United States Research Programs: Executive and Congressional Roles," *Science & Technology Studies*, 4 (2): 29 – 36 (1986).

- Shelley Lyne Tomkin, *Inside OMB*, ME Sharpe (1998).

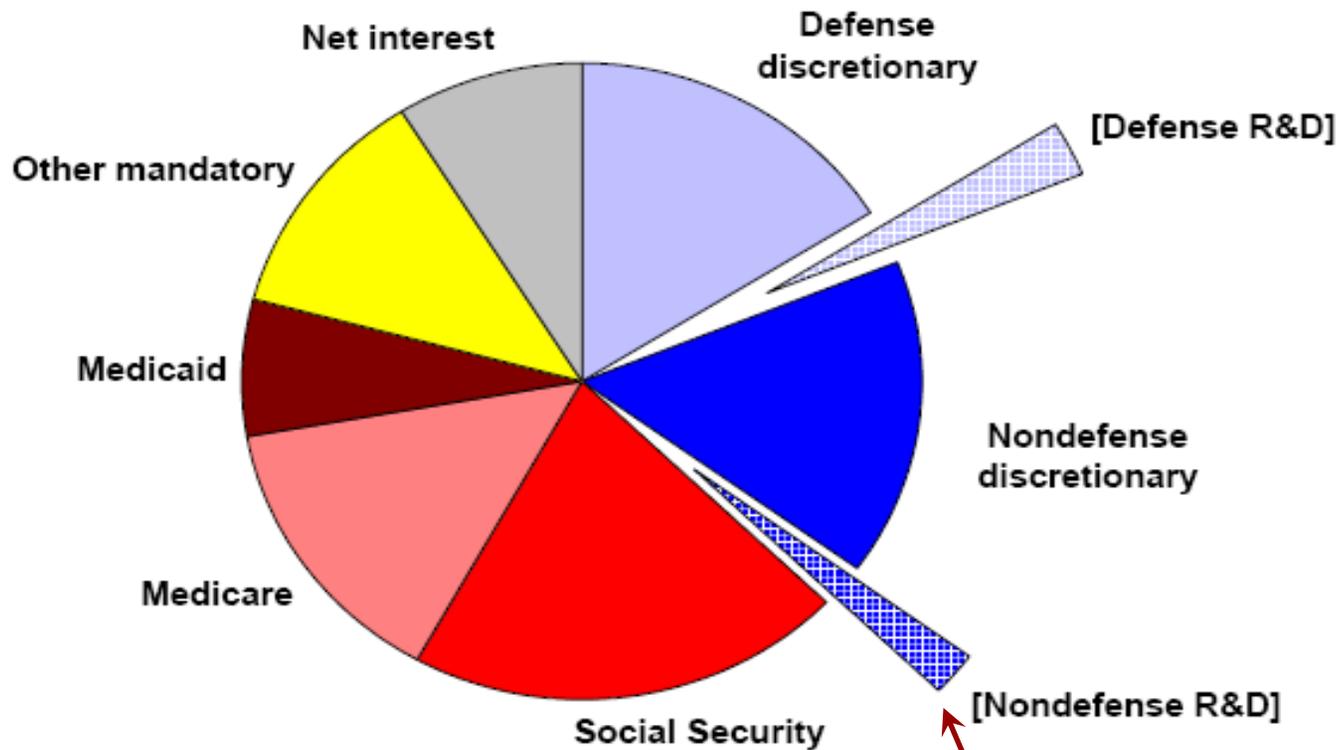
- AAAS Science & Policy Programs

www.aaas.org/spp/rd/

- NSF Science Resources Studies

www.nsf.gov/sbe/srs/fedfunds/

Composition of the Proposed FY 2007 Budget Total Outlays = \$2.8 trillion



Note: Projected Unified deficit is \$354 billion.
Figures exclude most Iraq and Afghanistan military costs.
Source: AAAS, based on *Budget of the United States Government FY 2007*.
FEB. '06 © 2006 AAAS

16-Year History of EWD Appropriations Bills

Energy and Water Development Appropriations

Budget	Bill	<u>Congressional Actions</u>			<u>Executive Actions</u>		<u>Days Beyond September 30th</u>		
		<u>Conf. Rpt.</u>	<u>Filed</u>	<u>Passed</u>	<u>Signed by the President</u>		<u>Filed</u>	<u>Passed</u>	<u>Signed</u>
FY 2005	H.R.4818	H108-792	20-Nov-04	20-Nov-04	08-Dec-04	P.L. 108-447	51	51	69
FY 2004	H.R.2754	H108-357	07-Nov-03	18-Nov-03	01-Dec-03	P.L. 108-137	38	49	62
FY 2003	H.J.RES.2	H108-10	12-Feb-03	13-Feb-03	20-Feb-03	P.L. 108-7	135	136	143
FY 2002	H.R.2311	H107-258	30-Oct-01	01-Nov-01	12-Nov-01	P.L. 107-66	30	32	43
FY 2001	H.R.4635	H106-988	18-Oct-00	19-Oct-00	27-Oct-00	P.L. 106-377	18	19	27
FY 2000	H.R.2605	H106-336	27-Sep-99	28-Sep-99	29-Sep-99	P.L. 106-60	-3	-2	-1
FY 1999	H.R.4060	H105-749	25-Sep-98	28-Sep-98	07-Oct-98	P.L. 105-245	-5	-2	7
FY 1998	H.R.2203	H105-271	26-Sep-97	30-Sep-97	13-Oct-97	P.L. 105-62	-4	0	13
FY 1997	H.R.3816	H104-782	12-Sep-96	17-Sep-96	30-Sep-96	P.L. 104-206	-18	-13	0
FY 1996	H.R.1905	H104-293	26-Oct-95	31-Oct-95	13-Nov-95	P.L. 104-46	26	31	44
FY 1995	H.R.4506	H103-672	04-Aug-94	11-Aug-94	26-Aug-94	P.L. 103-316	-57	-50	-36
FY 1994	H.R.2445	H103-305	22-Oct-93	27-Oct-93	28-Oct-93	P.L. 103-126	22	27	28
FY 1993	H.R.5373	H102-866	15-Sep-92	24-Sep-92	02-Oct-92	P.L. 102-377	-15	-6	2
FY 1992	H.R.2427	H102-177	30-Jul-91	02-Aug-91	17-Aug-91	P.L. 102-104	-62	-59	-44
FY 1991	H.R.5019	H101-889	16-Oct-90	20-Oct-90	05-Nov-90	P.L. 101-514	16	20	36
FY 1990	H.R.2696	H101-235	07-Sep-89	14-Sep-89	29-Sep-89	P.L. 101-101	-23	-16	-1