



# The Office of Science and Technology Policy

## Biomass Research and Development Technical Advisory Committee

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# About OSTP



# History

- Established by Congress in 1976 to:
  - Advise the President and others within the Executive Office on scientific and technological considerations involved in domestic and international affairs.
  - Lead interagency efforts to develop and implement sound science and technology policies and budgets.
  - Work with the private sector; state, tribal, and local governments; the science and higher education communities; and other nations toward these ends.



**“We will restore science to  
its rightful place...”**

**-Barack Obama  
Inaugural Address, Jan. 20, 2009**





# 2016 White House Science Fair



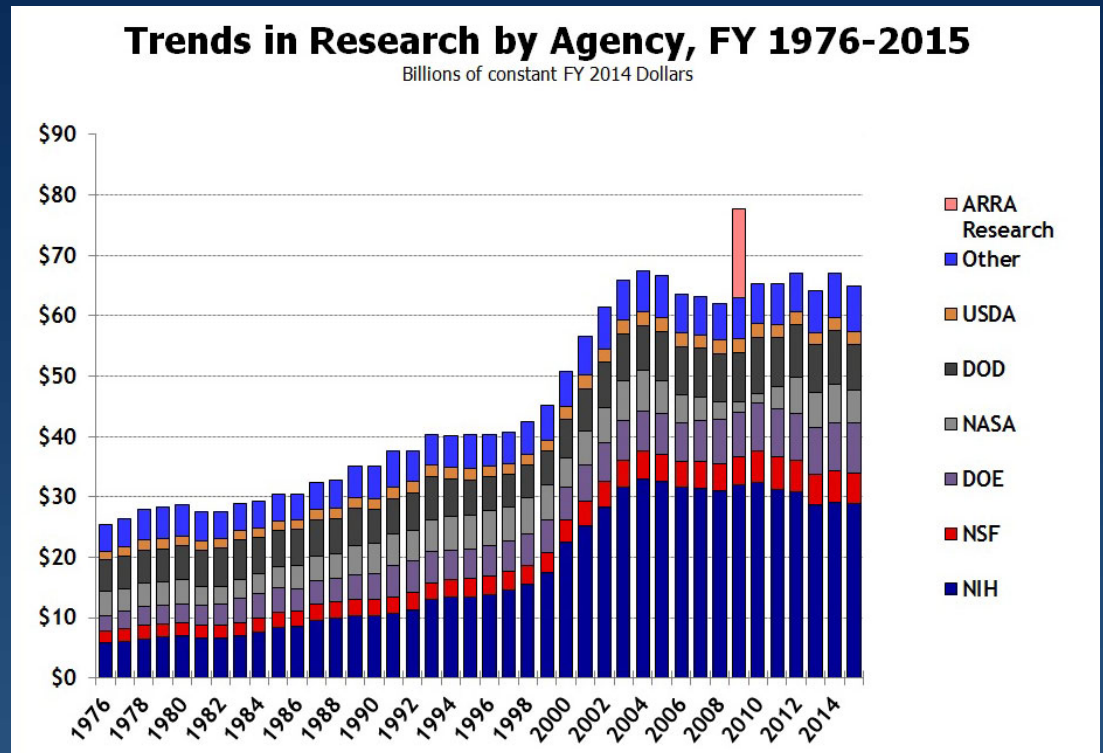
# Responsibilities

## 1) S&T for Policy

- Ensure that the policies of the Executive Branch are informed by sound science and technology.

## 2) Policy for S&T

- Provide policy analysis and recommendations on interagency S&T initiatives, Federal R&D budgets, etc.



Credit: American Association for the Advancement of Science

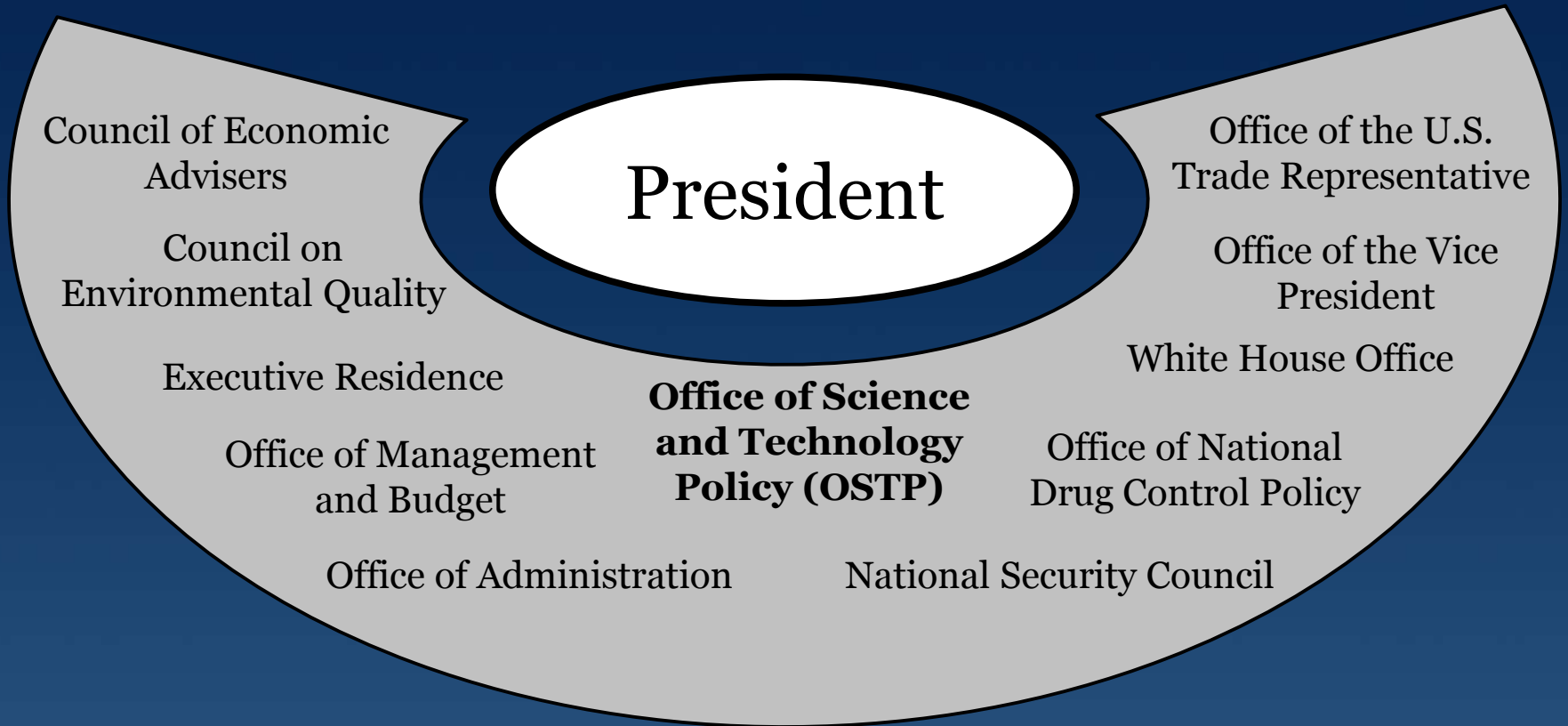


# OSTP Strategic Goals

- Optimize Federal S&T investments.
- Energize, support, and coordinate Federal S&T programs.
- Build and sustain core professional networks with representatives from multiple sectors.
- Generate an expert workforce capable of shaping and implementing Federal S&T priorities.

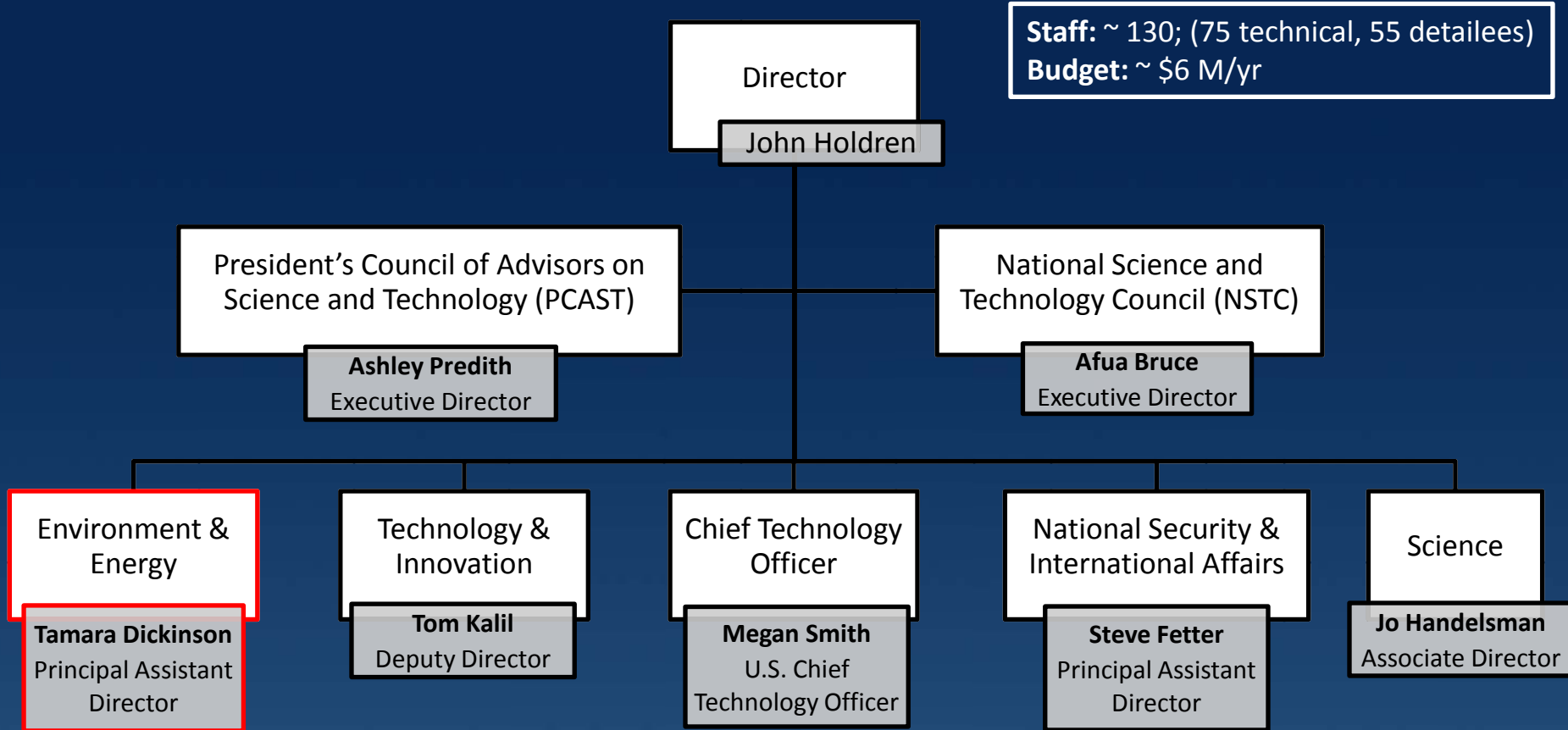


# Organization and Structure





# Organization and Structure (cont.)



# Energy & Environment (E&E) at OSTP



# Environment & Energy (E&E) Division

*That bright blue ball rising over the moon's surface, containing everything we hold dear – the laughter of children, a quiet sunrise, all the hopes and dreams of posterity – that's what's at stake. That's what we're fighting for. And if we remember that, I'm absolutely sure we'll succeed.*

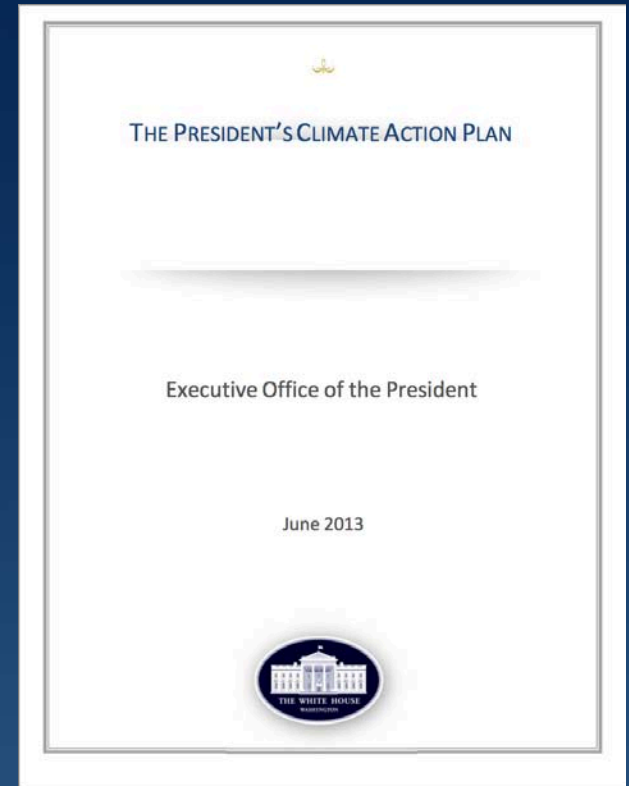
- Barack Obama, June 25, 2013

- Priorities:
  - Tackle the issue of **climate change**
  - Build the foundation for a **clean energy economy**
  - Protect **our environment**



# The President's Climate Action Plan (CAP)

- Released in June 2013
- Outlines executive actions to address climate change while sparking American innovation and economic growth
- Three key pillars:
  1. Cutting carbon pollution in America
  2. Preparing the United States for the impacts of climate change
  3. Leading international efforts to address climate change



# CAP: Cutting carbon/GHG pollution

- Focus areas:
  - Reducing carbon pollution from power plants
  - Reducing other greenhouse gases (GHGs)
  - Accelerating U.S. clean-energy leadership
  - Building a 21<sup>st</sup> century clean-energy infrastructure
  - Cutting energy waste
  - Enabling a low-carbon transportation system





# Clean Energy Investment Initiative

- Launched Feb. 2015 with the goal to catalyze \$2B of expanded private sector investment in solutions to climate change, including clean-energy technologies.
- June 2015: White House Clean Energy Investment Summit
  - Announced more than \$4B in investment: double initial goal!
- Sept. 2015: Administration launched Clean Energy Solutions for Remote Communities (CESRC), with a focus on rural Alaska.



# Mission Innovation

- November 2015 (at COP21): President Obama joined world leaders in announcing “Mission Innovation”
- 20 countries committed to doubling their respective clean energy R&D over five years.
- Launched in parallel with the Breakthrough Energy Coalition, an initiative spearheaded by Bill Gates to invest extraordinary amounts of private capital in clean energy



President Obama joins other world leaders in launching Mission Innovation at COP21 in Paris, November 2015



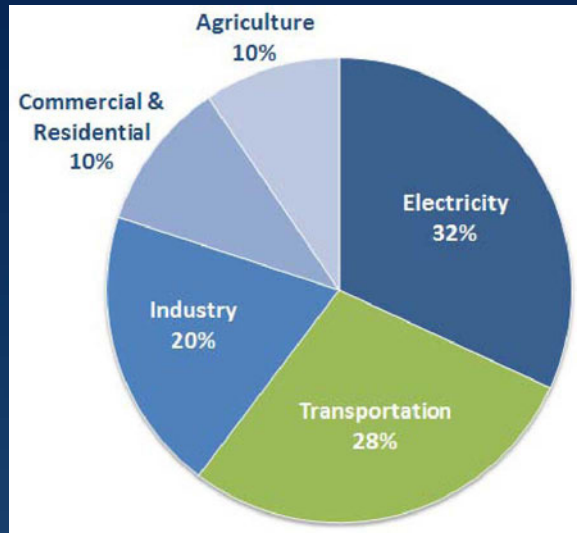
# Soil Health Initiative Activities

- Soil Science Interagency Working Group (SSIWG)
  - Develop a National Strategic Plan
  - Coordinate Federal soil research and conservation activities
  - Determine research gaps and policy implications
- Raise Public Awareness about Soil
  - Media Depictions of Soil (e.g., educate film and TV writers and producers about soil to encourage soil themes in popular media)
  - Soil in the Popular Press



# Transportation

- Enhance pathways for a very low-emission transportation sector



The transportation sector is the second-largest contributor of U.S. greenhouse gas emissions.

Source: *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012*.

- Support the deployment of electric vehicles
- Enable connected and automated vehicles
- Inform future low-carbon planning for transportation including biofuels



# Environmental regulation

- Key topics: industry emissions, toxic chemicals, hazardous waste, air and water quality, occupational health exposures, etc.
- OSTP's role:
  - Advance research on human and ecosystem health through NSTC groups
  - Provide technical input on regulations, Congressional testimony, and communication materials
  - Support development of novel solutions to intransigent challenges in environmental health





# Supplementary Slides



# Quadrennial Energy Review

- Part of the President's Climate Action Plan. Builds off of:
  - 2010 PCAST *Energy Technologies Report*
  - 2011 White House *Blueprint for a Secure Energy Future*
- Four-year cycle of assessments to provide a multi-year roadmap for U.S. energy policy
  - “Moving spotlight”: each installment will have a different focus
- Assessments will be prepared by the QER Task Force
  - Co-chaired by OSTP & DPC Directors; participation from 22 Federal agencies
- First report (released April 2015) focused on energy infrastructure: transmission, storage, and distribution.
- Second installment in progress on the electricity sector, from generation to end use.

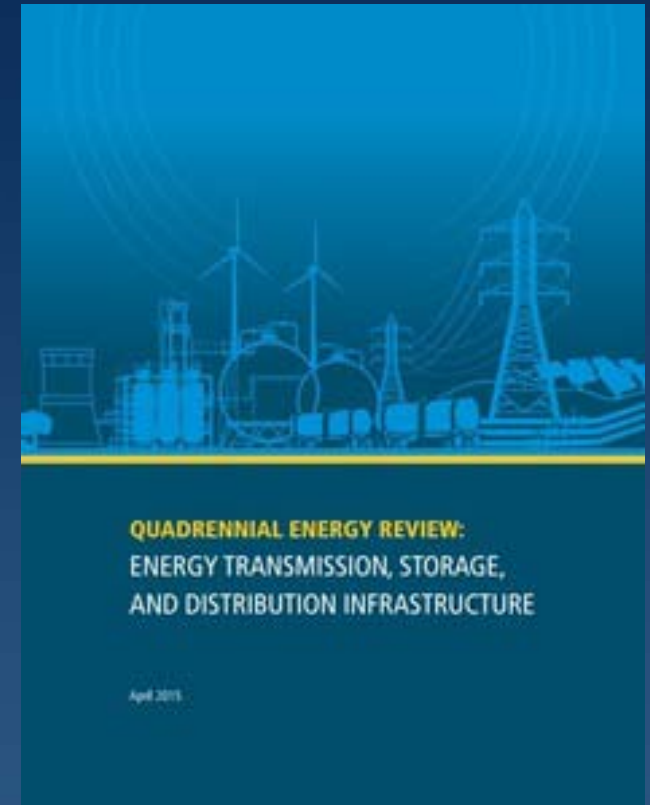


# Quadrennial Energy Review

## 1<sup>st</sup> Installment: Key Takeaways

**Issue:** Current energy infrastructure challenged by:

- Changes in energy supply, markets, and end-use patterns
- Problems of aging and capacity
- Effects of climate change
- Cyber and physical threats
- Infrastructure vulnerabilities may be exacerbated by increasing interdependencies of energy and other systems (e.g., water, telecommunications, transportation, emergency response)



# Why does soil health matter?

- Food security — in America and globally
- Cutting carbon pollution (greenhouse gas emissions, carbon sequestration)
- Water conservation
- Pollution
- Foundation buildings & roads
- Health of people (2/3 of antibiotics)



# CAP: Preparing for climate change

- Executive Order 13653: Preparing the United States for the Impacts of Climate Change (Nov. 2013)
  - Council on Climate Preparedness and Resilience
  - State, Local, and Tribal Leaders Task Force
- OSTP E&E leadership:
  - U.S. Global Change Research Program (USGCRP)
    - National Climate Assessment
  - Climate Data Initiative and Climate Resilience Toolkit
  - Climate Education and Literacy Initiative






# Water

- No one “water agency”
  - Responsibility for water issues is split among many agencies, states, municipalities, tribal governments, etc.
  - So Federal coordination is key!
- NSTC Subcommittee on Water Availability and Quality coordinates Federal S&T to support water sustainability
- OSTP currently standing up new NSTC Water-Energy-Food Nexus Task Force



# Water

- Raising public awareness of water issues
  - June 2013: President's Climate Action Plan called for the creation of a National Drought Resilience Partnerships
  - November 2015: White House Roundtable on Water Innovation
  - March 2016: White House Water Summit; Presidential Memorandum on *Building National Capabilities for Long-Term Drought Resilience*



Share Your Input: Activities and  
Actions to Build a Sustainable Water  
Future



# OSTP-Managed Entities

- President's Council of Advisors on Science and Technology (PCAST)
- National Science and Technology Council (NSTC)
- Emerging Technologies Interagency Policy Coordinating Committee (ETIPCC)
- National Oceans Council (NOC)
- International entities:
  - Joint Commissions on S&T Cooperation (Brazil, China, India, Japan, Korea, Russia)
  - S&T Working Group
  - U.S.-Russia Presidential Commission
  - U.S.-China Dialogue on Innovation Policy



# National Science and Technology Council (NSTC)

- Established by Executive Order in 1993 to develop clear national strategies and goals for Federal science and technology investments
- Organized under five primary committees (co-chaired by OSTP):
  - Science, Technology, Engineering, and Math (STEM) Education
  - Homeland and National Security
  - Science
  - Technology
  - Environment, National Resources, and Sustainability
- OSTP staff liaisons work closely with committee subgroups



# Committee on Environment, Natural Resources, and Sustainability (CENRS )

- Co-chaired by OSTP (Tammy Dickinson), NOAA, and EPA
- OSTP liaison to each subcommittee:
  - Global Change Research (SGCR)
  - U.S. Group on Earth Observations (USGEO)
  - Ocean Science and Technology (SOST)
  - Ecological Systems (SES)
  - Disaster Reduction (SDR)
  - Water Availability and Quality (SWAQ)
  - Critical & Strategic Mineral Supply Chains (CSMSC)
  - Air Quality Research (AQRS)
  - Toxics & Risk (T&R)

