

# Office of Science and Technology Policy National Security and International Affairs

---



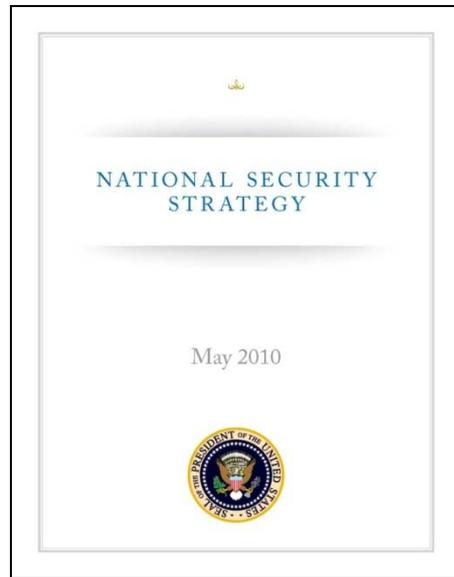
Mr. Philip E. Coyle, III  
Associate Director

National Security and International Affairs  
Office of Science and Technology Policy

Presentation to the President's Council of  
Advisors on Science and Technology

January 7, 2011

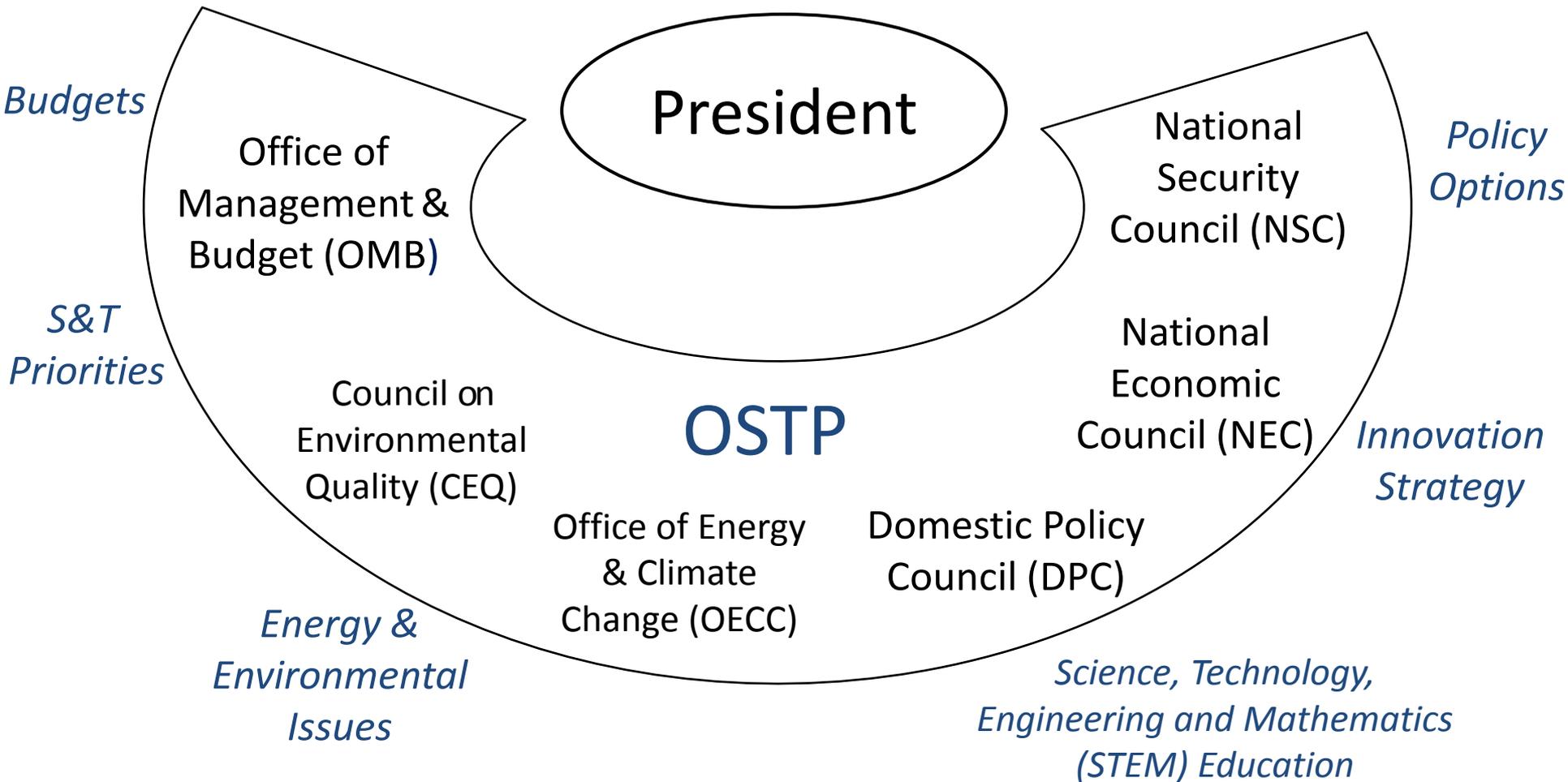
# National security S&T is a Presidential priority



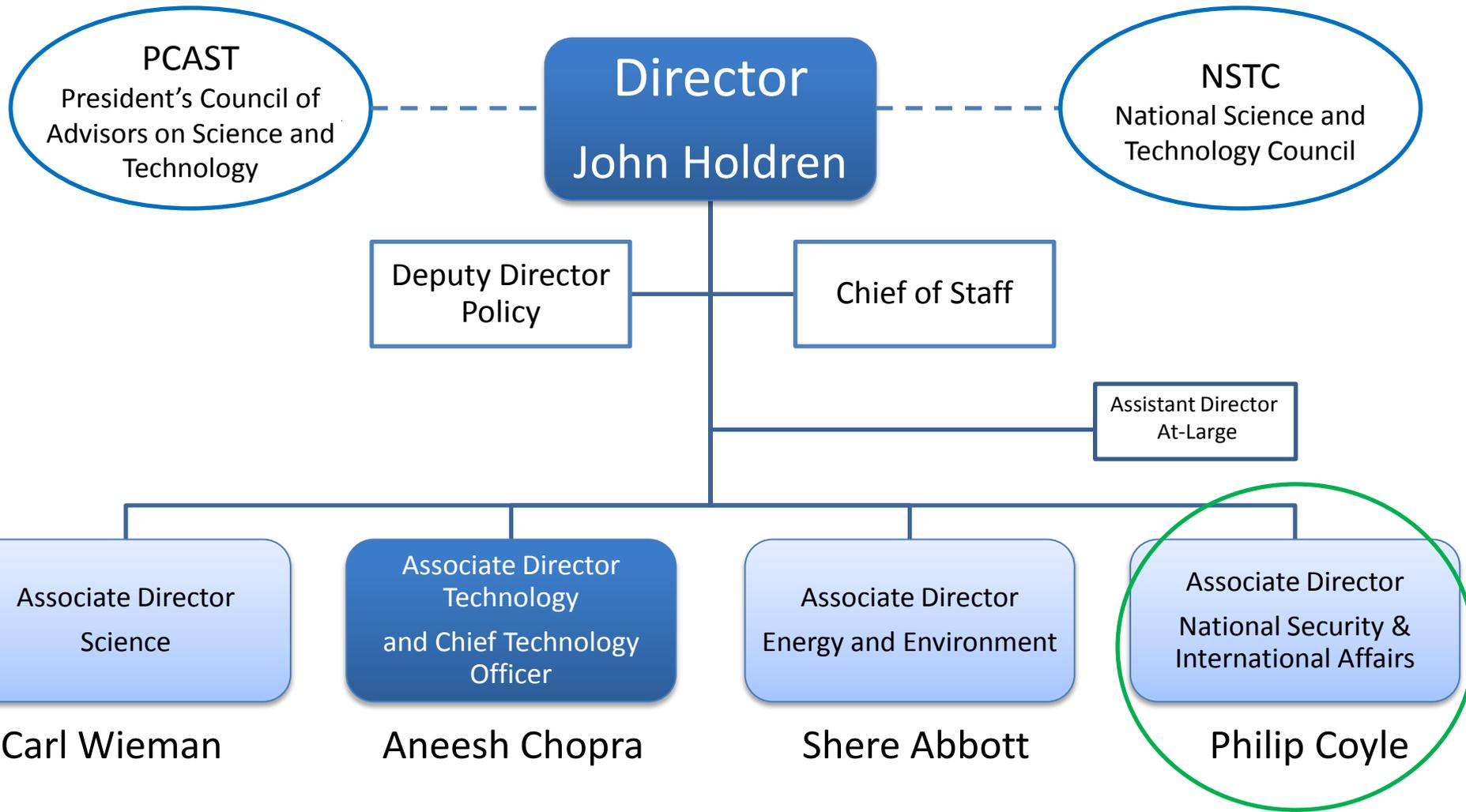
“Reaffirming America’s role as the global engine of scientific discovery and technological innovation has never been more critical ... Our renewed commitment to science and technology ... will help us protect our citizens and advance U.S. national security priorities.”

*National Security Strategy, May 2010*

# OSTP works within the Executive Office of the President (EOP)



# OSTP Organization



*Under President Obama, both Holdren and Chopra serve as Assistants to the President. More than 90 staff at OSTP, many on loan from agencies, labs, universities, and NGOs.*

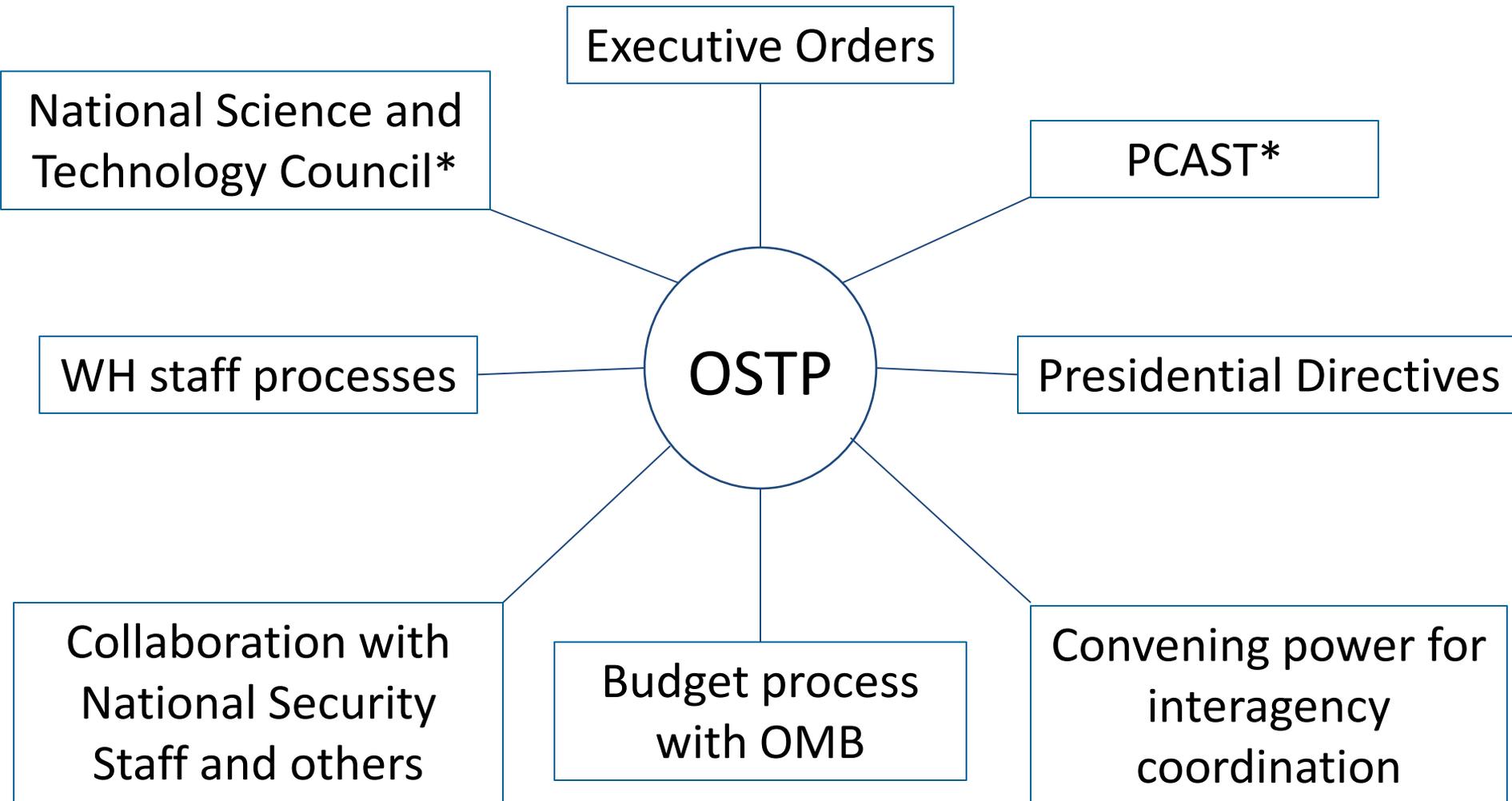
# The National Security and International Affairs Division (NSIA)

NSIA focuses on:

- S&T for homeland and national security
- National security dimensions of S&T generally
- Presidential initiatives (STEM, innovation)
- \*International affairs
  - High-level, formal S&T relationships
  - Presidential international initiatives – Cairo, envoys, etc.
  - Diplomacy and development

*\*International issues are throughout OSTP!*

# OSTP Mechanisms for Action



*\*NSIA works via the NSTC Committee on Homeland and National Security*

*\*President's Council of Advisors on Science and Technology*

# Today's Topics

- S&T for international partnerships
- Biological and chemical defense
- Energy security
- Cybersecurity
- Arms control and nonproliferation
- Improvised explosive devices

# S&T for International Partnerships

- Unprecedented opportunity to pursue science, technology, and innovation
- Unparalleled Presidential support for strengthening international partnerships
- The President's clear understanding that national security challenges are truly global in nature and require S&T solutions

A new NSTC Homeland and National Security Subcommittee on  
*Global Science Engagement*

Provide follow-through for bi-lateral meetings  
Coordinate and enhance interagency work  
Address special topics in diplomacy

# OSTP international engagement

June 2010

- OSTP senior leadership has held 66 meetings with foreign officials.
- OSTP staff has led or participated in delegations to 27 countries.
- Dr. Holdren has led semi-annual bilateral meetings on S&T cooperation with Japan, Korea, China, Brazil, and India and is expected to lead one with Russia in 2011.
- Dr. Holdren chairs the Working Group on Science and Technology of the US-Russia Bilateral Presidential Commission.
- Dr. Holdren leads the U.S. Government discussions with China on innovation policies.

# DoD Overseas Medical Research Units

Global  
surveillance

Global  
response



Global capacity  
building

Applied  
research

*\*Former lab in Indonesia temporarily relocated to Hawaii*

# Accomplishments of DoD Overseas Labs

- Scientists at the Naval Health Research Center (San Diego) detected the first U.S. cases of H1N1 influenza and identified the H1N1 virus in April 2009.
- Primary resource for global avian influenza surveillance throughout the world. Navy Medical Research Unit 3 (Egypt) confirmed 15 of the 44 global human avian influenza infections in FY08.
- Laboratory infrastructure improved at 52 sites in 29 countries.
- Responded to more than 20 outbreaks globally in both military and civilian populations.
- Discovered emerging and reemerging pathogens.
- Sponsored and/or conducted 46 training exercises with more than 2,900 representatives from 53 countries.

# Chemical and Biological Defense

Key topics: lab security, microbial forensics, standards for CBRNE\* equipment and decontamination, and public health event preparedness

## Recent Activities:

- Two Executive Orders: EO 13486, *Strengthening Laboratory Biosecurity in the United States* and EO 13546, *Optimizing the Security of Biological Select Agents and Toxins in the United States*
- NSTC Microbial Forensics Research and Development Strategy
- NSTC National Strategy for CBRNE Standards (*Draft*)
- Science Policy for Public Messaging following a Chemical or Biological Incident

## New Initiatives:

- Global health security: expanding role of overseas laboratories
- Enabling technologies for global biosurveillance

*\*Chemical, Biological, Radiological, Nuclear and Explosives*

# Energy Security

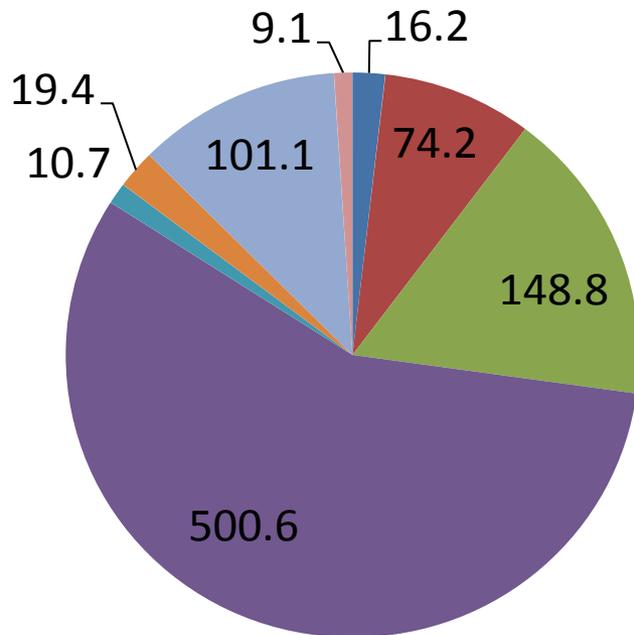
*“Unleash us from the tether of fuel.”*

Lt. Gen. James Mattis, USMC



# DOD Energy Consumption

DOD energy consumption represented 1.3% of total US delivered energy consumption in 2009



In Trillion BTU (FY2009 Data)

**\$3.6 B: facility energy**

**\$9.6 B: fuel for vehicles/equipment**

- Coal (other than electric generation)
- Natural Gas (other than electric generation)
- Fuel Oil
- Jet Fuel
- Liquefied petroleum gases and alternative fuels for vehicles
- Motor Gasoline
- Electricity
- Renewable Energy, Biofuels Heat, and Other

SOURCE: EIA Annual Energy Review 2009

# Addressing DoD Energy Issues

- Engaging with DoD officials, e.g.
  - Director of Operational Energy Plans And Programs
  - Deputy Under Secretary of Defense for Installations and Environment
- Building markets for green technologies
  - Adoption of commercial energy technologies (photovoltaics, hybrids)
  - Early adoption of new energy sources (biofuels, fuel cells)
  - Investment in energy efficiency technologies (engines)
  - Net Zero (Plus) Installations
  - Microgrids – smart, interoperable, reliable
- Fulfilling energy savings mandates in statute and Executive Orders

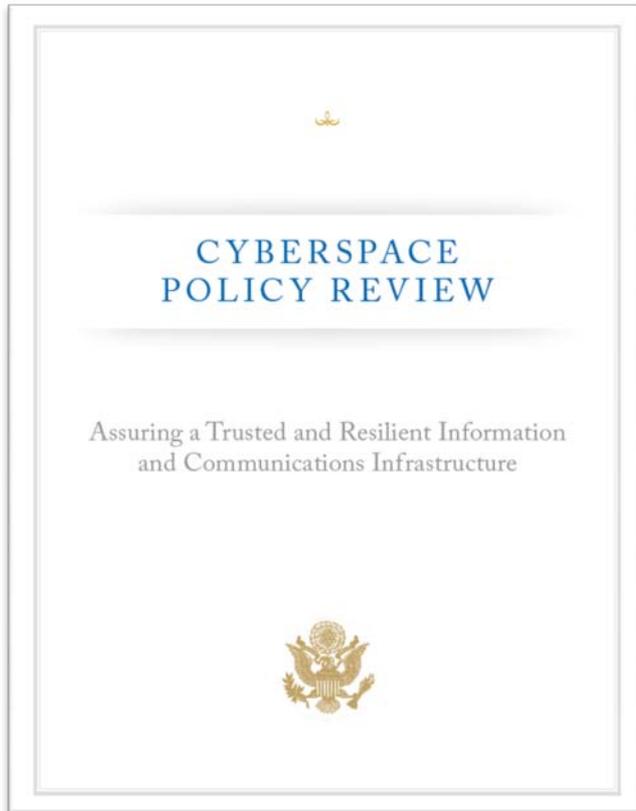
# DoD as a catalyst for energy innovation

- Organize clean energy activities across DoD for operations and installations.
- Ensure DoD plans are informed by DOE activities
- Leverage private-sector and regional innovation.
- Enable widespread use of energy data and analysis tools to support DoD operations, acquisitions, and R&D decisions.
- Incorporate the energy efficiency perspective (opportunities and benefits) into DoD acquisition processes and oversight.

# Cybersecurity

“America's economic prosperity in the 21st century will depend on cybersecurity.”

President Obama, May 2009



- Build capacity for a digital nation
- Share responsibility for cybersecurity
- Create effective information sharing and incident response
- Encourage innovation

# Cybersecurity R&D

“Develop a framework for research and development strategies that focus on game-changing technologies .” - President’s Cyberspace Policy Review

## S&T Priorities for the FY2012 Budget



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

July 21, 2010

THE DIRECTOR

M-10-30

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Peter R. Orszag   
Director, Office of Management and Budget

John P. Holdren   
Director, Office of Science Technology Policy

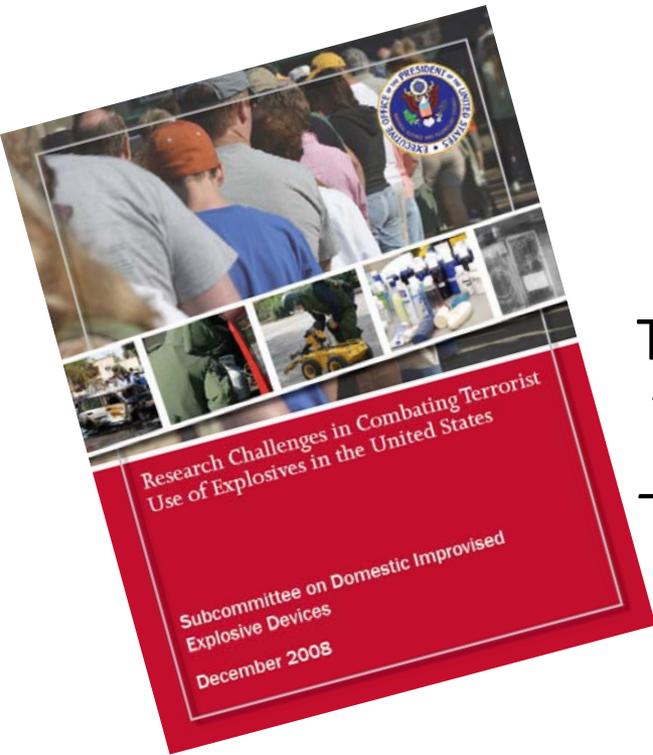
“Agencies should respond to the call in the President’s Cyberspace Policy Review for R&D in game-changing technologies, including:

- moving target defense
- tailored trustworthy spaces
- cyber incentives

# Arms Control and Nonproliferation

- New START Treaty – signed on April 8 and ratified by the Senate on December 22
- April 2010 - Nuclear Posture Review (NPR)
  - New initiative for a “comprehensive national R&D program” related to weapons, verification, and transparency
- April 2010 – Nuclear Security Summit
- May 2010 – NonProliferation Treaty Review Conference and related activities

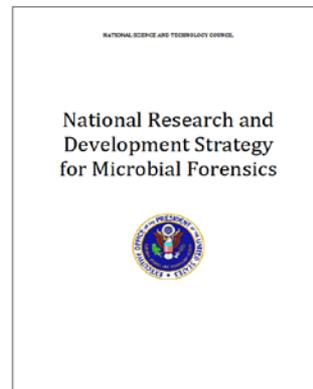
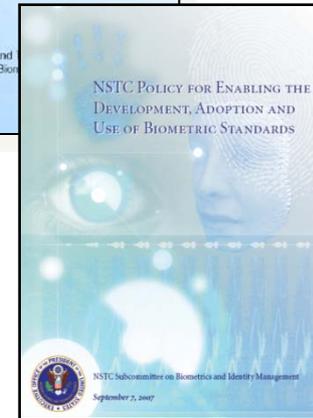
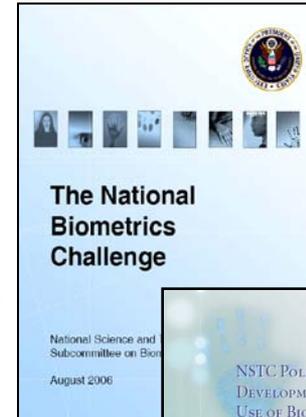
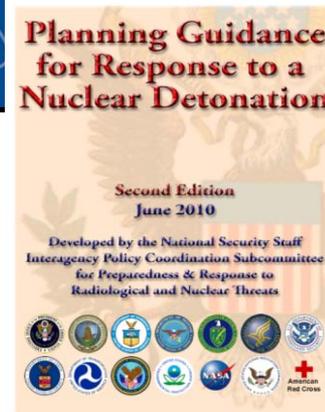
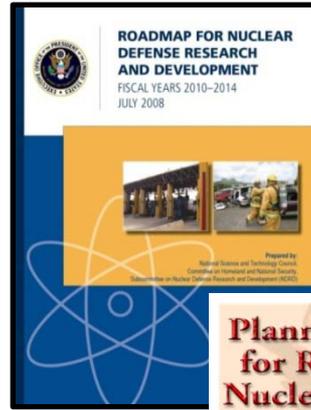
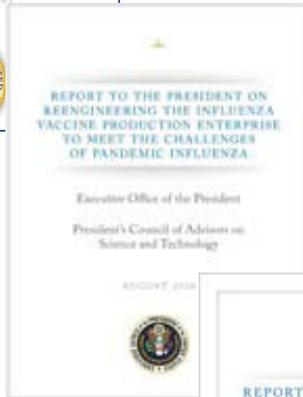
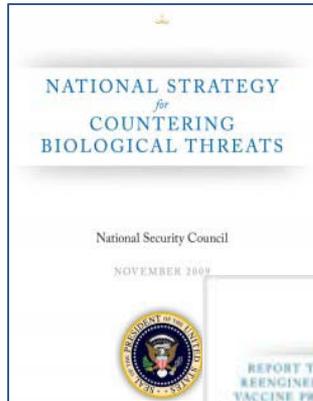
# Improvised Explosive Devices



The report - *Research Challenges in Combating Terrorist Use of Explosives in the United States* - is one example of ongoing efforts by an NSTC subcommittee to identify unmet operational needs and prioritize associated RDT&E gaps.



# Strategy and implementation planning across many national security domains



# Summing up

- NSIA has a wide-ranging and dynamic portfolio
- Coordinating and integrating relevant departments, agencies, and R&D institutions
- Outstanding people with diverse backgrounds and talents
- Science and technology in support of Presidential action in the NSIA arena

