



# Welcome, NNI Overview, and Charge to Participants

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2013 NNI Strategic Planning Stakeholder Workshop

Washington, DC

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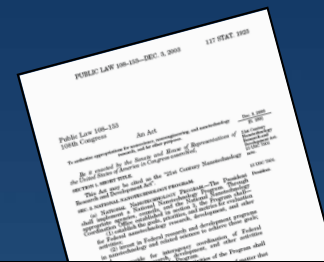
# The U.S. National Nanotechnology Initiative

## Vision:

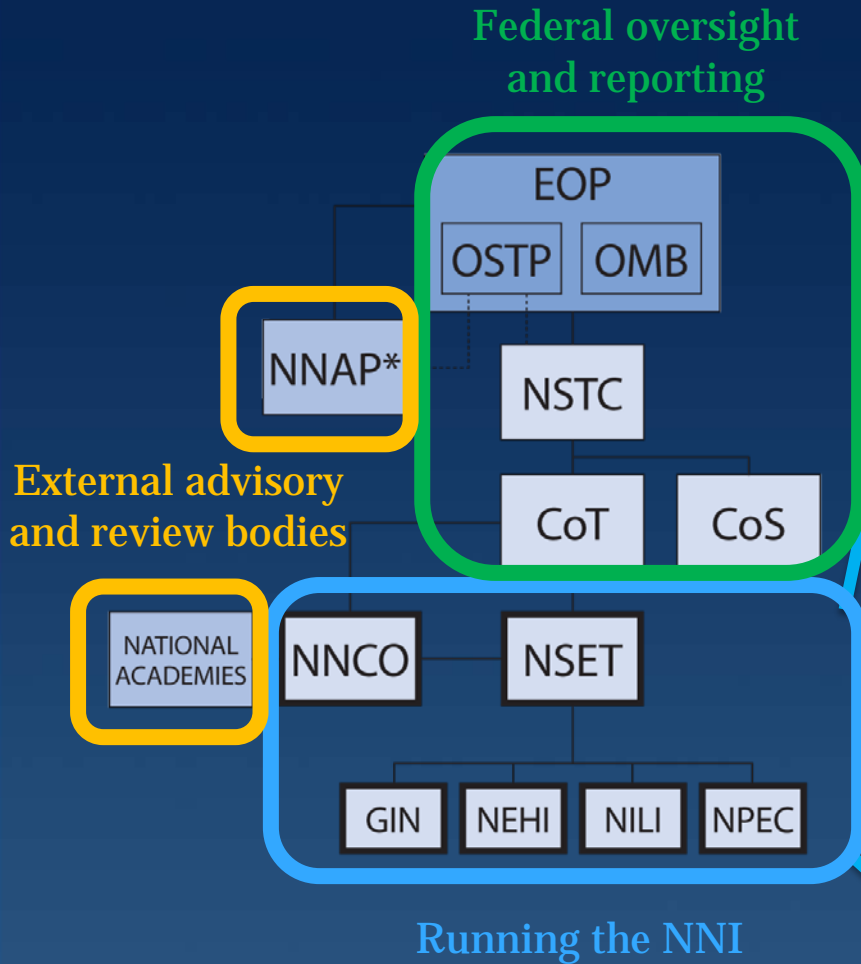
- A future in which the ability to understand and control matter at the nano-scale leads to a revolution in technology and industry that benefits society.

## Background:

- The NNI began in FY 2001 and its activities were codified and further defined in the 21st Century Nanotechnology Research and Development Act (December 2003)
- The NNI is a government *initiative*, representing a priority area for investment and activity, but not a distinct *funding program* with separate budget authority
- Total Federal investments now ~\$1.7 billion annually across 15 Federal department and agency units, with another 12 participating in the NNI



# NNI activities are coordinated via the National Science and Technology Council



- **NSET** = Nanoscale Science, Engineering, and Technology Subcommittee of NSTC
- **NNCO** = National Nanotechnology Coordination Office
- **GIN** = Global Issues in Nanotechnology Working Group (WG)
- **NEHI** = Nanotechnology Environmental and Health Implications WG
- **NILI** = Nanomanufacturing, Industry Liaison, and Innovation WG
- **NPEC** = Nanotechnology Public Engagement and Communications WG



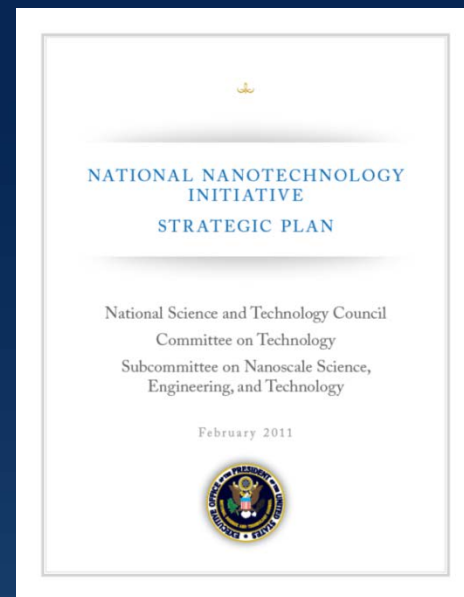
# The NNI's triennial Strategic Plan, and overarching Goals

- Most recent NNI Strategic Plan of February, 2011 updated the prior strategic plans of 2007 and 2004

- Sets forth the four ongoing NNI goals:

1. Advance a world-class nanotechnology research and development program
2. Foster the transfer of new technologies into products for commercial and public benefit
3. Develop and sustain educational resources, a skilled workforce, and the supporting infrastructure and tools to advance nanotechnology
4. Support responsible development of nanotechnology

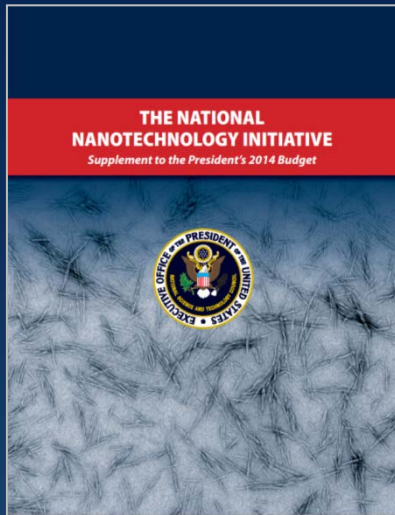
and provides information on specific objectives supporting them



- Describes Program Component Areas (PCAs), agency interests and priorities, coordination and assessment structures and mechanisms, collaborative agency activities and plans, and stakeholder input

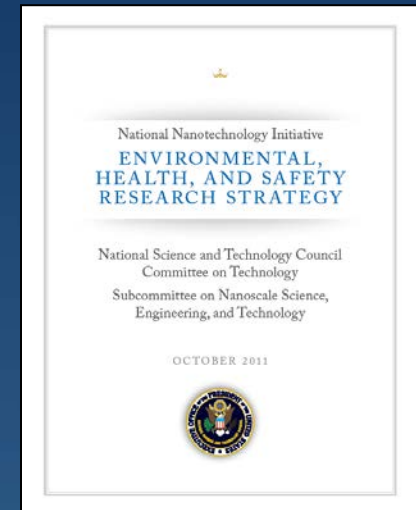


# Other core NNI documents: Annual Supplements to the President's Budget, and Environmental, Health, and Safety Research Strategy



- The annual budget supplements detail Federal nanotechnology investments and activities, and serve as the annual reports of the NNI
- Describe progress toward NNI goals and objectives, updates on Signature Initiatives, and related supporting information

- The 2011 NNI EHS Research Strategy serves as a comprehensive and more detailed follow-up to a prior initial strategy (2008) and identification of research needs (2006)
- Provides guidance to Federal agencies on research activities, priorities, and program planning



# The NNI's Nanotechnology Signature Initiatives

- Represent topical areas of national importance that may be more rapidly advanced through enhanced interagency coordination and focused investment.
- Are intended to be dynamic; topical areas will likely be added and evolve over time.
- Current portfolio of five NSIs:
  - Sustainable **Nanomanufacturing** (launched 2010)
  - **Nanoelectronics** for 2020 and Beyond (2010)
  - Nanotechnology for **Solar Energy** Collection and Conversion (2010)
  - Nanotechnology Knowledge Infrastructure (**nanoinformatics** +) (2012)
  - Nanotechnology for **Sensors** and Sensors for Nanotechnology (2012)



NSI white papers can be accessed at:  
<http://nano.gov/signatureinitiatives>



# The Nanotechnology Signature Initiatives:

- Address R&D gaps within areas of critical national need
- Identify research thrust areas
- Select key research targets associated with near-and long-term expected outcomes
- Leverage skills, resources, and capabilities among multiple NNI agencies to maximize scientific and technological progress
- Provide a forum for communication and ongoing assessment of direction and progress
- Build communities of practice and foster public-private partnerships to accelerate development and commercialization



# Updating the NNI Strategic Plan – and your role

- This workshop is focused on informing the triennial update of the NNI Strategic Plan, which is currently in progress.
- Writing groups within the NSET Subcommittee have been meeting to assemble thoughts on revisions to the Strategic Plan and to organize this workshop
- What are we looking for? Input on:
  - Changes since the last Strategic Plan
  - New opportunities and new challenges
  - Areas of emphasis and priority
  - NNI approaches and activities





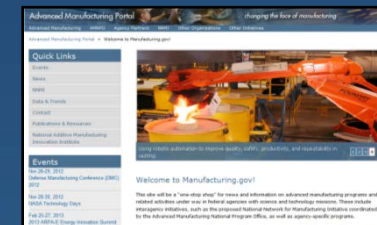
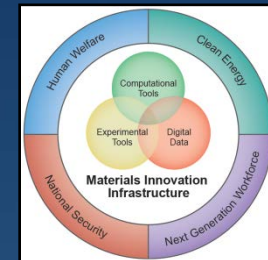
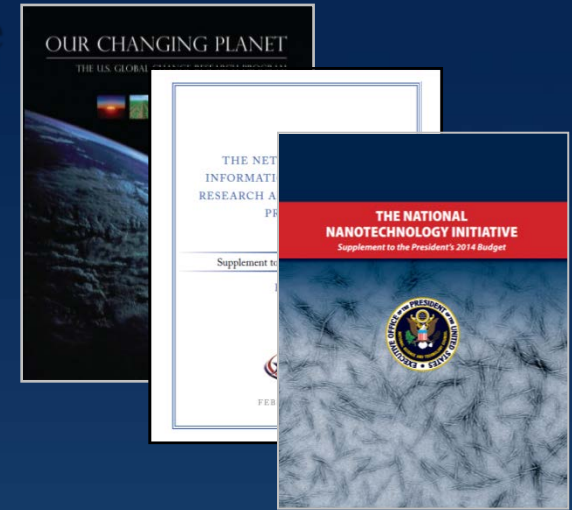
# How are we going to do this?

- The workshop agenda in a nutshell:
  - Plenary talks in a variety of key areas  
(Tues. a.m., one on Wed. a.m.)
  - Corresponding topical breakouts – with questions to guide initial discussions  
(Tues. p.m.)
  - Consideration of specific objectives, activities, and needs based on themes discussed earlier  
(Wed. a.m.)
  - Relationships to program component areas and Nanotechnology Signature Initiatives  
(throughout)



# The NNI remains a major administration priority

- Three major, ongoing interagency programs under the NSTC have standing National Coordination Offices
  - **Global Change Research Program (GCRP)**
    - since 1989, 13 agencies, ~\$2.5B
  - **Networking and Information Technology Research and Development (NITRD)**
    - since 1991, 16 agencies, ~\$3.8B
  - **National Nanotechnology Initiative (NNI)**
    - since 2001, 27 agencies, ~\$1.8B
- Other new initiatives also connect to activities under the NNI, including:
  - **Materials Genome Initiative (MGI)**
    - note particularly the Nanotechnology Knowledge Infrastructure NSI, which focuses on data, informatics, and modeling and so contributes to both MGI and NNI
  - **Advanced Manufacturing Partnership (AMP)**
    - note common interests with the Sustainable Nanomanufacturing NSI

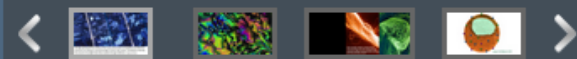


## Can Solar Energy Get Bigger by Thinking Small?

National Geographic looks into advances in solar energy and examines the various ways in which nanotechnology could provide a gigantic boost in solar energy efficiency and affordability. [Read more](#)



The light glinting off the surface of this solar photovoltaic cell signifies lost efficiency. Scientists are looking to nanotechnology to boost solar power, including by reducing the amount of sunlight that silicon wastes through reflection. (Image: Nat Geo)



[Slideshow Archive](#)

## Registration Now Open!

2013 NNI Strategic Planning Stakeholder Workshop

Preparations are underway for the 2013 NNI Strategic Planning Stakeholder Workshop. [Click here for details on the event and to register.](#)

## Nano Cancer Dialogue



The NCI is launching the Dialogue on Nanotechnology in Cancer. Join in-- read the dialogue and submit your

## Nanotechnology News

[SouthWest NanoTechnologies Introduces Three New Research Grades of Carbon Nanotubes](#)

5/1/2013 - Nanowerk - Online

[Don't cry over spilled oil - use nanosheets](#)

5/1/2013 - Nanowerk - Online

[Materials scientist creates world's toughest fiber by adding slip knot](#)

5/1/2013 - Phys.org

[Physicists observe new magnetic state of bismuth ferrite](#)

5/1/2013 - Phys.org

Visit the NNI Budget Dashboard



The NNI Dashboard shows annual spending for the agencies participating in the NNI. This cross-cut budget information can be sorted by agency and by Program Component Area to better identify funding trends.