



# Assessing the Economic Impacts of Publicly Funded Investments in Energy Efficiency Programs

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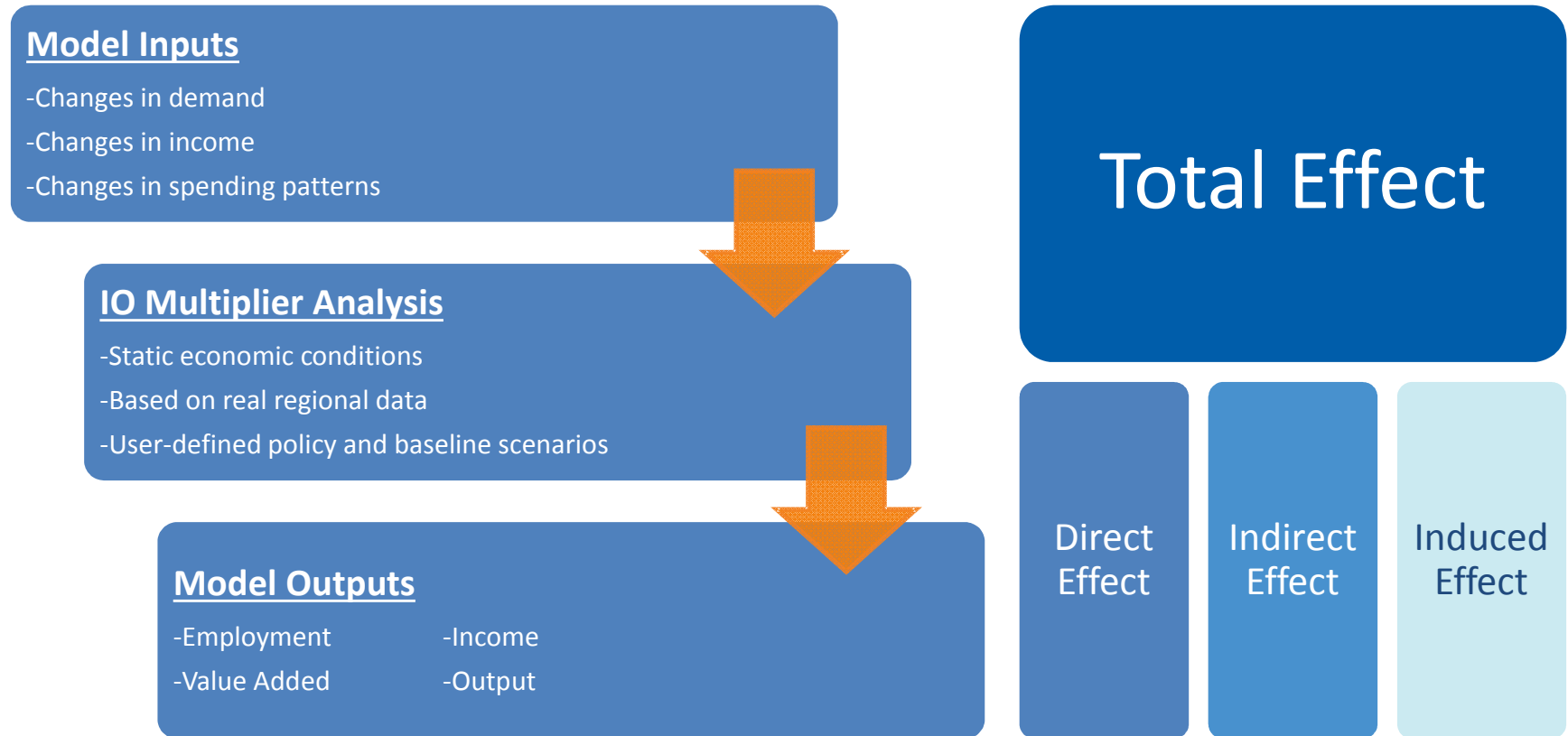
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# Study Overview



# IMPLAN



IMPLAN Group, LLC. 16740 Birkdale Commons Parkway, Suite 206, Huntersville, NC 28078

# Scenarios Compared

\$26.1 Million (ARRA)



1. Better Buildings Neighborhood Programs (BBNP)



2. Supply-Side Energy Infrastructure

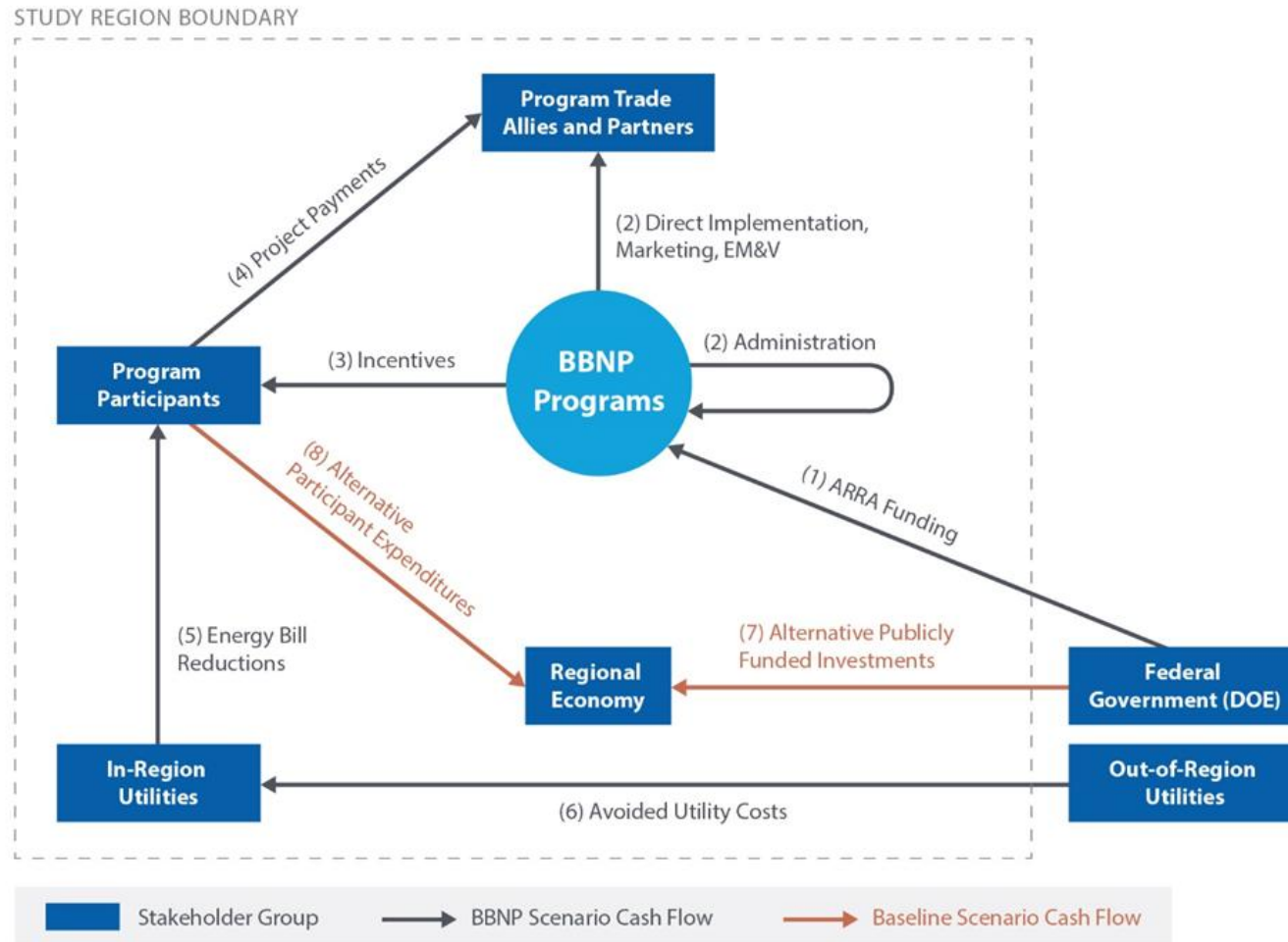


3. Renewable Energy Infrastructure



4. Top 10 Manufacturing Sectors

# Modeled Cash Flows





# Model Inputs:

## Better Buildings Neighborhood Programs



# BBNP Administration and Delivery

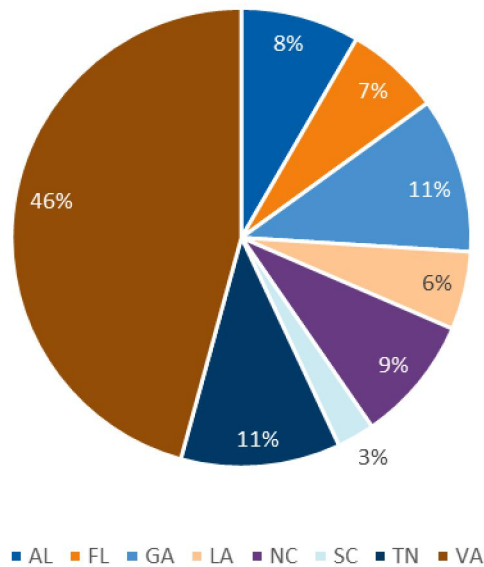
- U.S. Department of Energy
  - Energy Efficiency and Conservation Block Grants
  - State Energy Program
- Southeast Energy Efficiency Alliance (SEEA)
  - 2010–2013
  - Eight States
  - Residential, Multifamily, and Commercial

<http://www.seealliance.org/>

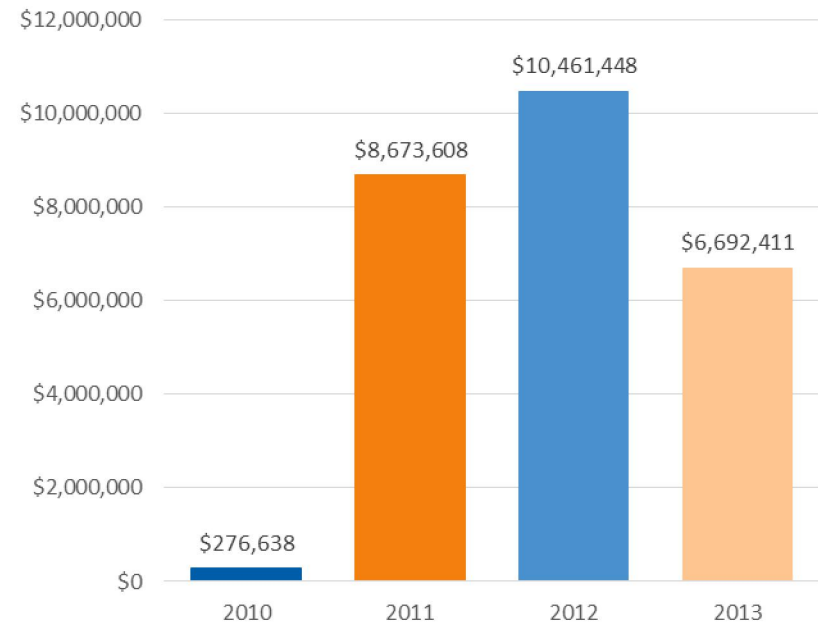
Program	State	City	Year(s)
Huntsville WISE	AL	Huntsville	2011-2013
ShopSmart with JEA	FL	Jacksonville	2011-2012
Atlanta SHINE	GA	Atlanta	2010-2013
Decatur WISE	GA	Decatur	2011
NOLA WISE	LA	New Orleans	2011-2013
Carrboro WISE	NC	Carrboro	2011-2013
Chapel Hill WISE	NC	Chapel Hill	2011-2013
Charleston WISE	SC	Charleston	2011-2013
Nashville Energy Works	TN	Nashville	2011-2013
LEAP	VA	Charlottesville	2011-2013
NEXT STEP Program	VA	Hampton Roads	2011

# BBNP Spending

## Spending By State



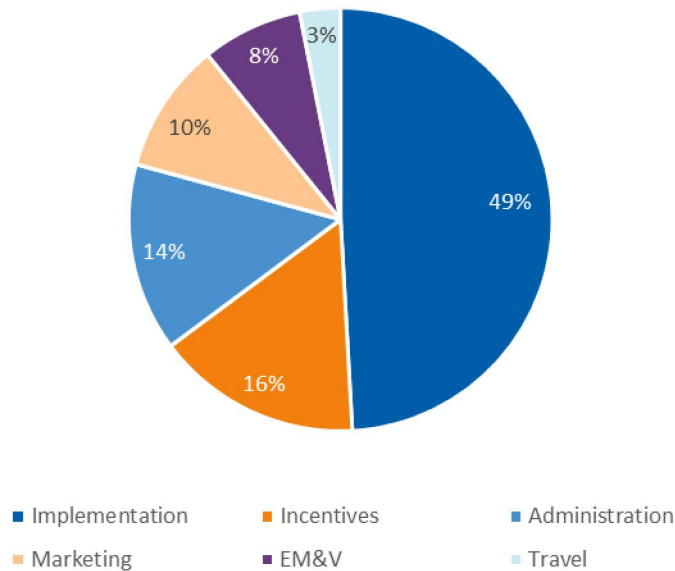
## Spending By Year





# BBNP Spending & Project Payments

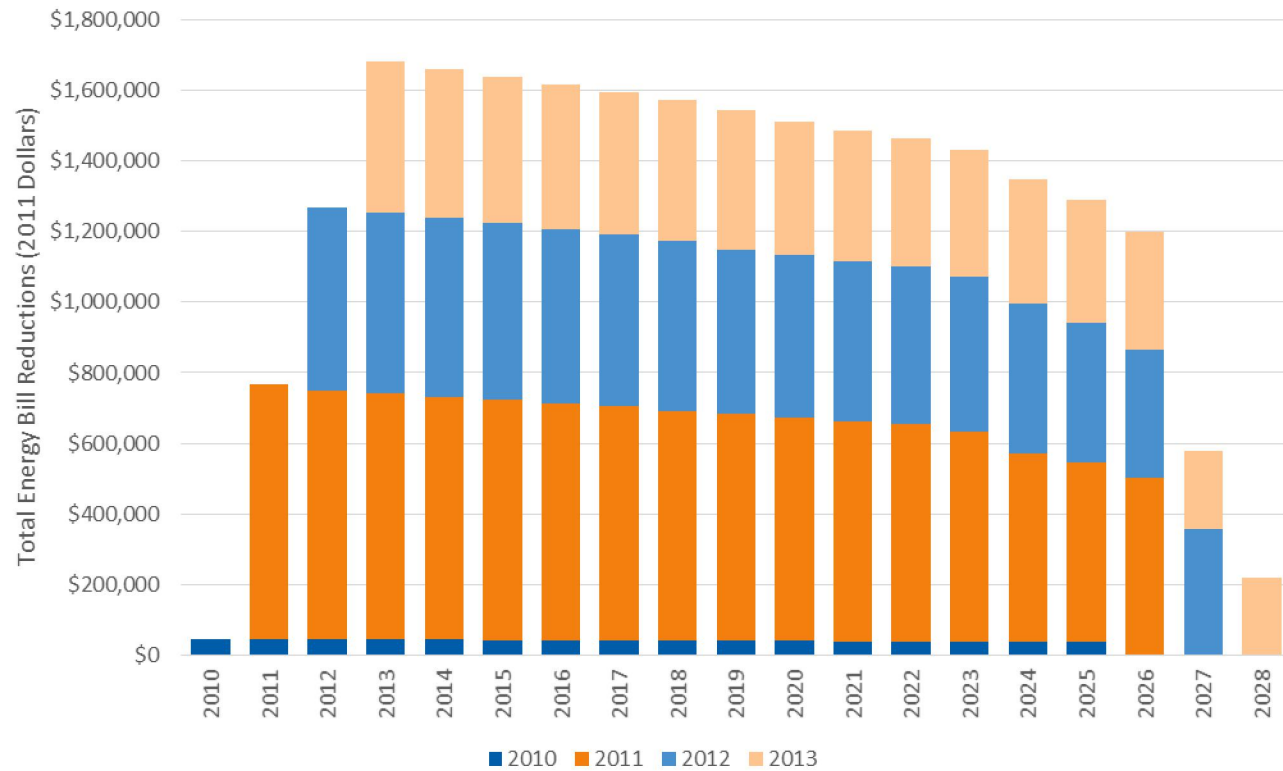
## Spending By Category



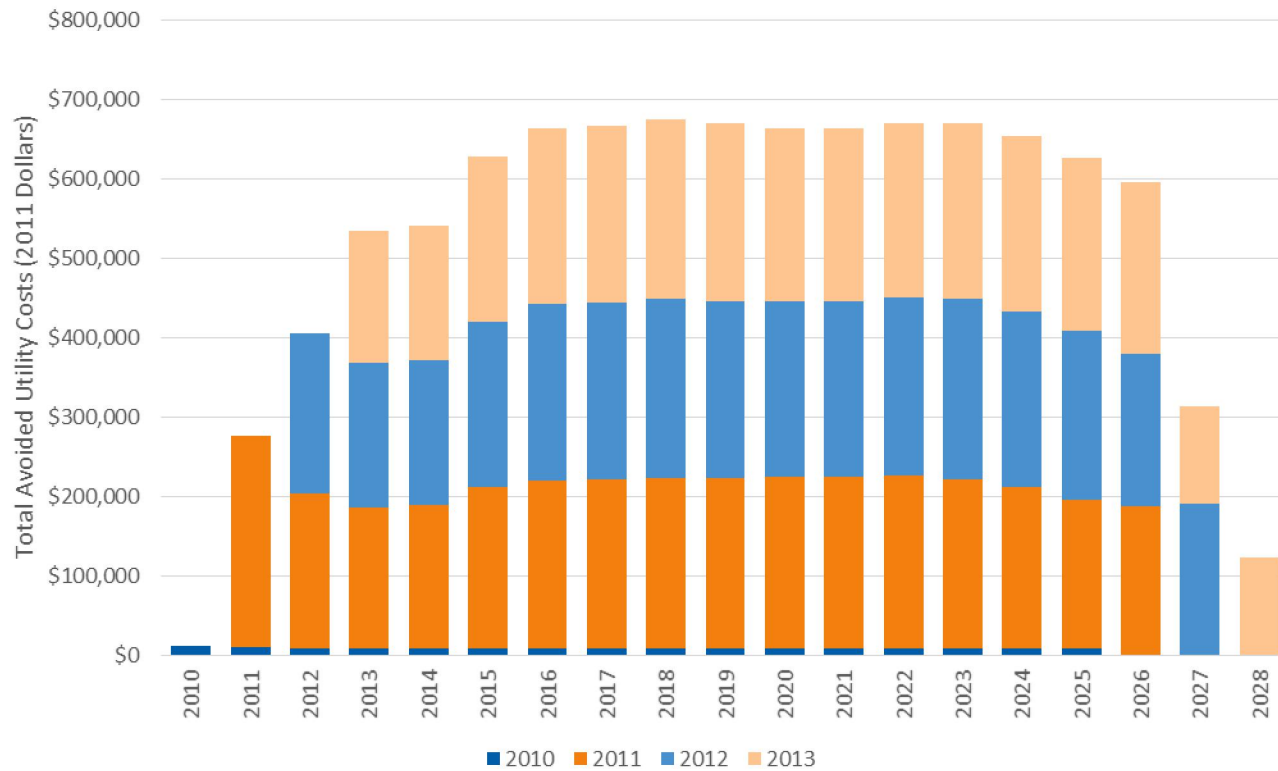
## Project Payments

- Sum of incentives and participant co-funding
- Participant co-funding equal incentives received
  - Simplifying assumption
  - 15.7% of \$26.1 million, or \$4.1 million

# Total Energy Bill Reductions



# Total Avoided Utility Costs





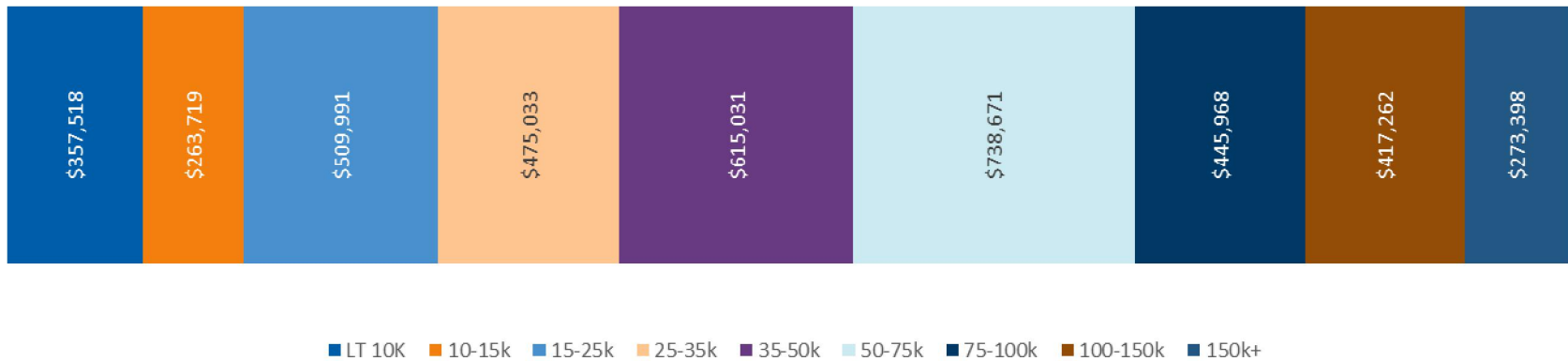
# Model Inputs:

## Counterfactual Baselines

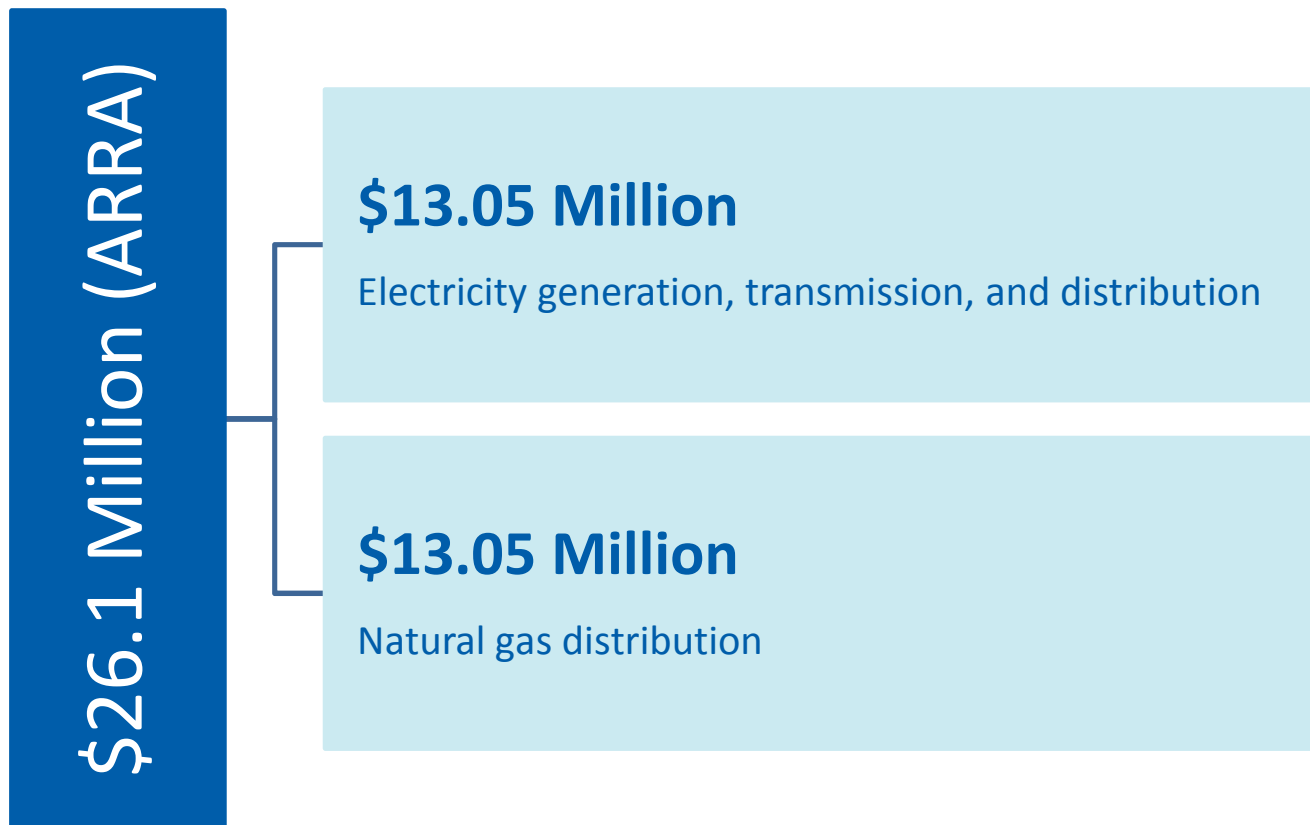


# Alternative Participant Expenditures

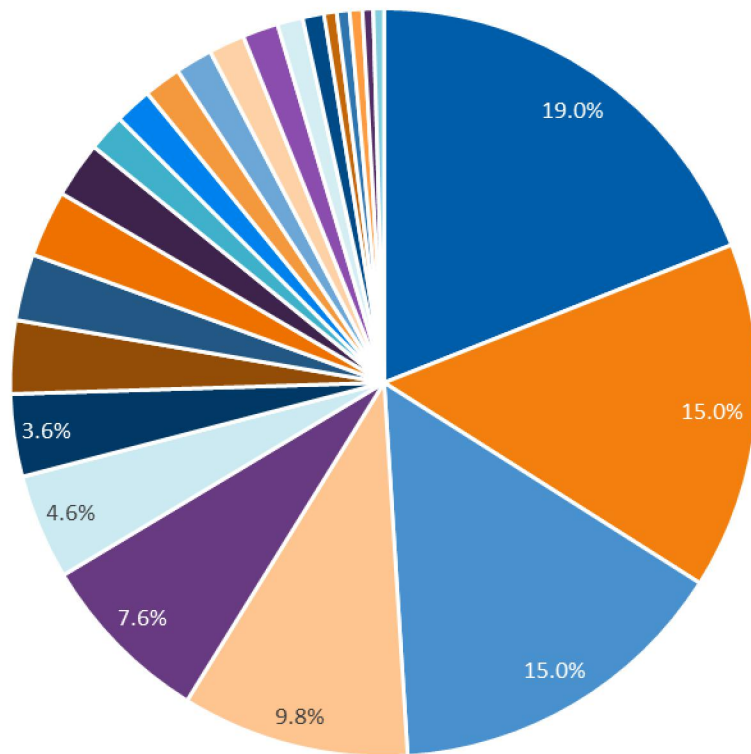
**Total: \$4,096,589**



# Supply-Side Energy Infrastructure

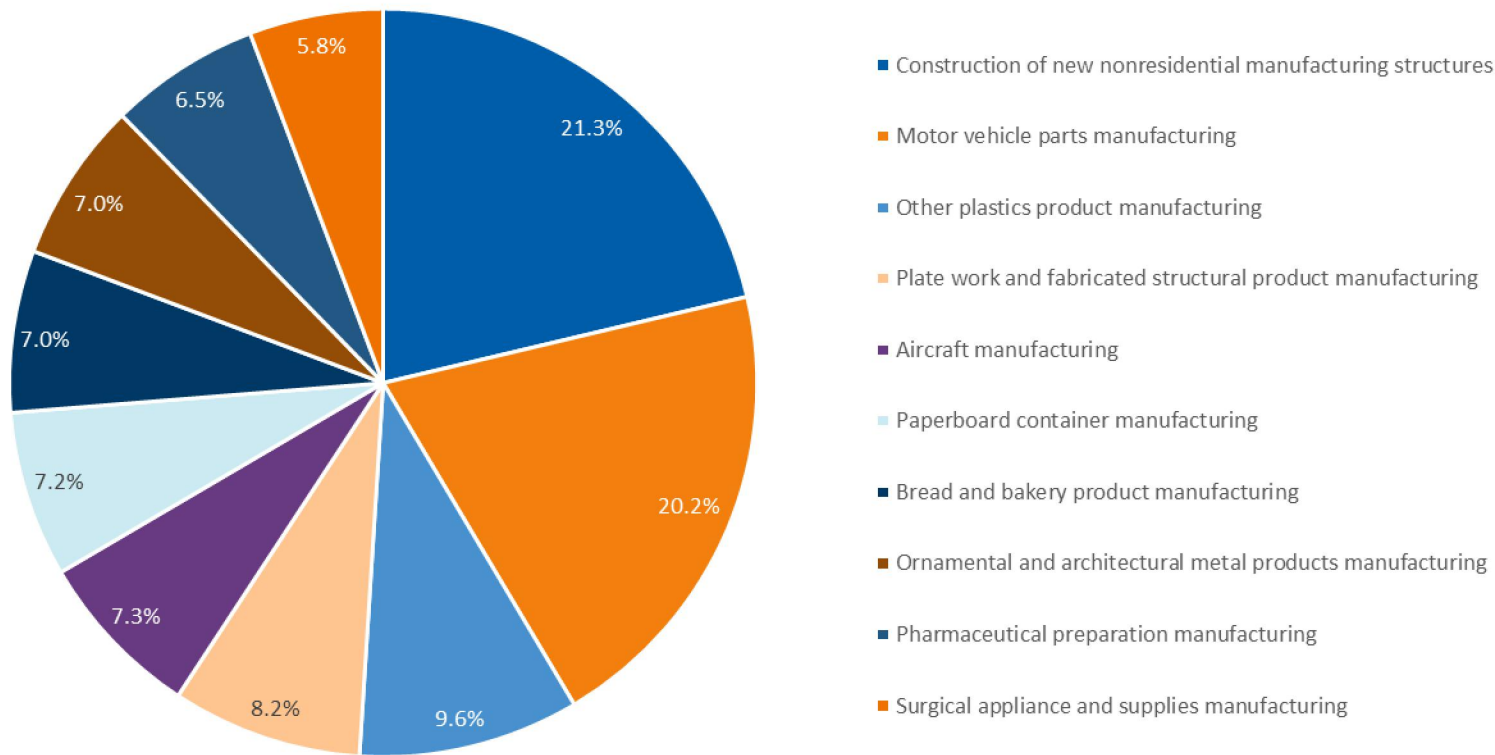


# Renewable Energy Infrastructure



- Semiconductor and related device manufacturing
- Maintenance and repair construction of nonresidential maintenance and repair
- Maintenance and repair construction of residential structures
- Ferrous metal foundries
- All other miscellaneous electrical equipment and component manufacturing
- Plate work and fabricated structural product manufacturing
- Mechanical power transmission equipment manufacturing
- Turbine and turbine generator set units manufacturing
- Other plastics product manufacturing
- Motor and generator manufacturing
- Wiring device manufacturing
- Plastics material and resin manufacturing
- Plastics packaging materials and unlaminated film and sheet manufacturing
- Flat glass manufacturing
- Ornamental and architectural metal products manufacturing
- Ball and roller bearing manufacturing
- Speed changer, industrial high-speed drive, and gear manufacturing
- Switchgear and switchboard apparatus manufacturing
- Watch, clock, and other measuring and controlling device manufacturing
- Copper rolling, drawing, extruding and alloying
- Electricity and signal testing instruments manufacturing
- Storage battery manufacturing
- Bare printed circuit board manufacturing
- Printed circuit assembly (electronic assembly) manufacturing

# Top 10 Manufacturing Sectors







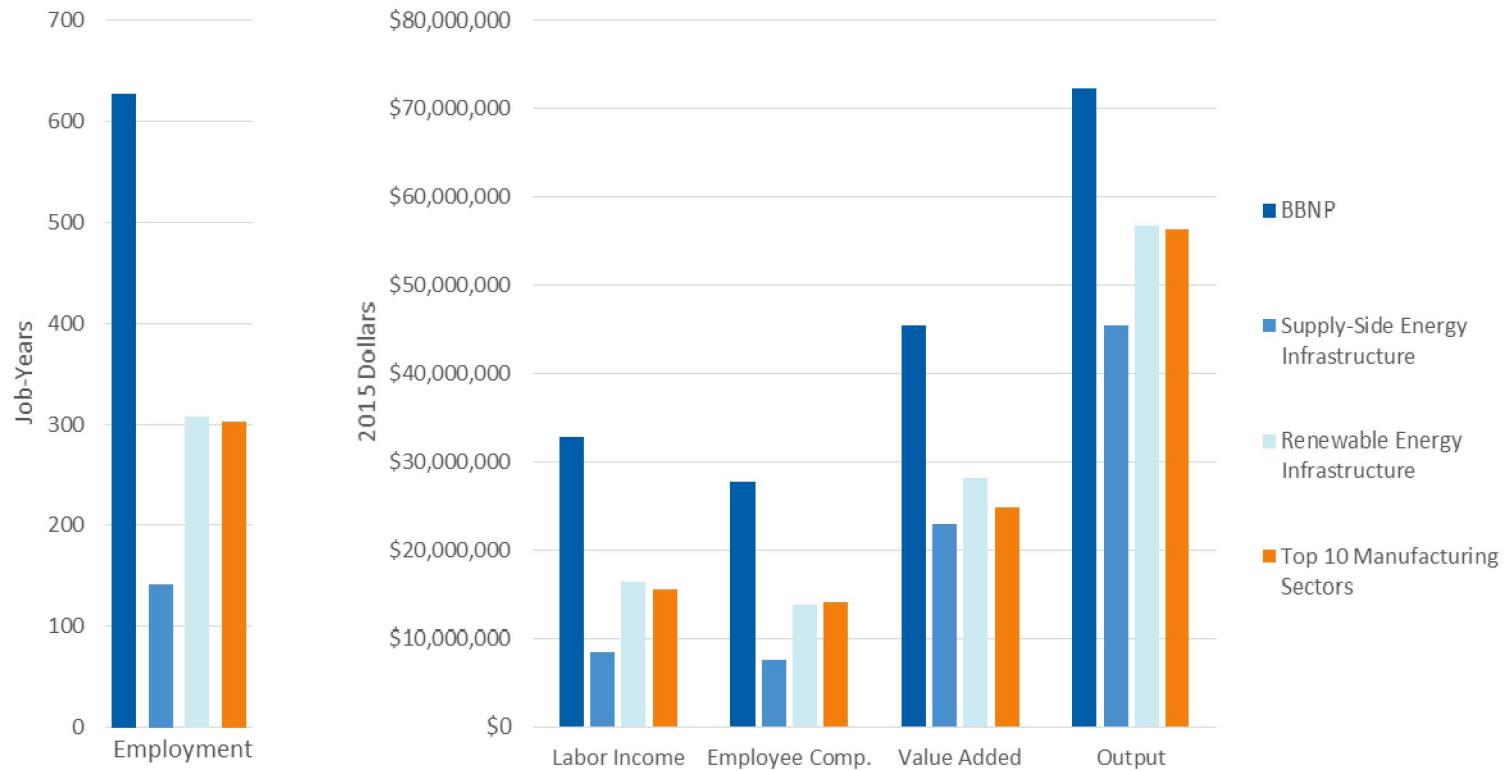
# Findings



# Summary Effects by Scenario

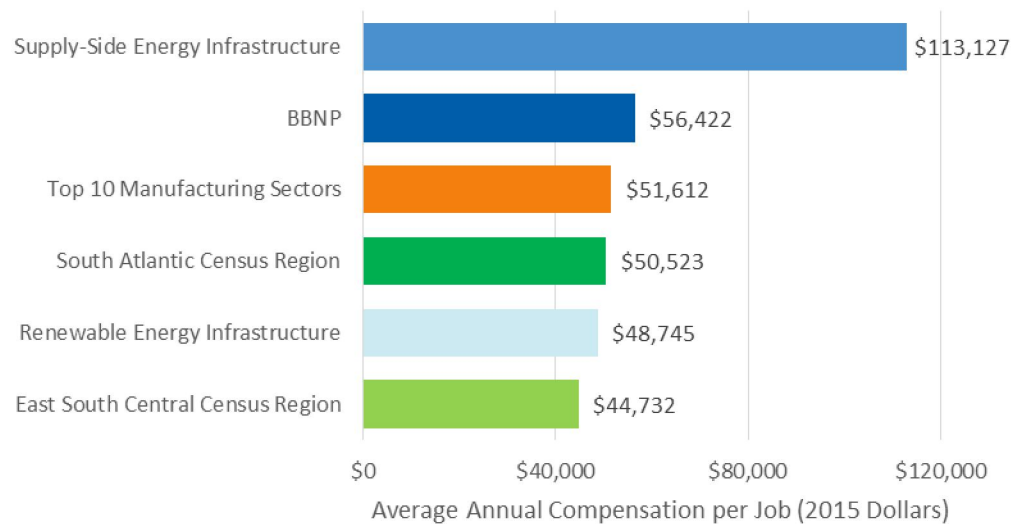
Scenario	Impact Type	Key Economic Indicator				
		Employment	Labor Income	Employee Comp.	Value Added	Output
BBNP	Direct Effect	207	\$14,149,760	\$11,681,338	\$12,658,425	\$15,900,361
	Indirect Effect	61	\$2,914,109	\$2,537,915	\$3,988,714	\$6,779,382
	Induced Effect	358	\$15,629,839	\$13,480,997	\$28,762,037	\$49,650,370
	<b>Total Effect</b>	<b>627</b>	<b>\$32,693,709</b>	<b>\$27,700,250</b>	<b>\$45,409,176</b>	<b>\$72,330,114</b>
Supply-Side Energy Infrastructure	Direct Effect	25	\$2,933,967	\$2,827,276	\$12,006,580	\$26,104,106
	Indirect Effect	38	\$2,097,365	\$1,694,053	\$4,541,245	\$8,420,153
	Induced Effect	78	\$3,419,934	\$2,949,973	\$6,286,424	\$10,854,887
	<b>Total Effect</b>	<b>141</b>	<b>\$8,451,266</b>	<b>\$7,471,302</b>	<b>\$22,834,248</b>	<b>\$45,379,147</b>
Renewable Energy Infrastructure	Direct Effect	111	\$6,701,034	\$5,394,672	\$11,356,255	\$26,104,105
	Indirect Effect	73	\$4,208,130	\$3,702,190	\$6,797,260	\$13,626,250
	Induced Effect	123	\$5,391,555	\$4,651,208	\$9,887,954	\$17,082,789
	<b>Total Effect</b>	<b>307</b>	<b>\$16,300,719</b>	<b>\$13,748,069</b>	<b>\$28,041,470</b>	<b>\$56,813,145</b>
Top 10 Manufacturing Sectors	Direct Effect	117	\$6,386,664	\$6,015,801	\$8,817,605	\$26,104,105
	Indirect Effect	67	\$3,939,888	\$3,521,830	\$6,417,298	\$13,797,712
	Induced Effect	119	\$5,194,546	\$4,481,191	\$9,532,772	\$16,467,015
	<b>Total Effect</b>	<b>303</b>	<b>\$15,521,097</b>	<b>\$14,018,822</b>	<b>\$24,767,675</b>	<b>\$56,368,832</b>

# Total Effects by Scenario



# Direct Employment and Employee Compensation Effects by Scenario

Scenario	Employment	Employee Comp.
BBNP	207	\$11,681,338
Supply-Side Energy Infrastructure	25	\$2,827,276
Renewable Energy Infrastructure	111	\$5,394,672
Top 10 Manufacturing Sectors	117	\$6,015,801



# Conclusions

1. ARRA investment in BBNP programs created more jobs, generated more income, and led to greater economic impacts than any of the three alternative spending options analyzed.
  - Primarily driven by induced effects resulting from program participants and employees of directly and indirectly affected industries spending newfound money on regional goods and services
2. Average annual compensation per job created via BBNP was higher than actual average annual compensation per job in the study region.
  - Suggests a positive impact on regional consumer spending power associated with BBNP activities completed from 2010–2013



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