Congressional Climate Camp #1: What You Need to Know about Stimulus Spending

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What is Stimulus Funding?

• Tax or direct spending
• Relief vs. Stimulus

• Coronavirus Preparedness and Response Supplemental Appropriations (2020)
• Families First Coronavirus Response Act (2020)
• Coronavirus Aid, Relief, and Economic Security Act (CARES Act, 2020)
• Paycheck Protection Program and Health Care Enhancement Act (2020)
• American Recovery and Reinvestment Act (2009)
Stimulus Funding for Economic Growth

- Timely
- Targeted
- Temporary
American Recovery and Reinvestment Act

$831 billion in tax cuts and direct spending

- $288 billion in tax cuts
- $224 billion in unemployment benefits, education, healthcare
- $275 billion in federal contracts, grants and loans
- Requirement for 92% of spending in 3 years

Results

- 2009 Q1 growth: -6.7%, Q3 growth: 1.7%, Q4 growth: 3.8%
- 2010: 2.3 million jobs created
- 2009-2014: 6 million job-years created
# ARRA Clean Energy Spending

<table>
<thead>
<tr>
<th>Category</th>
<th>Appropriations(^a)</th>
<th>Through the end of 2009:Q4</th>
<th>Through the end of 2010:Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Millions of Dollars</td>
<td>Obligations(^b)</td>
<td>Outlays(^b)</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>19,935</td>
<td>11,903</td>
<td>1,152</td>
</tr>
<tr>
<td>Renewable Generation</td>
<td>26,598</td>
<td>2,028</td>
<td>1,994</td>
</tr>
<tr>
<td>Grid Modernization</td>
<td>10,453</td>
<td>2,666</td>
<td>72</td>
</tr>
<tr>
<td>Advanced Vehicles and Fuels Technologies</td>
<td>6,142</td>
<td>3,149</td>
<td>450</td>
</tr>
<tr>
<td>Traditional Transit and High-Speed Rail</td>
<td>18,113</td>
<td>8,834</td>
<td>1,804</td>
</tr>
<tr>
<td>Carbon Capture and Sequestration</td>
<td>3,400</td>
<td>425</td>
<td>4</td>
</tr>
<tr>
<td>Green Innovation and Job Training</td>
<td>3,549</td>
<td>2,197</td>
<td>123</td>
</tr>
<tr>
<td>Clean Energy Equipment Manufacturing</td>
<td>1,624</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Other</td>
<td>408</td>
<td>148</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90,222</strong></td>
<td><strong>31,363</strong></td>
<td><strong>5,624</strong></td>
</tr>
</tbody>
</table>

Sources: Appropriations estimates from the Office of Management and Budget (OMB); agency Financial and Activity Reports to OMB through March 31, 2010; simulations from the Department of the Treasury (Office of Tax Analysis) based on the FY2011 budget.

Notes:  
\(a\) Appropriations include estimated cost of tax provisions through 2019:Q3.  
\(b\) Include estimated costs of tax provisions through December 31, 2009.  
\(c\) Include estimated costs of tax provisions through March 31, 2010.  
\(d\) Items may not add to total due to rounding.

ARRA Resources for States

- $3.1 billion for State Energy Program
- $5 billion Weatherization Assistance Program
- $3.2 billion to Energy Efficiency and Conservation Block Grants
- $4 billion for Public Housing Capital Fund
- $2.25 billion for affordable housing block grants
- $53.6 billion for State Fiscal Stabilization Fund (DoEd Green Schools)
- $1.6 billion for Clean Renewable Energy Bonds
- $54 million for State Energy Revolving Loan Funds (Green Banks)

See https://archive.epa.gov/recovery/web/pdf/local_guide_to_arra.pdf for more state and local programs
Categories of Smart Grid ARRA Funding

Five categories:
- Electric transmission and distribution technologies
- Customer systems
- Equipment manufacturing
- AMI
- Integrated systems

Eligible entities: electric utilities, load-serving entities, appliance and equipment manufacturers, and IT vendors. National Laboratories and Federally Funded Research and Development Centers were not eligible.

Project awards:
- $100,000 to $20,000,000 for phasor measurement unit (PMU) projects
- $500,000 to $200,000,000 for others

Chart from https://china.lbl.gov/sites/default/files/lbnl1007122.pdf
Grid Technologies Deployed

- 1,300 Phasor Measurement Units (PMUs)
- Over 16.6 million AMIs
- Smart relays that sense and recover from faults in the substation automatically
- Automated feeder switches that re-route power around problems
- $185 Million in federal matching funds during 2009 to support energy storage projects valued at $771 million
- 538 MW of new energy storage

# ARRA Jobs Created

## Table 3. Clean Energy Jobs by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>CEA Model&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Clean Energy Programs&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Clean Energy Jobs&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Total Job-Years through 2012&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency</td>
<td>14,100 25,400</td>
<td>11,700 21,000</td>
<td></td>
<td>179,000</td>
</tr>
<tr>
<td>Renewable Generation</td>
<td>26,700 33,600</td>
<td>22,600 26,600</td>
<td></td>
<td>192,000</td>
</tr>
<tr>
<td>Grid Modernization</td>
<td>1,000 1,200</td>
<td>800 900</td>
<td></td>
<td>80,600</td>
</tr>
<tr>
<td>Advanced Vehicles and Fuels Technologies</td>
<td>5,800 6,600</td>
<td>4,700 5,000</td>
<td></td>
<td>37,000</td>
</tr>
<tr>
<td>Traditional Transit and High-Speed Rail</td>
<td>22,800 30,000</td>
<td>18,900 23,400</td>
<td></td>
<td>158,200</td>
</tr>
<tr>
<td>Carbon Capture and Sequestration</td>
<td>100 200</td>
<td>– 200</td>
<td></td>
<td>26,500</td>
</tr>
<tr>
<td>Green Innovation and Job Training</td>
<td>1,700 5,700</td>
<td>1,500 5,100</td>
<td></td>
<td>32,200</td>
</tr>
<tr>
<td>Clean Energy Equipment Manufacturing</td>
<td>200 900</td>
<td>200 800</td>
<td></td>
<td>9,500</td>
</tr>
<tr>
<td>Other</td>
<td>200 400</td>
<td>200 400</td>
<td></td>
<td>3,700</td>
</tr>
<tr>
<td><strong>Total&lt;sup&gt;e&lt;/sup&gt;</strong></td>
<td><strong>72,400 104,100</strong></td>
<td><strong>60,800 83,300</strong></td>
<td></td>
<td><strong>719,600</strong></td>
</tr>
</tbody>
</table>

Sources: CEA analysis of appropriations estimates from the Office of Management and Budget (OMB); agency Financial and Activity Reports to OMB through March 31, 2010; simulations from the Department of the Treasury (Office of Tax Analysis) based on the FY2011 budget.

Notes: a. Job numbers are rounded to the nearest 100. A double dash indicates fewer than 50 jobs.
b. This column includes induced jobs that might themselves not be considered clean energy jobs.
c. Clean energy jobs are direct and indirect jobs created by clean energy spending.
d. Job-years represent all jobs supported by the clean energy provisions in the ARRA through 2012:Q4. A "job-year" is one person employed for one year.
e. Items may not add to total due to rounding.
Measuring Job Creation
Direct, Indirect and Induced Jobs

ARRA: $90 billion = 719,600 job years
New Stimulus: $99 billion = 4.3 million job years

https://e2.org/reports/build-back-better-faster-how-federal-clean-energy-stimulus-can-restart-americas-economy/
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DISCUSSION