DOE Quadrennial Technology Review

Capstone Workshop

Steven Koonin, Under Secretary for Science

Washington, DC

13 July 2011

U.S. DEPARTMENT OF ENERGY

FACA Guidelines

- Participants attending this Workshop are **not members of a Federal Advisory Committee**, nor do we intend to use this group as a Federal Advisory Committee.
- We are **not seeking a group decision or consensus** view with respect to the issues before you, or as to any action the Federal government should take.
- **We welcome your individual recommendations** and advice, and are looking forward to a productive workshop.

Administration Goals

Transport

- Reduce oil imports by 1/3 by 2025
- Put 1 million electric vehicles on the road by 2015

Stationary

- By 2035, generate 80% of electricity from a diverse set of clean energy sources
- Make non-residential buildings 20% more energy efficient by 2020

Environmental

- Cut greenhouse gas emissions in the range of 17% below 2005 levels by 2020, and 83% by 2050

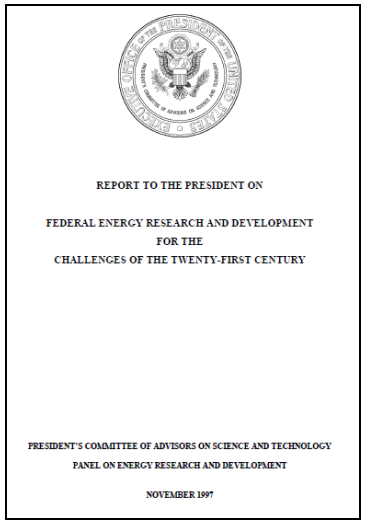
DOE-QTR Goals

- To **define and promulgate a simple framework** in which non-experts can understand and discuss the energy system and the challenges it presents

- To **explain** to ourselves (the DOE) and our stakeholders, **the roles** that the Department, the broader government, the private sector, the national laboratories, and academia play in energy innovation and transformation

- To establish a robust **conceptual framework** for DOE's energy technology programs and a **rough sense of priorities** among them
  - Techno-economic analyses with explicit principles and logic should underpin clear programmatic choices
  - The QTR is <u>not</u> the budget process, but should inform it with a five-year horizon

Two PCAST reports begat the QTR


REPORT TO THE PRESIDENT ON

FEDERAL ENERGY RESEARCH AND DEVELOPMENT
FOR THE
CHALLENGES OF THE TWENTY-FIRST CENTURY

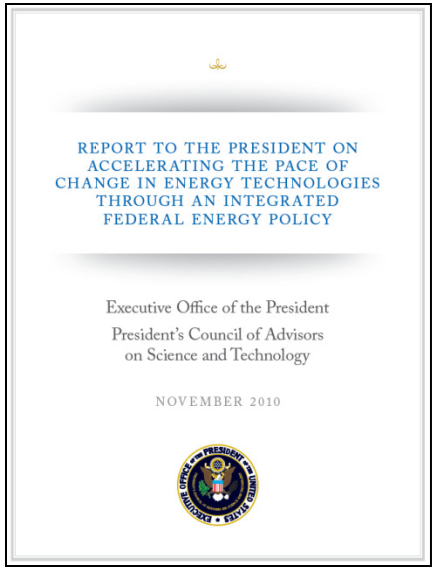
PRESIDENT'S COMMITTEE OF ADVISORS ON SCIENCE AND TECHNOLOGY
PANEL ON ENERGY RESEARCH AND DEVELOPMENT

NOVEMBER 1997

November, 1997: "Federal Energy R&D…"

(J. Holdren, Panel Chair; J. H. Gibbons, Dir OSTP and PCAST Co-Chair)

We recommend that the Department make a much more systematic effort in R&D portfolio analysis: portraying the diverse characteristics of different energy options in a way that facilitates comparisons and the development of appropriate portfolio balance, in light of the challenges facing energy R&D and in light of the nature of private sector and international efforts and the interaction of U.S. government R&D with them.


REPORT TO THE PRESIDENT ON
ACCELERATING THE PACE OF
CHANGE IN ENERGY TECHNOLOGIES
THROUGH AN INTEGRATED
FEDERAL ENERGY POLICY

Executive Office of the President
President's Council of Advisors
on Science and Technology

NOVEMBER 2010

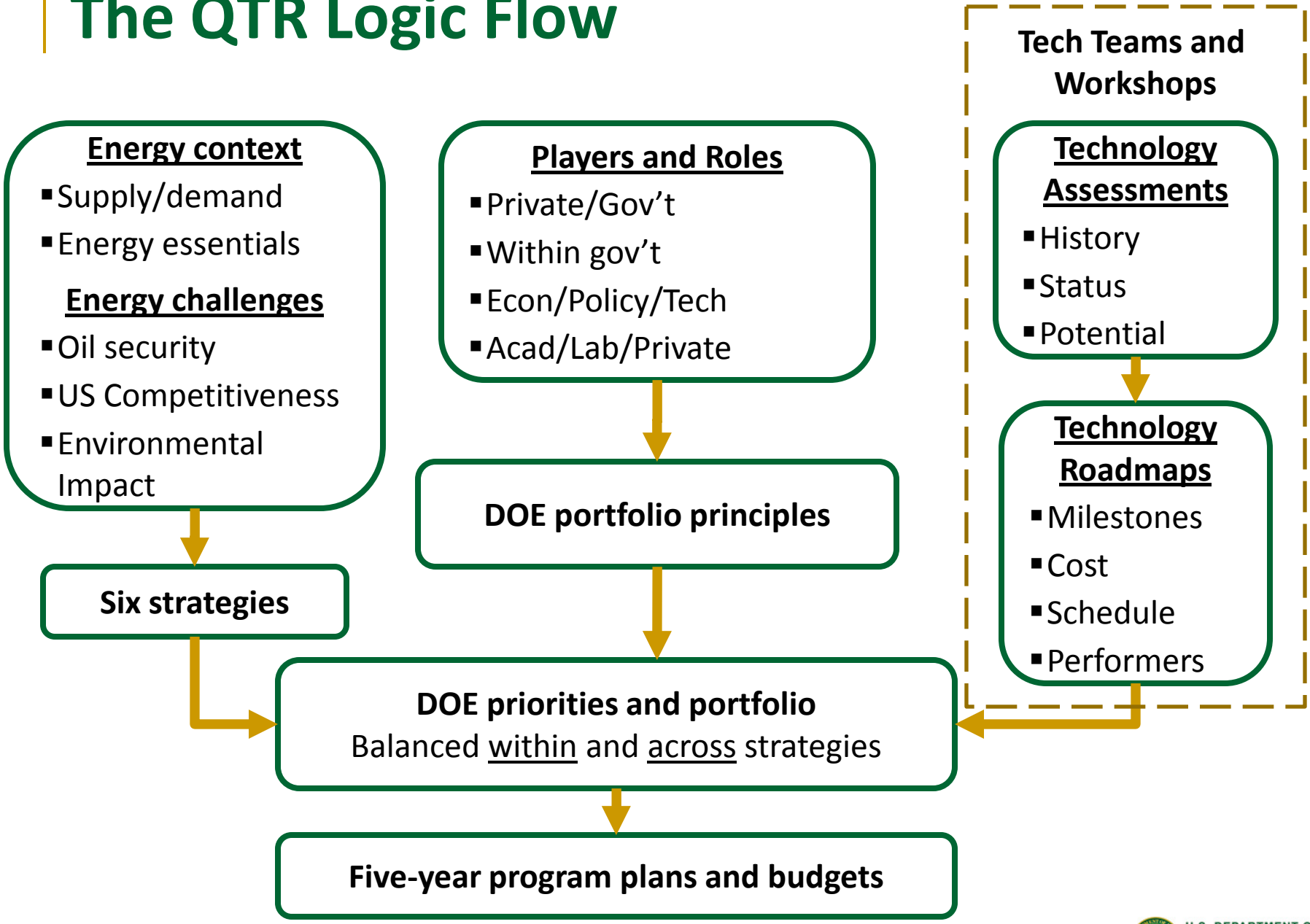
November, 2010: "Accelerating the Pace of Change in Energy Technologies …"

(E. Moniz & M. Savitz, Panel Co-Chairs; J. Holdren, Dir OSTP and PCAST Co-Chair)

… we recommend that the Administration initiate a process analogous to the Quadrennial Defense Review undertaken every four years by the Department of Defense. A Quadrennial Energy Review (QER) could establish government-wide goals, coordinate actions across agencies, and identify the resources needed for the invention, translation, adoption, and diffusion of energy technologies.

… we recommend that the Secretary of Energy should prepare and implement the DOE component of the full interagency QER focused on energy technology innovation, promptly.

The QTR Logic Flow



Six Strategies

	Supply		Demand
Stationary	Deploy Clean Electricity	Modernize the Grid	Increase Building and Industrial Efficiency
Transport	Deploy Alternative Hydrocarbon Fuels	Electrify the Fleet	Increase Vehicle Efficiency

Timeline

Nov 2010
PCAST recommended that DOE do QTR to prep for future govt-wide QER

3/14 – 4/15
Public comment period for DOE-QTR Framing Document

4/20
First batch of 60 public comments released on project website

Through mid-July
Hold workshops and discussions of each of the Six Strategies

Early Aug
Submit DOE-QTR to White House for approval

Release DOE-QTR

Transparency and Outreach

PCAST Recommendation: *"The [process] needs strong external input from many sources, including other levels of government, large and small businesses, academia, national laboratories, Congress, nongovernmental organizations, consumers, and other Federal agencies. …"*

We are committed to engaging our stakeholders consistent with the President's commitment to transparency, public participation, and collaboration. To meet these goals, the DOE will pursue a variety of mechanisms, including:

- A publicly accessible web site
- Release of ex parte communications
- Request For Information (RFI) and Framing Document (published mid-March)
- Public comment
- Focus groups & workshops through mid June

Notes and attendee list from this workshop will be published on the project webpage. Webcast is live.

Workshops

TRANSPORT

- Alternative Fuels
  - April 26, Chicago, IL
  - 46 participants
- Vehicles Efficiency and Electrification
  - May 4, Knoxville, TN
  - 72 participants

STATIONARY

- Stationary Efficiency
  - May 17, Pittsburgh, PA
  - 31 participants
- Grid
  - May 23, Scottsdale, AZ
  - 38 participants
- Clean Electricity
  - June 7, Denver, CO
  - 72 participants

Capstone
July 13 in Washington, DC

Agenda

8:00-8:30		**Registration & Continental Breakfast**
8:30-9:00	IBR East	**Welcome:** Steven Koonin, Under Secretary for Science, U.S. Department of Energy
		Opening Remarks: John Holdren, Director of the White House OSTP and Co-Chair of PCAST
9:00-10:25	IBR East	**Panel 1: Transport**
		Introduction: David Sandalow, Assistant Secretary for Policy & International Affairs, U.S. DOE
		Panelists: Stephen Brand (ConocoPhillips), Andrew Brown (Delphi), Bill Provine (DuPont), David Vieau (A123)
10:25-10:50		**Break**
10:50-12:15	IBR East	**Panel 2: Stationary**
		Introduction: Patricia Hoffman, Assistant Secretary for the Office of Electricity Delivery and Energy Reliability, U.S. DOE
		Panelists: Ron Binz (Colorado PUC, retired), Mark Brownstein (EDF), Richard Cowart (Regulatory Assistance Project), Mike McQuade (UTC)
12:15-12:45	IBR West	**Lunch**
12:45-2:30	IBR West	**Keynote:** Steven Chu, Secretary of Energy
		Panel 3: Role of DOE: Technology Policy
		Panelists: Bill Brinkman (DOE), Kathleen McGinty (Element, LLC), Daniel Schrag (Harvard), David Terry (ASERTTI), Sue Tierney (Analysis Group)
2:30-2:45		**Break**
2:45-4:15	IBR East	**Panel 4: Balancing the Portfolio**
		Introduction: Arun Majumdar, Senior Advisor to the Secretary/ARPA-E Director, U.S. DOE
		Panelists: Eileen Claussen (Pew Center), Dennis McGinn (ACORE), Ernie Moniz (MIT), Phil Sharp (Resources for the Future)
4:15-5:00	IBR East	**Closing:** Steven Koonin, Under Secretary for Science, U.S. DOE

For Today

- **We are discussing the QTR, <u>not</u> a QER**
  - DOE energy technologies and the policies relevant to their development and demonstration
  - <u>Not</u> about basic research, except as it supports the above
  - <u>Not</u> about energy policy (that would be the QER)
  - <u>Not</u> about other agencies' activities (except as they relate to DOE)
- **Mostly about the "middle stream" in the QTR logic flow**
  - Roles, policies, portfolio principles, balance
- **Expose some of the thinking and insights that have occurred**
- **Solicit your comments/critiques to inform the QTR report**

- **Hardcopy handout of "Framing Facts"**

Panel 1: Transport

Panelists:

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- **Andrew Brown** (Delphi)
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Introduction:

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Introduction:

Patricia Hoffman, Assistant Secretary for the Office of Electricity Delivery and Energy Reliability, U.S. DOE

Have questions for the panelists?

Submit via Twitter: #energyqtr

Email additional comments to:
DOE-QTRmailbox@hq.doe.gov
(mailbox will be open for one week)

Repair to lunch

IBR West

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Panel 3: Role of DOE – Technology Policy

Panelists:

- **Bill Brinkman** (Director, Office of Science, U.S. DOE)
- **Kathleen McGinty** (Element, LLC)
- **Daniel Schrag** (Harvard)
- **David Terry** (ASERTTI)
- **Sue Tierney** (Analysis Group)

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Panel 4: Balancing the Portfolio

Panelists:

- **Eileen Claussen** (Pew Center)
- **Dennis McGinn** (ACORE)
- **Ernie Moniz** (MIT)
- **Phil Sharp** (Resources for the Future)

Introduction:

Arun Majumdar, Senior Advisor to the Secretary/ARPA-E Director, U.S. DOE)

Further discussion, summary, next steps

Public Comments

DOE-QTRmailbox@hq.doe.gov