

# **NNI Capstone:**

## ***Risk Management Methods & Ethical, Legal, and Societal Implications of Nanotechnology***

# Overview of the National Nanotechnology Initiative

**Clayton Teague**

Director

National Nanotechnology Coordination Office

Chair

ANSI Technical Advisory Group to

ISO Technical Committee on Nanotechnologies – TC229

# Welcome and Thanks

## ✓ Planning Team Members

### ✓ Risk Management Methods

- Robert Bronaugh, FDA
- Michael Hansen, Consumers Union
- Amy Jones, Lockheed Martin
- Igor Linkov, US Army Engineer R&D Center
- Franklin Mirer, Hunter School of Health Sciences
- Carlos Peña, FDA
- Sally Tinkle, NIH/NIEHS

### ✓ Ethical, Legal, and Societal Implications of Nanotechnology

- Mark Frankel, AAAS Scientific Freedom, Responsibility and Law Program
- Charles Geraci, NIOSH
- Martha Marrapese, Keller and Heckman
- Jeff Morris, EPA
- Dietram Scheufele, University of Wisconsin

## ✓ NEHI Agency Representatives

## ✓ Participants Today and Tomorrow

# NNI Vision and Participating Agencies

## National Nanotechnology Initiative

Collaborative, Multi-agency, Cross-cut Program Among 25 Federal agencies




Vision: A future in which the ability to understand and control matter on the nanoscale leads to a revolution in technology and industry that benefits society



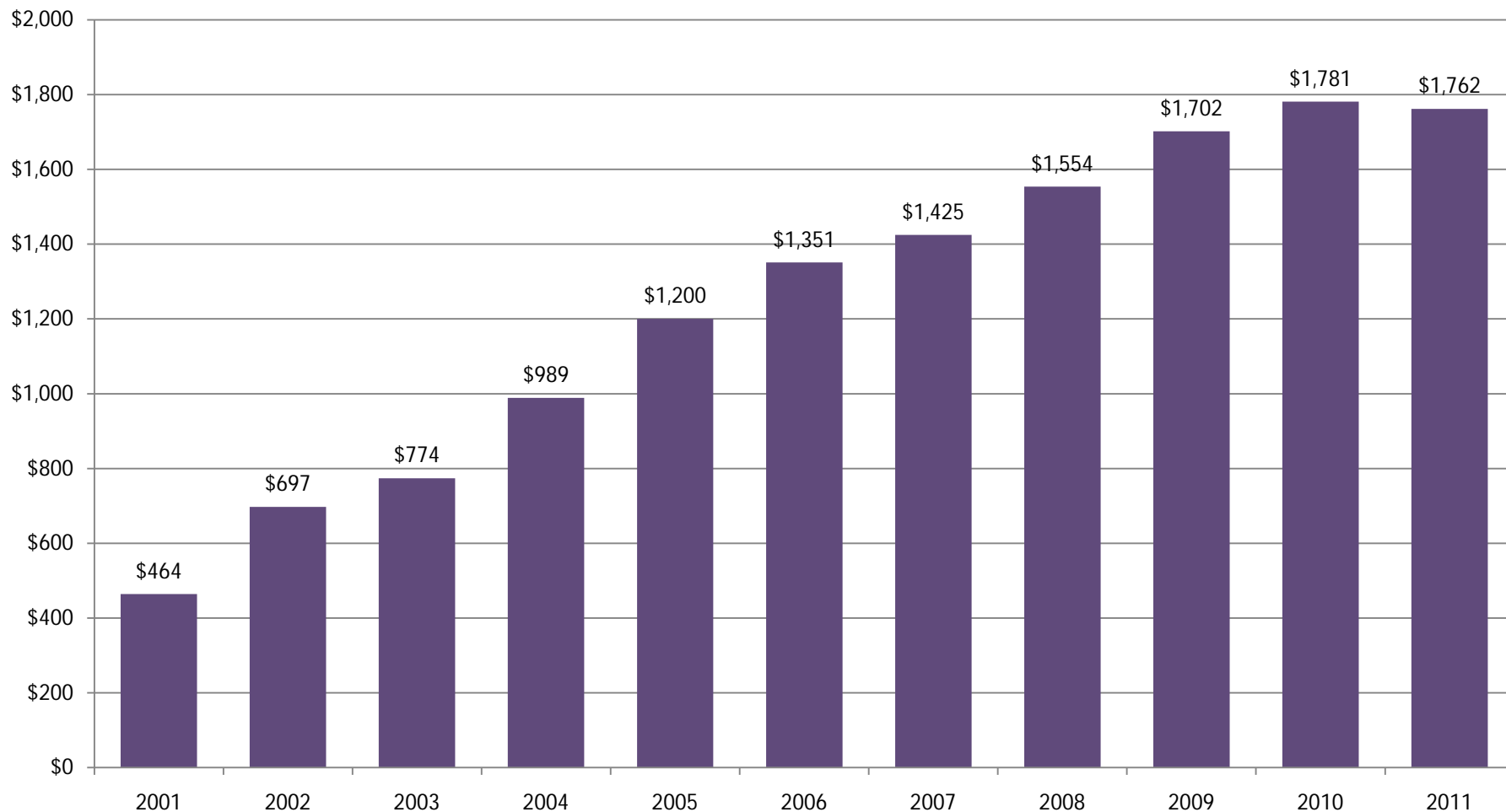
# NNI Goals

- ✓ Advance a world class R&D program
- ✓ Foster transfer of new technologies
- ✓ Develop & sustain educational resources, a skilled workforce, and the supporting infrastructure and tools to advance nanotechnology
- ✓ Support responsible development of nanotechnology

# So how does the NNI actually work?

- Management  EOP + Agencies
  - Establishment of nanotechnology as high priority R&D area
  - Budget creation, funding allocation to agencies, & spending
  - Negotiations with Congress
- Coordination  NSET Subcommittee
  - Coordinates development of strategic plan for NNI
  - Providing mechanisms for interagency communication and coordination on nanotechnology R&D
- Reporting  NNCO
  - Publishes reports on behalf of the NSET and the NNI for use by Congress, academia, industry, and the public
  - Serves as public point of contact for NNI

# NNI Investment

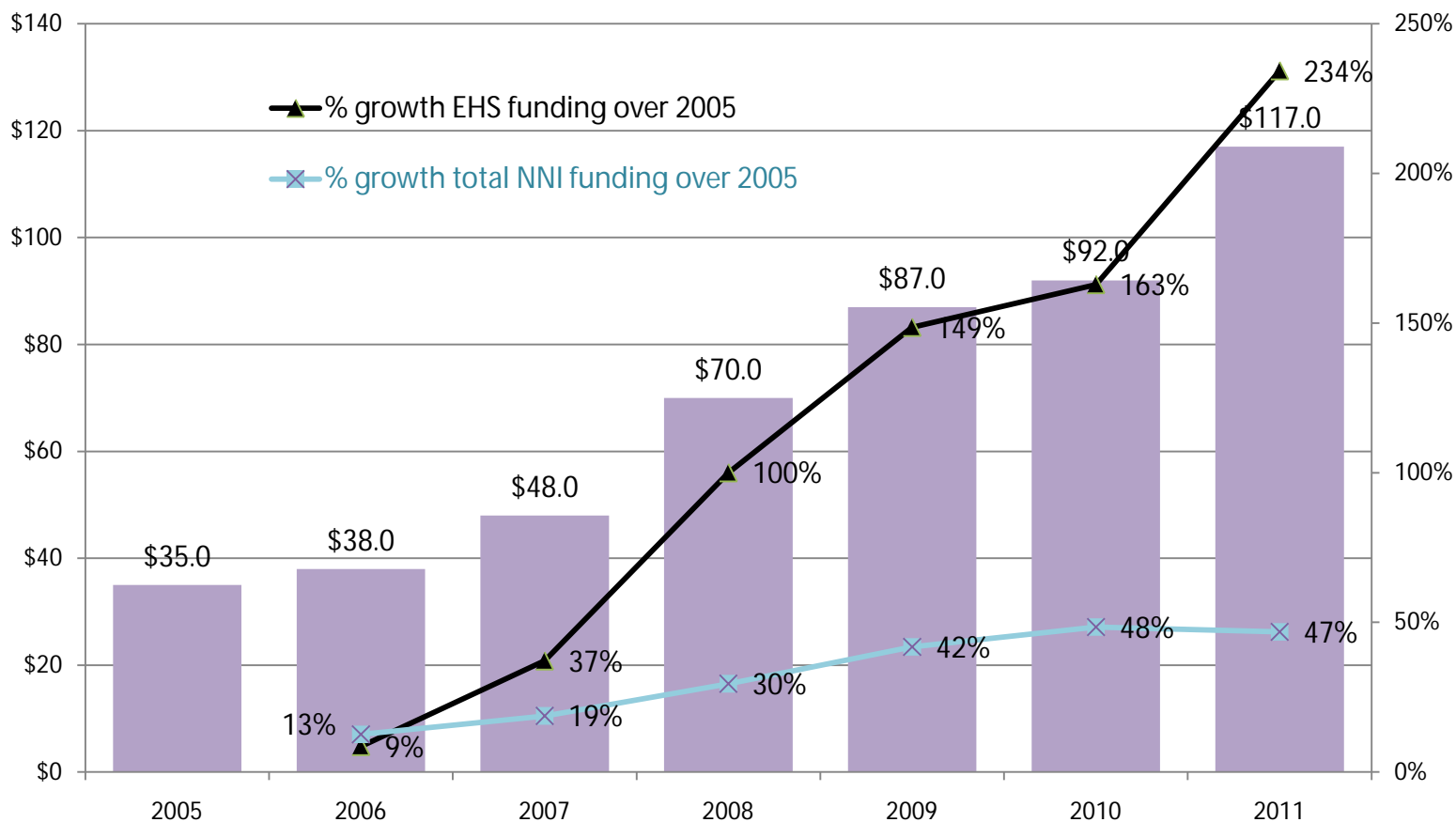


**Collective agency funding (in \$ millions) reported since NNI inception (2010 is estimated and 2011 is requested)**

# NNI Support for EHS Research

## NNI Funding for Nanotechnology-Related EHS Research (PCA 7) \*

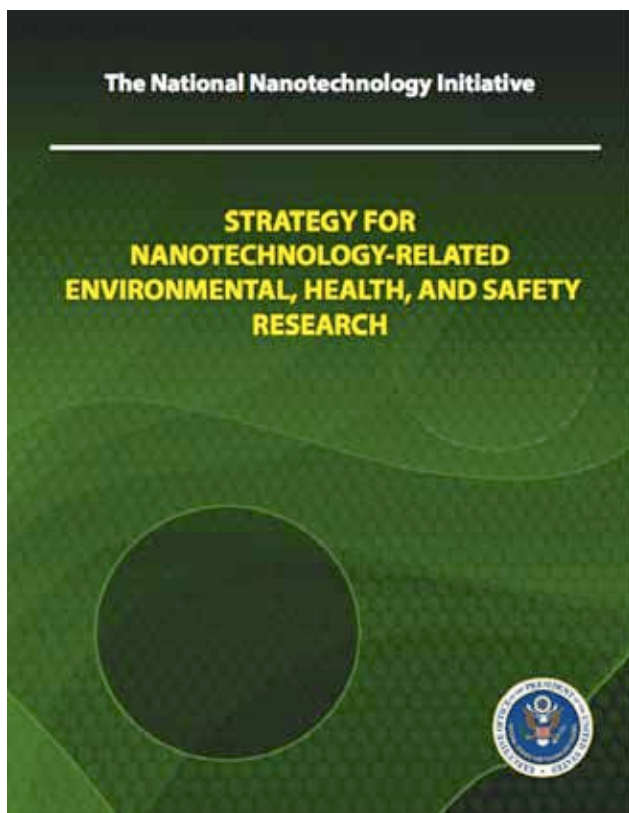
by fiscal year, in \$ millions (FY 2010 is estimated, FY 2011 is requested)



\* research whose primary purpose is to understand and address potential risks from nanotechnology to health and to the environment, i.e., not including related instrumentation and metrology research



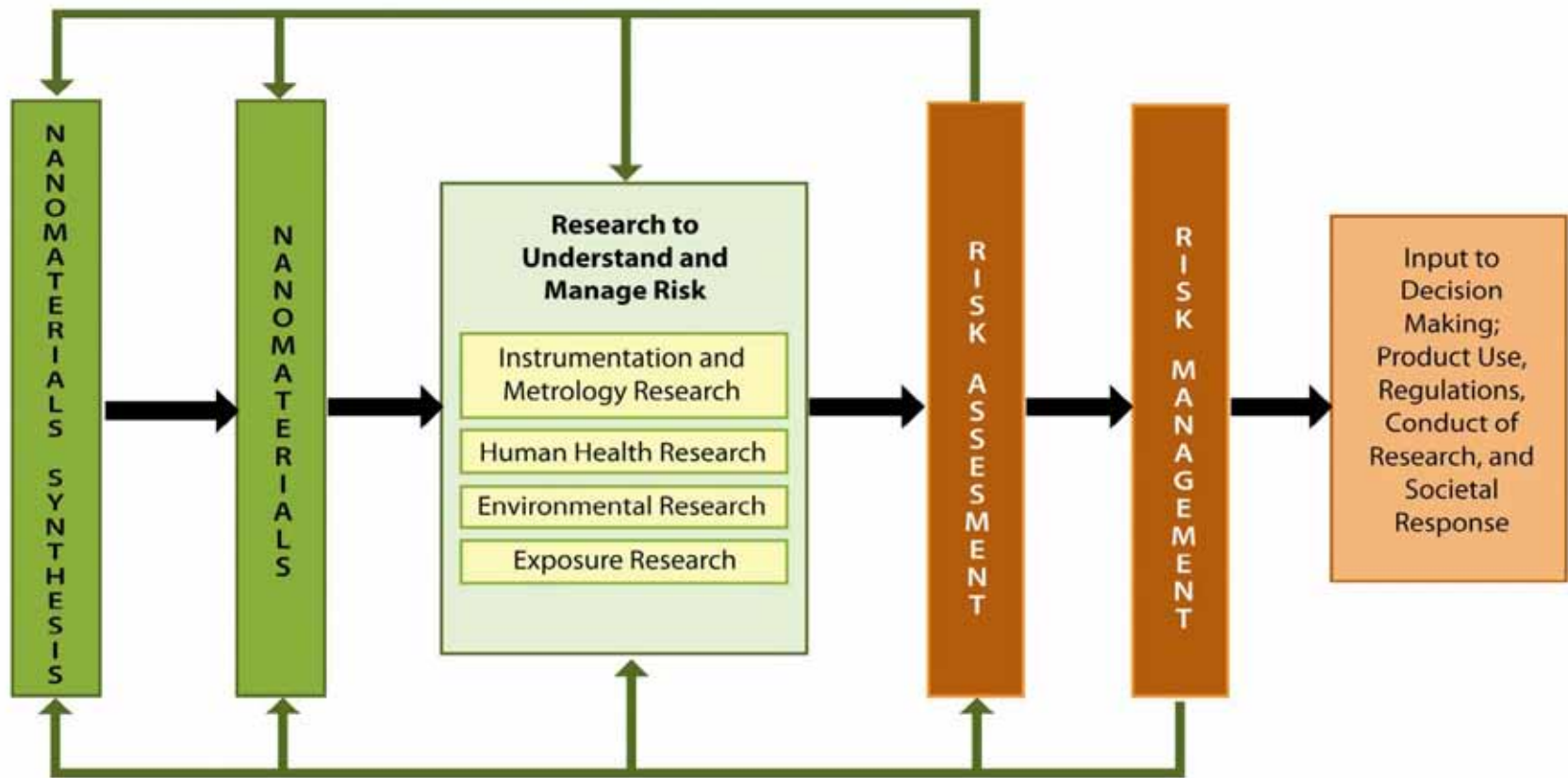
## How is this strategy used by Federal Agencies?



- Common framework for ongoing dialogue, collaboration, and co-funding
- Foundation from which agencies can build or modify their implementation plans
- Near to long term perspective with an internal adaptive management process

# The National Nanotechnology Initiative: EHS Research Framework

Role of nanotechnology-related EHS research in risk management of nanomaterials\*



\* from Strategy for Nanotechnology-Related Environmental, Health, and Safety Research (February 2008):  
[http://www.nano.gov/NNI\\_EHS\\_research\\_needs.pdf](http://www.nano.gov/NNI_EHS_research_needs.pdf)



Human and Environmental Exposure Assessment  
February 24-25, 2009

[www.nano.gov/html/meetings/exposure](http://www.nano.gov/html/meetings/exposure)



Nanomaterials and the Environment &  
Instrumentation, Metrology, and Analytical Methods  
October 6-7, 2009

[www.nano.gov/html/meetings/environment/](http://www.nano.gov/html/meetings/environment/)



Nanomaterials and Human Health &  
Instrumentation, Metrology, and Analytical Methods  
November 17-18, 2009

[www.nano.gov/html/meetings/humanhealth/](http://www.nano.gov/html/meetings/humanhealth/)



Capstone: Risk Management Methods & Ethical,  
Societal, and Legal Implications of Nanotechnology  
March 30-31, 2010

[www.nano.gov/html/meetings/capstone/](http://www.nano.gov/html/meetings/capstone/)