



Department of Energy

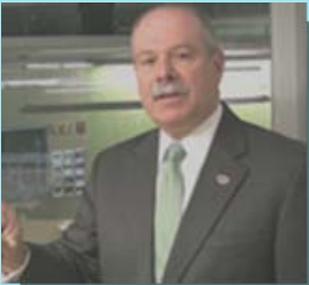
American Recovery and Reinvestment Act



May 5, 2010



Accelerating Innovation to Drive Economic Growth & Job Creation





DOE Recovery Act Goals

- Create good, long-term jobs
- Strengthen our economy
- Improve the environment
- Enhance our national security



Four instructions from Secretary Chu

Move the money out the door quickly



Competitive review

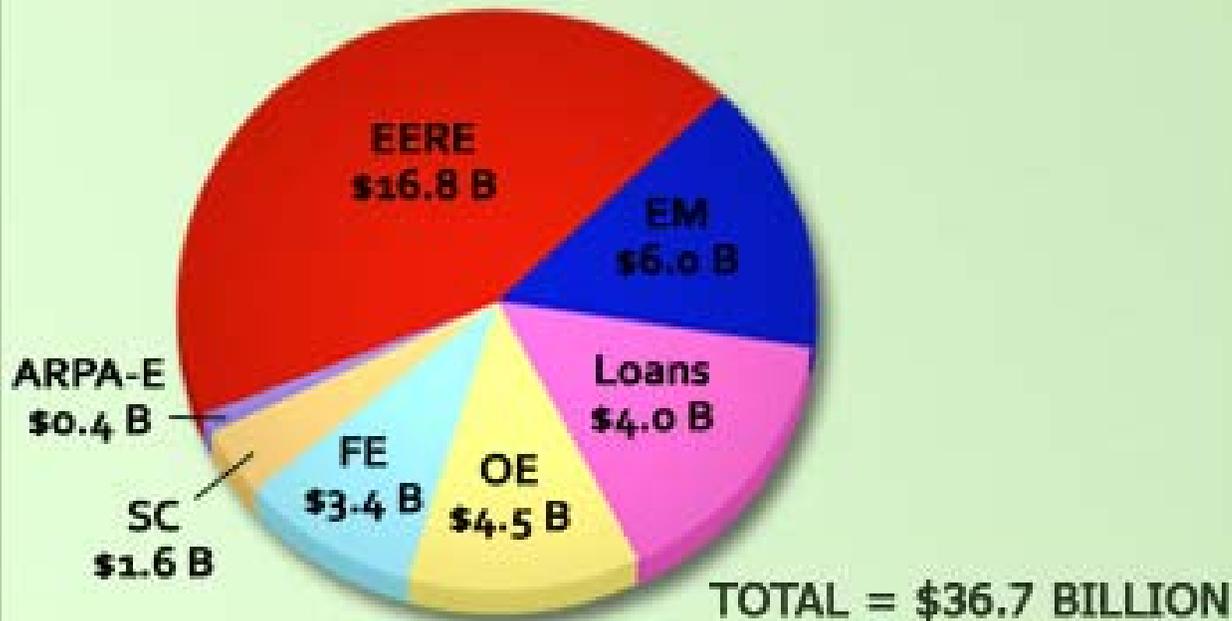
Accountability & transparency

A meaningful down payment



DOE Recovery Act Funding

DOE RECOVERY ACT FUNDING



- ENERGY EFFICIENCY AND RENEWABLE ENERGY
- CLEAN UP OF COLD WAR NUCLEAR SITES
- LOAN GUARANTEES FOR RENEWABLE ENERGY
- SMARTGRID AND EFFICIENT ELECTRICAL TRANSMISSION
- CARBON CAPTURE / STORAGE
- SCIENTIFIC RESEARCH
- ADVANCED RESEARCH PROJECTS AGENCY - ENERGY



The Recovery Act is Working

Moving the money out the door quickly:

- \$36.7 billion in appropriations; \$100 billion in projects
- 99% of grant and contract projects selected
- \$5.6 billion in tax credits

Creating Jobs:

- 22,841 jobs
- CEA estimates 719,000 job years in total



Job Creation is Driven by Innovation

ELIZABETH ROLINSKI
HOLLAND, MI

ELIZABETH WORKS FOR JOHNSON CONTROLS INC, AND WILL OVERSEE CONSTRUCTION OF THEIR NEW PLANT UNDER THE RECOVERY ACT.

AFTER CONSIDERING OPTIONS OVERSEASE, JCI BECAME ABLE TO BUILD THEIR PLANT IN MICHIGAN THROUGH THE RECOVERY ACT.

WENDY VAN ZANDBERGEN
DURANT, OK

WENDY, A SINGLE MOTHER, LOST HER JOB LAST YEAR DURING THE ECONOMIC CRISIS. EIGHT MONTHS LATER SHE FOUND A JOB WORKING IN WEATHERIZATION.

"MY WHOLE LIFE, I'VE TOLD EVERYBODY THAT I KNOW I WANT A JOB WHERE I CAN HELP PEOPLE, AND I AM."

CODY FRIESEN
TEMPE, AZ

CODY'S TEAM AT ARIZONA STATE STATE RECENTLY RECEIVED A GRANT FOR THE ADVANCED RESEARCH / DEVELOPMENT OF METAL-AIR BATTERIES.

"THIS HAS THE POTENTIAL TO DRAMATICALLY DECREASE THE COST OF ENERGY STORAGE. A CELL PHONE COULD REMAIN POWERED FOR AS LONG AS A MONTH WITHOUT CHARGING."



The Recovery Act is a Down Payment

- Doubling U.S. renewable energy supply



- Rebuilding U.S. high-tech manufacturing



- Transforming the transportation sector



- Deploying smart grid technologies





The Recovery Act is a Down Payment

- Commercializing **carbon capture & sequestration**



- Saving money through **energy efficiency**



- **Cleaning up** America's cold war nuclear legacy



- Re-establishing U.S. leadership in **science and technology**





Transportation Innovation: Batteries



\$2.4 billion for Advanced Battery Technology and Electric Drive Components
\$2.3 billion for Electric Vehicle loans*

12,000 charging locations
30 battery factories
500,000 vehicles worth of batteries



*Advanced Technology Vehicle Manufacturing not funded by ARRA



Transportation Innovation: Batteries

- 100 wh/kg → 300-400 wh/kg
- \$1000/kwh → \$50 - \$100 /kwh
- 400 mile range
- \$10 charge for 300 miles vs. \$3 in gas
- 100% America electricity
- Smog free cities with electric fleets
- 14 projects funded for over \$50 million under ARPA-E, including:



- MIT semi-solid rechargeable flow battery



Transportation Innovation: Biofuels

Deployment--\$600 M to build
19 pilot bio-refineries



Innovation to create next
generation biofuels—Direct
Sunlight to Fuel





Transportation Innovation: Electrofuels



- CO₂ + Clean Electricity + Bacteria => Fuel
- Potentially 10X more efficient than biofuels
- Bringing new talent and expertise to America's energy challenges
- 13 projects funded for over \$41 million under ARPA-E, including:
 - Harvard Medical School



Energy Efficiency Innovation: LEDs

\$11 billion to deploy commercial efficiency technologies



Driving Innovation in the Next Generation in Building Products





Energy Efficiency Innovation: LEDs



- 14% of U.S. electricity use
- 30x more efficient
- 27 projects for over \$48 million
- 1 project funded for over \$4 million under ARPA-E
- 4 manufacturing tax credits for over \$41 million, including:
 - Cree, Inc.



Carbon Capture and Storage

\$3.4 billion to accelerate commercial deployment in 8-10 years

5 commercial scale power plants by 2015.

12 million tons of CO₂ per year





Carbon Capture and Storage Innovation

- 50% of U.S. electricity from coal
- \$60/ton and have a 30% energy penalty
- Potential to reduce cost per ton by more than half.
- 19 projects funded for over \$41 million under ARPA-E, including:
 - United Technologies Research Center





Secretary Chu on Facebook

A screenshot of Steven Chu's Facebook profile. The top navigation bar includes "facebook", "Home", "Profile", "Friends", "Inbox", "Settings", and "Logout". The profile picture shows Steven Chu in a white shirt gesturing in front of a whiteboard. The post text reads: "Steven Chu Just finished filming my appearance on the Daily Show. I hope it is as fun watching it as it was taping. Want to hear your reviews (at least the good ones). Let me know what you think after it airs tonight at 11 EST. last Tuesday". Below the post are tabs for "Wall", "Info", "Photos", "Discussions", "Boxes", and "Notes". A text input field contains "Write something...". There are "Attach", "YouTube", and "RSS" icons, and a "Share" button. Below the post, there are buttons for "Steven Chu" and "Just Fans". At the bottom, a partial post is visible with the text "Steven Chu" and "Cleaning Up Energy and Climate Bill Will Boost the Economy".

Check out Secretary Chu on Facebook:
facebook.com/stevenchu



Learn more at energy.gov/recovery



- View details for all Funding Announcements.
- Full list of Recovery Act funding recipients.
- Information on Consumer Tax Breaks.
 - Geospatial Map