



# STRATEGIC UNCONVENTIONAL FUELS

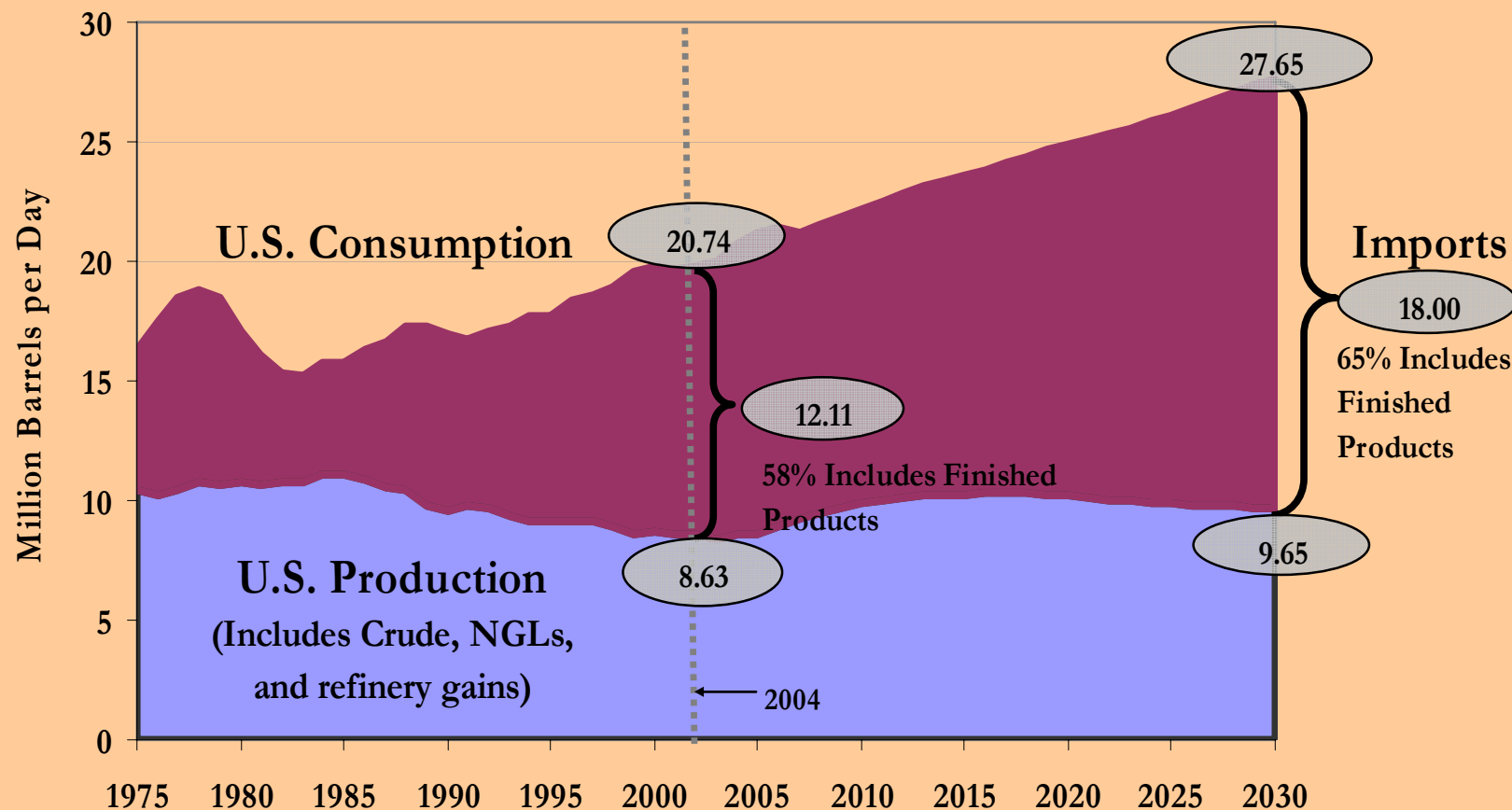
## Developing America's Strategic Unconventional Fuels

Oil Shale • Tar Sands • Coal Derived Liquids  
Heavy Oil • CO<sub>2</sub> Enhanced Recovery and Storage

J.J. Brown  
Legislative Assistant for  
Senator Orrin Hatch, Utah



# Rising Oil and Refined Product Imports



Source: U.S. DOE EIA "Annual Energy Outlook 2006".



## U.S. National Security Strategy:



**“The first pillar is promoting freedom, justice, and human dignity -- working to end tyranny, to promote effective democracies, and to extend prosperity through free and fair trade and wise development polices. “**

**“The second pillar of our strategy is confronting the challenges of our time by leading a growing community of democracies.”**

*- Pres. George W. Bush*



## U.S. Diplomacy Objectives:

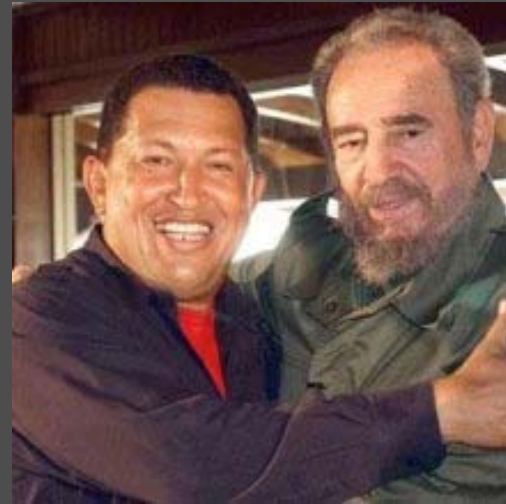


**“To work with our many partners around the world, to build and sustain democratic, well governed states that will respond to the needs of their people and conduct themselves responsibly in the international system.”**

*- Sec. of State Condoleezza Rice*



# National Energy Actors

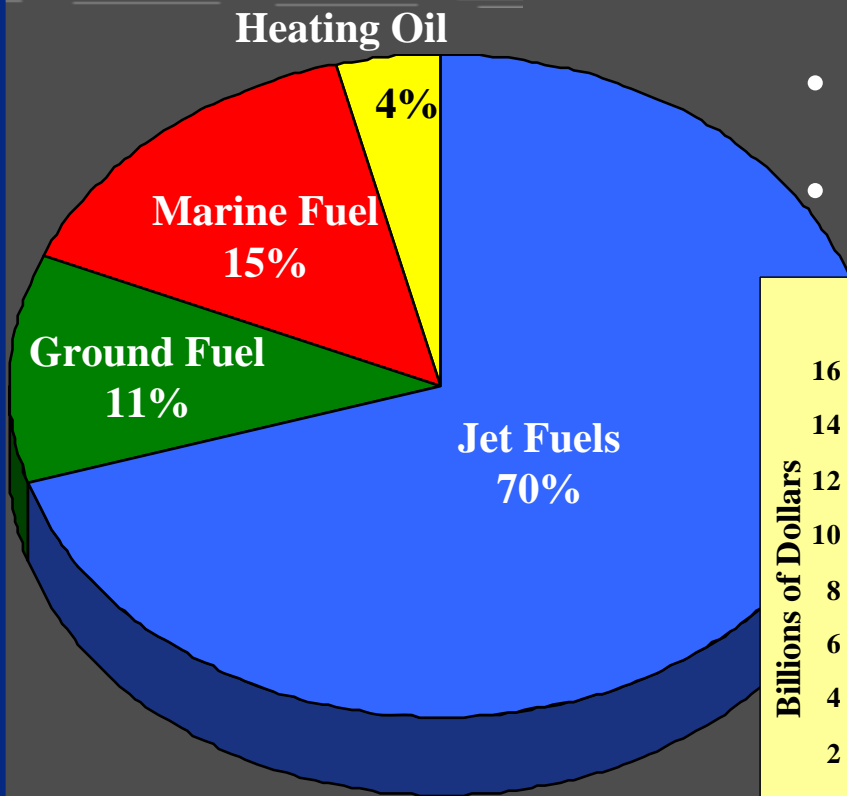




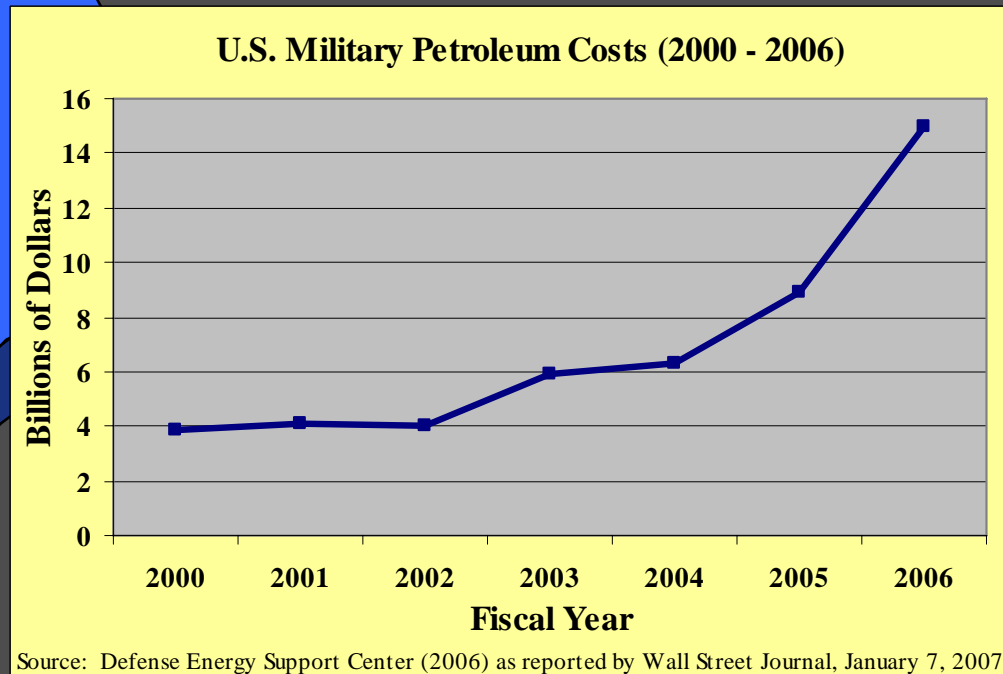


# Defense Readiness Concerns

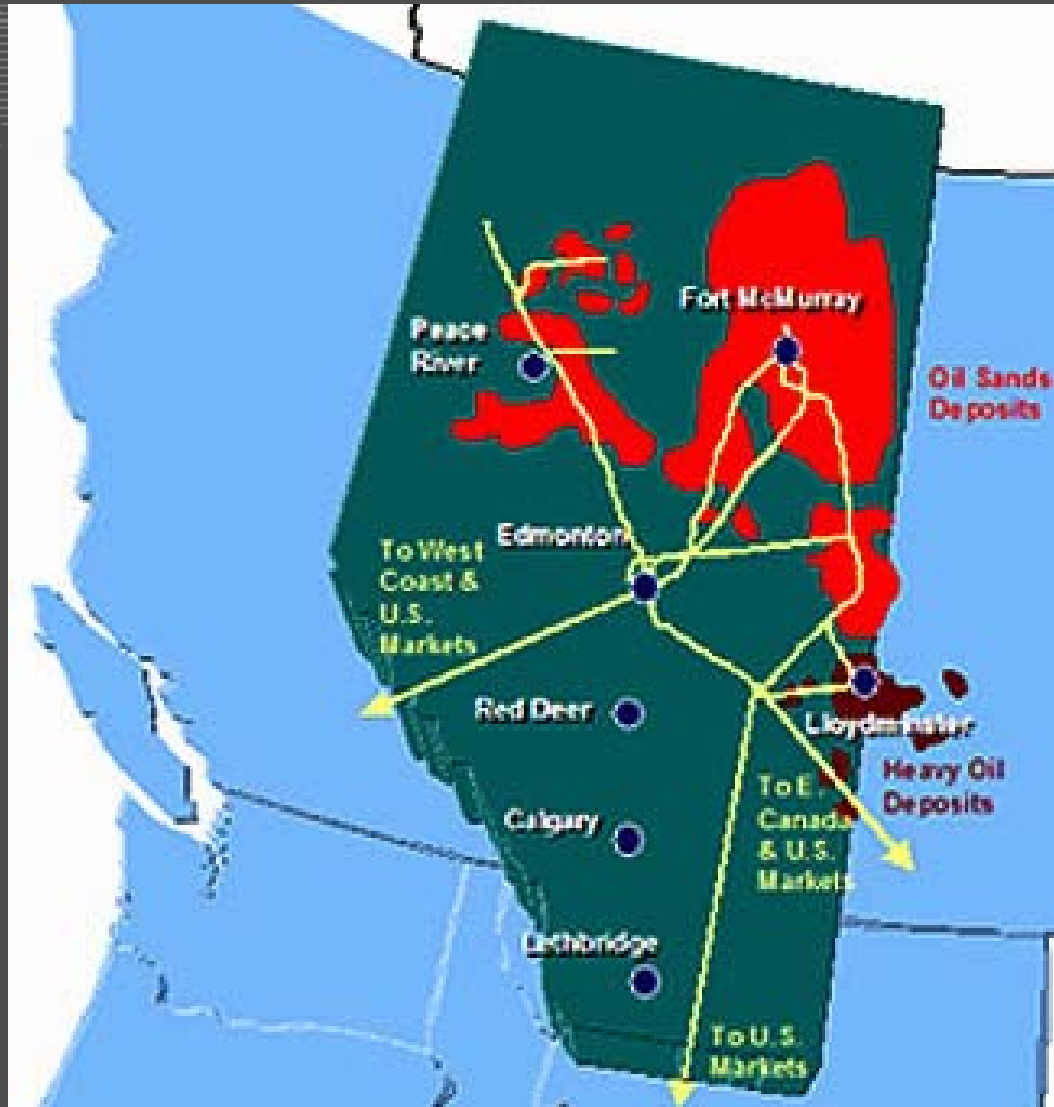
- Dependence on foreign oil
- Dependence on foreign refined fuels
- Higher fuel costs



Total Military Purchases in 2006:  
312 MBbls/D (DOD, 2007)



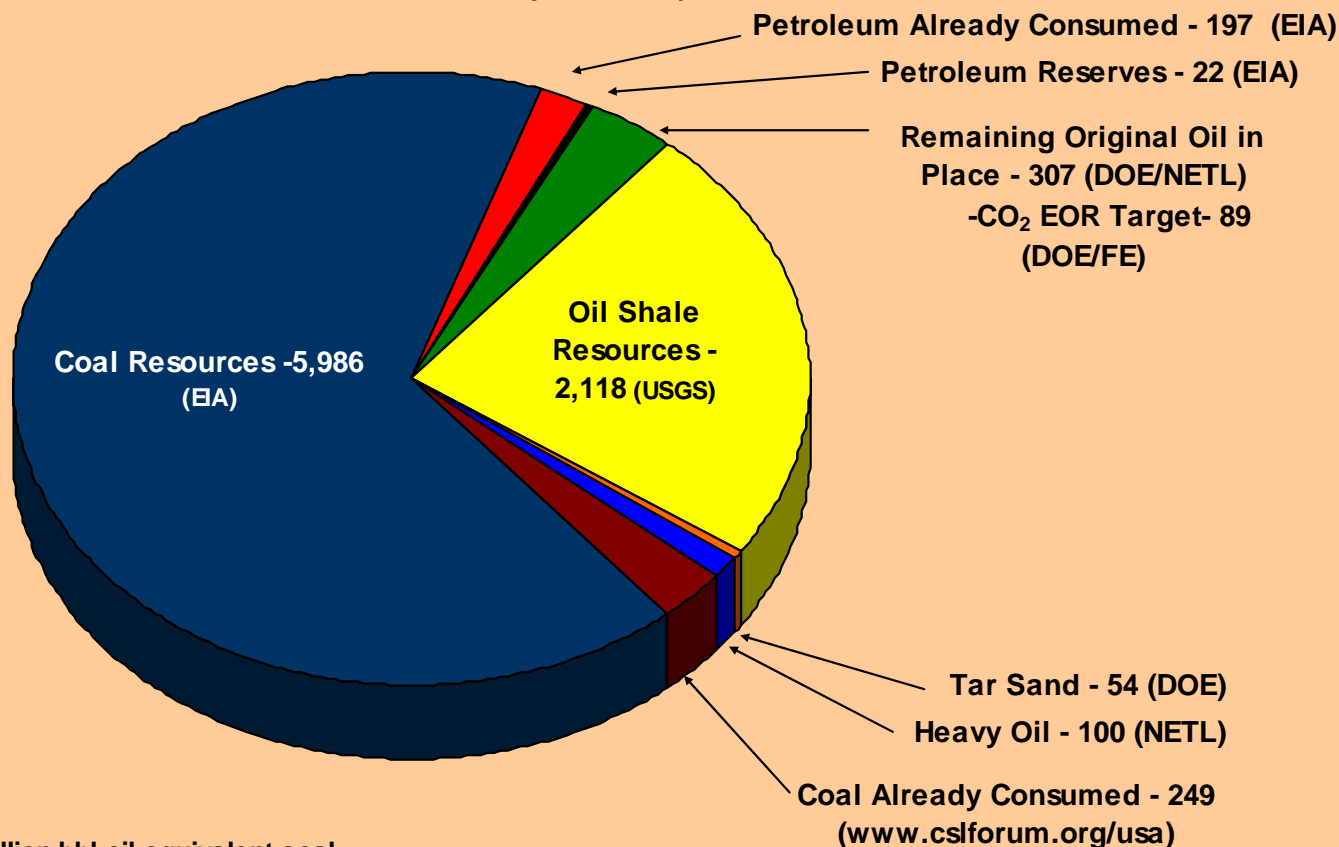






# The Opportunity: America's Endowment of Solid and Liquid Fuels Resources

**U.S. Solid and Liquid Fuels Resources**  
(Total endowment 9,033 billion bbls oil equivalent\*)



Units are in billion bbl-oil-equivalent coal -  
10K BTU/lb; oil - 6M BTU/bbl

\*not including energy losses in transformation to liquid fuel





# **The Energy Policy Act of 2005**

## **Section 369 (h)**

**Secretary of Energy shall, in cooperation with the Secretary of Interior and the Secretary of Defense, establish a Task Force to develop a program to coordinate and accelerate the commercial development of strategic unconventional fuels.**





# **Strategic Unconventional Fuels Program Goals**

- **Accelerate development of domestic unconventional fuels**
- **Promote effective environmental stewardship and impact mitigation**
- **Mitigate potential adverse socio-economic impacts on states and localities**
- **Generate substantial public benefits while ensuring government fiscal responsibility**



# Strategic Unconventional Fuels Integrated Program Activities

## Resource-Specific Activities

### Oil Shale

- Oil Shale Leasing
- Tech Assistance
- Technology RD&D
- Environment RD&D
- Fiscal Regime

### Coal Liquids

- Coal Resources
- Plant Designs
- DoD Fuels R&D
- Incentives

### Tar Sands

- Tar Sand Leasing
- Technology RD&D
- Environment RD&D
- Fiscal Regime

### Heavy Oil

- Basin Partnerships
- Tech Transfer
- Technology RD&D
- Sequestration RD&D
- Extend tax incentives

### CO<sub>2</sub> EOR

- Basin Partnerships
- Tech Transfer
- Technology RD&D
- Sequestration RD&D
- Extend tax incentives

## Cross Cutting Program Activities

**Water Resources: Supply / needs analysis, infrastructure, water rights, use-reduction / re-use R&D**

**Socio-Economic: Planning grants, needs assessment, development support, education and training**

**Carbon Management: Integrated strategy; R&D; Carbon capture and storage; CO<sub>2</sub> EOR promotion**

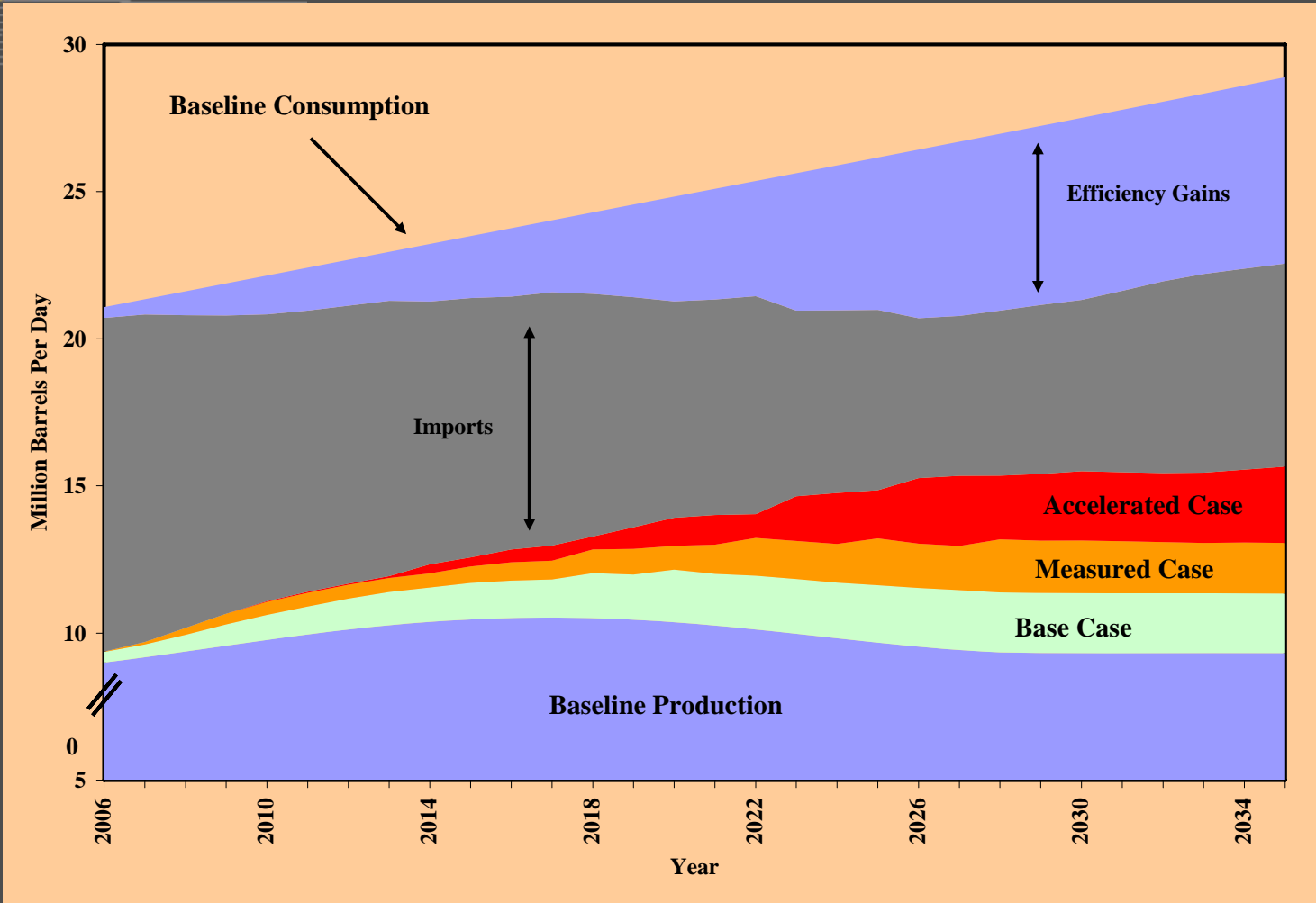
**Markets: Integrated markets analysis; Long-term purchase agreements**

**Infrastructure: Requirements analysis; Regional infrastructure development plans**

**Environmental Outreach: Focused stakeholder outreach to inform program and industry development**



# Potential Production Benefits of Three Development Scenarios

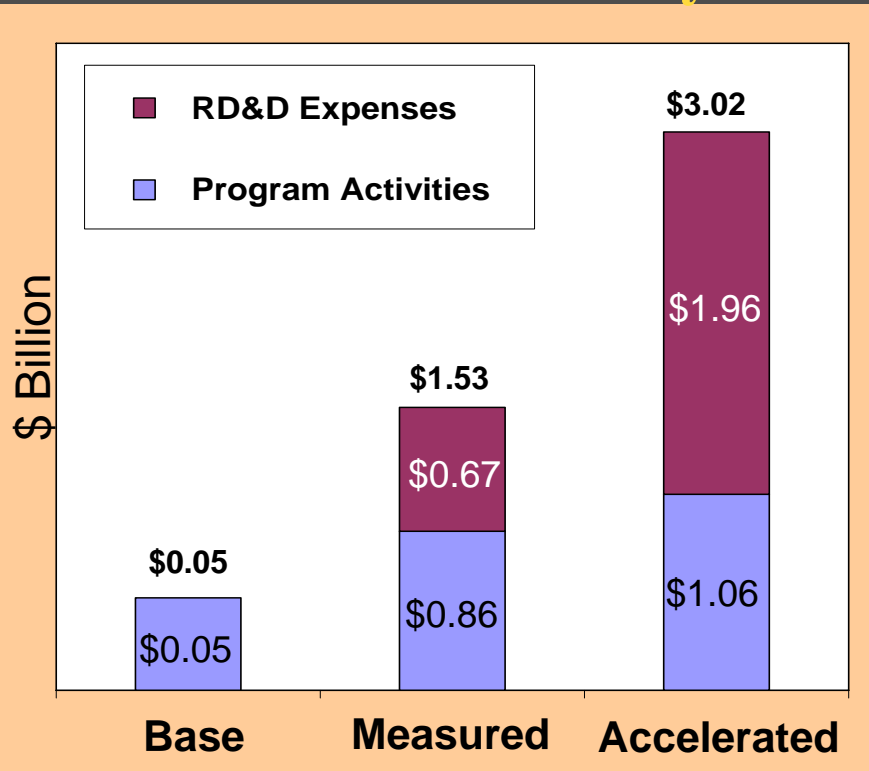


Efficiency gains – The analysis assumes advances in technology to improve efficiency of fuel use and changes in consumer behavior to reduce demand. Activities to stimulate efficiency and changes in consumer behavior are assumed to be addressed by other State and Federal programs. 16



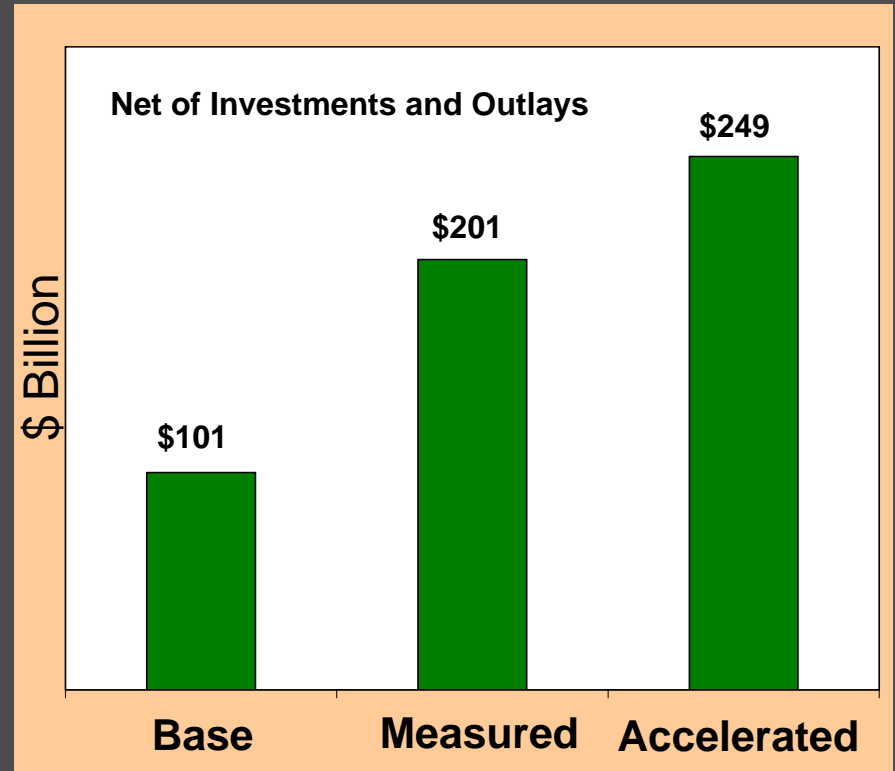
# Strategic Unconventional Fuels Program Costs and Net Revenues

## Direct Federal Outlays



Development Scenario

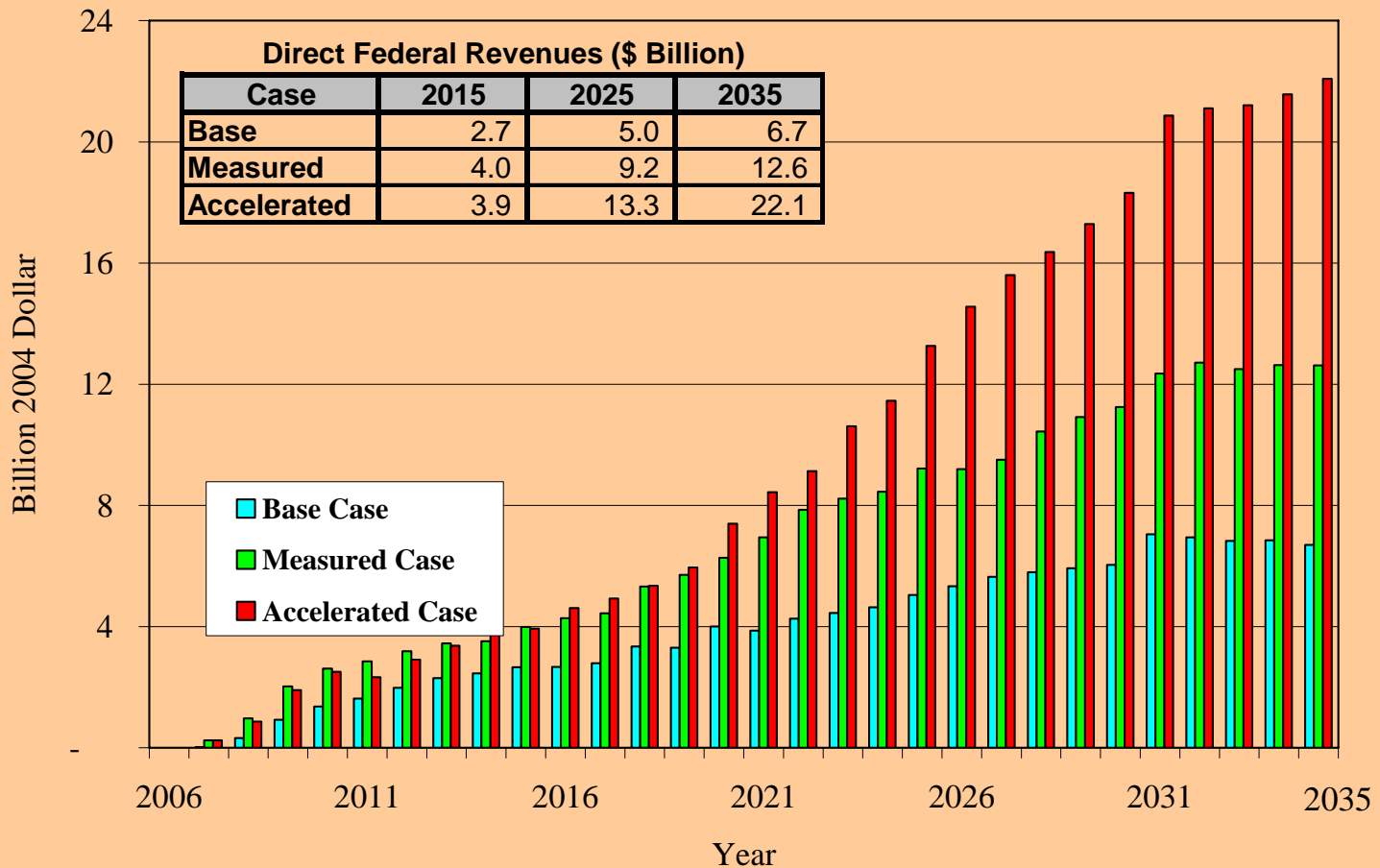
## Net Federal Revenues



Development Scenario



# Net Direct Federal Revenues\*

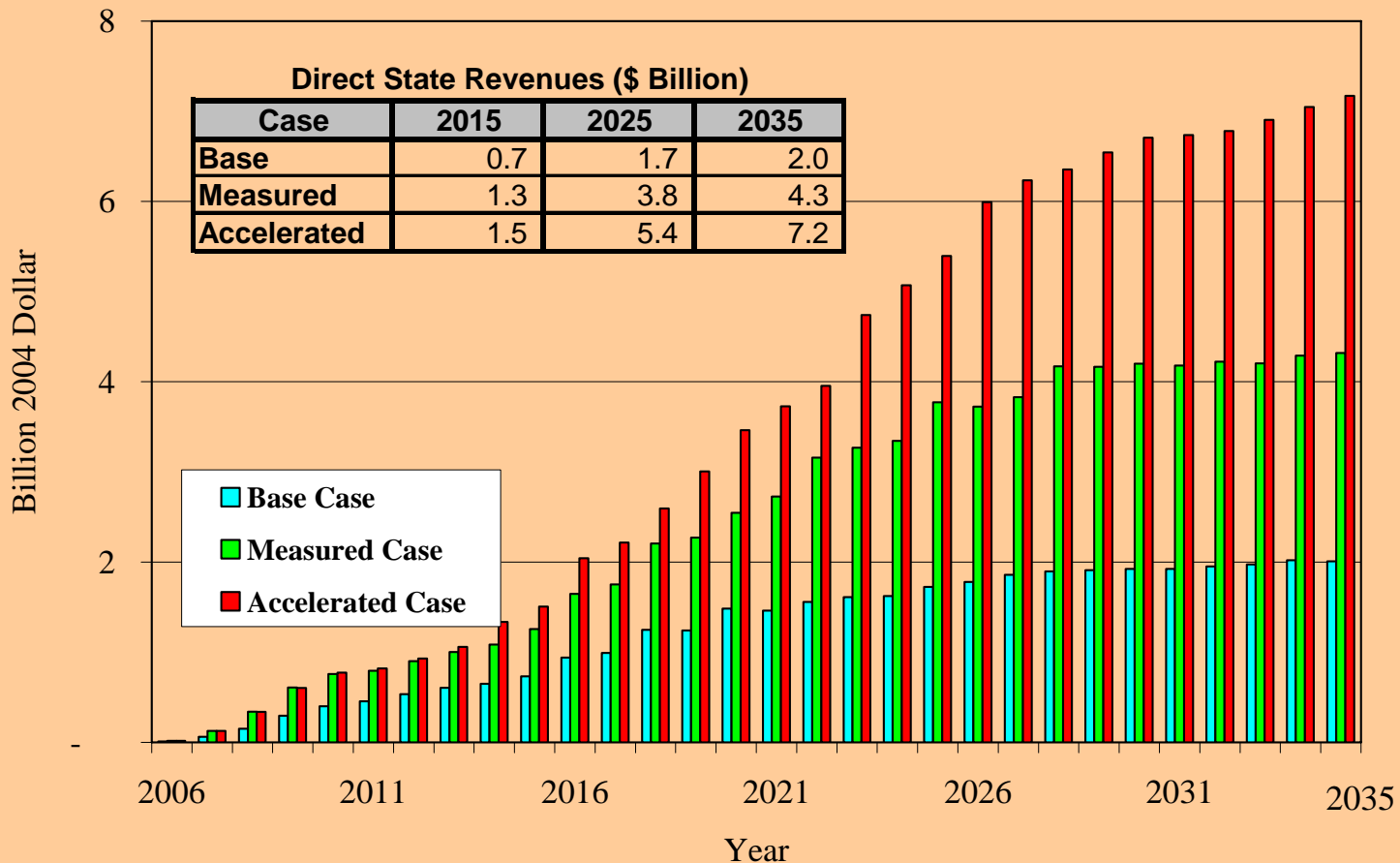


Source: U.S. DOE NPOSR NSURM Model, 2006.

\*Includes revenues from business taxes and Federal share of royalties.



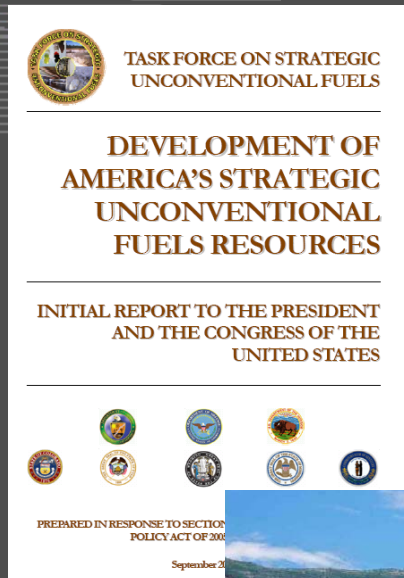
# Net Direct State Revenues\*



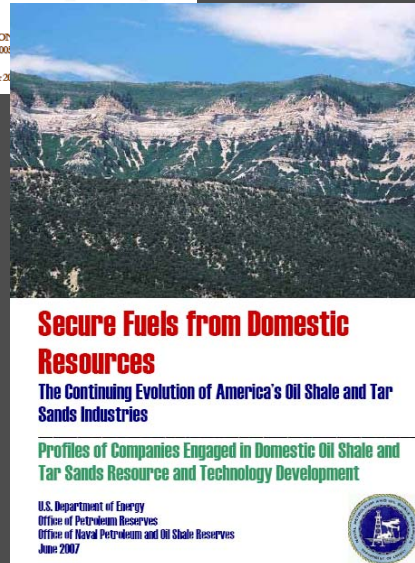
Source: U.S. DOE NPOSR NSURM Model, 2006.

\*Includes revenues from business taxes, production and severance taxes, and state share of Federal royalties.

# Reports



Development of America's Strategic Unconventional Fuels Resources - *Initial Report to the President and Congress of the United States*



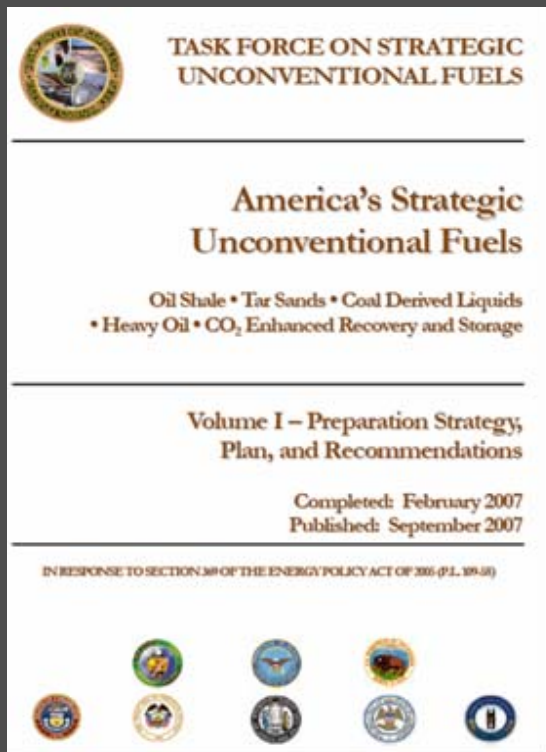
Secure Fuels from Domestic Resources – *The Continuing Evolution of America's Oil Shale and Tar Sands Industries*

For additional information - <http://www.unconventionalfuels.org>,  
[http://fossil.energy.gov/programs/reserves/npr/NPR\\_Oil\\_Shale\\_Program.html](http://fossil.energy.gov/programs/reserves/npr/NPR_Oil_Shale_Program.html) 20

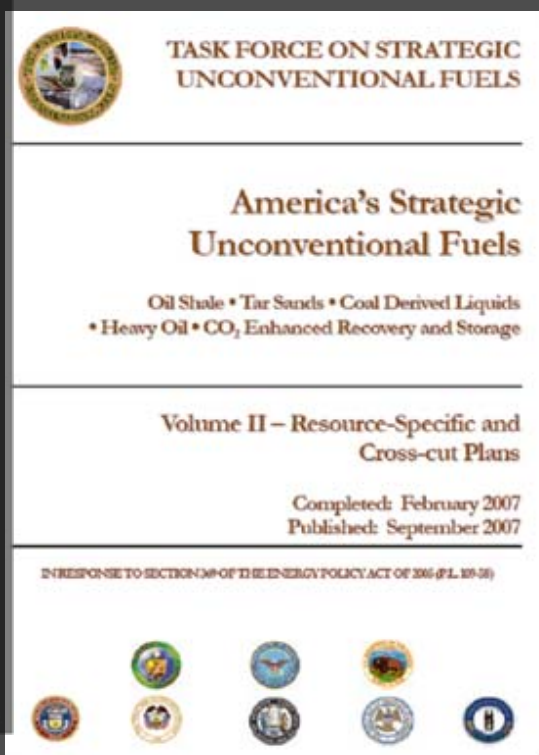


# Integrated Strategy and Program Plan

## Volume I Preparation Strategy, Plan, and Recommendations



## Volume II Resource-Specific and Cross-cut Plans



## Volume III Resource and Technology Profiles

