

## Bill inserts

### Bill Inserts

If the bill insert is	Use this process number	And this account number (You'll have to enter manually)
<ul style="list-style-type: none"> <li>• Health and safety related information and/or instructional materials</li> <li>• Encouraging environmental protection and conservation</li> </ul>	BINSERT	0909650
<ul style="list-style-type: none"> <li>• Promoting or retaining service</li> <li>• Sales related (except for merchandise)</li> </ul>	BINSERT	0913001
<ul style="list-style-type: none"> <li>• Corporate in nature</li> <li>• Promoting good will</li> <li>• Improving corporate image</li> <li>• Cost-of-service related</li> <li>• Other general advertising</li> </ul>	BINSERT	0930150
<ul style="list-style-type: none"> <li>• Political in nature</li> </ul>	BINSERT	0426400
<ul style="list-style-type: none"> <li>• Non-recoverable (classified as "below the line")</li> </ul>	BINSERT	0426510

## Donations and sponsorships

### Donations and Sponsorships

If the expenditure is	Process number varies	Use this account number
<ul style="list-style-type: none"> <li>A donation for charitable, social or community welfare purposes</li> </ul>	Get from client	0426100
<ul style="list-style-type: none"> <li>For civic, political and related activities</li> <li>For sports related sponsorships</li> </ul>	Get from client	0426400

## All other areas

### All Other Areas

If the advertising/promotion is	Use this process number	Which will automatically generate this account number
<ul style="list-style-type: none"> <li>• Health and safety related information and/or instructional materials</li> <li>• Encouraging environmental protection and conservation</li> </ul>	ADVHS	0909650
<ul style="list-style-type: none"> <li>• Promoting or retaining service</li> <li>• Sales related (except for merchandise)</li> </ul>	ADVPRO	0913001
<ul style="list-style-type: none"> <li>• Corporate in nature</li> <li>• Promoting good will</li> <li>• Improving corporate image</li> <li>• Cost-of-service related</li> <li>• Other general advertising</li> </ul>	ADVCORP	0930150
<ul style="list-style-type: none"> <li>• Political in nature</li> </ul>	ADVPOL	0426400
<ul style="list-style-type: none"> <li>• Non-recoverable (classified as "below the line")</li> </ul>	ADVNR	0426510

# Questions



## Getting it right

### MarCom's accounting process for advertising

#### What is considered "advertising" for accounting purposes?

"Advertising" includes the costs of producing and distributing any kind of marketing material – whether via print, broadcast channels, e-mail or the Web. It can be promotional (to sell products or services) or political (to influence opinions).

#### Why is this important?

We track advertising expenses with special account numbers, so we can recover them in our rates. If we don't get it right, the commissions won't let us collect on our investment, and they can fine the company as well – potentially in the millions of dollars.

#### What's MarCom's responsibility?

To enter the correct advertising account numbers – and double-check them for accuracy when the client provides them.

**This summary applies only to advertising.** For other types of expenses, and for more detailed information on accounting codes for MarCom, Corp Comm and Marketing, see the MarCom Training Materials on SharePoint.

### TWO-STEP PROCESS:

## STEP 1

**Who's paying?** Get the correct accounting codes from your client – whoever asked for the work and is paying for it.

- Their Business Unit number
- Their Operating Unit number
- Their Responsibility Center number

If they don't know the right numbers to use, they need to talk to the financial support person in their organization. Meanwhile, if the work needs to start, let them know they will see no deliverables until the accounting is accounted for!

## STEP 2

**What's it for?** Identified with a process code and an account number. Refer to the appropriate table below. **The heading for each table provides a link to helpful examples for each category.**

### Retail Customer Product & Services, Marketing & Customer Experience

When promoting	Use this process number	And this account number
Save-a-watt (NC, SC, OH electric)	EEADV	0557000
Energy efficiency (KY, IN, OH gas)	EEADV	0182401
Non-regulated products (all states)	NRADV	0417320
Standard/regulated products (any state)	ADVPRO	0913001

**Commercial Businesses** (DERS, DEGS, DEI, etc.)

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<ul style="list-style-type: none"> <li>Promoting or retaining service</li> <li>Sales related (except for merchandise)</li> </ul>	ADPPROMO	0913001
<ul style="list-style-type: none"> <li>Corporate in nature</li> <li>Promoting good will</li> <li>Improving corporate image</li> <li>Cost-of-service related</li> <li>Other general advertising</li> </ul>	ADDCORP	0930150
<ul style="list-style-type: none"> <li>Political in nature</li> </ul>	ADPPOLIT	0426400
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**Exhibit WBM-4**  
**NEI Activities -**

# Nuclear Energy

## Powering sustainable economies worldwide

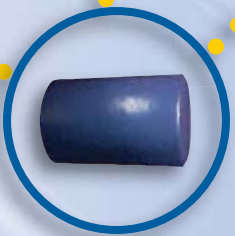
Nuclear energy generates vast amounts of dependable, affordable electricity while helping reduce climate change.



149 gallons of oil



1,780 pounds of coal



One uranium fuel pellet (shown actual size) provides as much energy as the sources at left.



17,000 cubic feet of natural gas

### Secure Source of Electricity Today and for the Future

- Electricity is part of daily life in the industrialized world and is rapidly expanding in developing nations. The expanded use of nuclear energy supports sustainable development principles—powering the world's growing economies while protecting our environment and finite resources for future generations. Clean, safe, reliable nuclear energy is a vital partner in sustainable development.
- U.S. electricity demand is expected to increase 28 percent by 2035, according to the Energy Information Administration (EIA). Electricity demand is projected to increase an average of 1 percent per year in the United States. World electricity generation will increase 2.3 percent per year through 2035. Today, 104 nuclear power plants provide 20 percent of the United States' electricity. They are reliable, efficient, non-emitting sources of electricity, capable of operating around the clock.
- Worldwide, 438 reactors generate 14 percent of the electricity that helps economies develop sustainably. Sixty-one advanced reactors are under construction, providing opportunities for suppliers to produce jobs and economic growth.
- Reactor fuel is abundant. Because uranium has few other commercial uses, nuclear power plants help conserve other precious natural resources. Uranium fuel is remarkably efficient and can even be recycled. One uranium fuel pellet, which weighs about 7 grams, provides as much energy as 17,000 cubic feet of natural gas, 1,780 pounds of coal or 149 gallons of oil.
- According to a recent OECD study,<sup>1</sup> nuclear energy could become the largest source of electricity worldwide by 2050—contributing almost one-quarter of all electricity.

<sup>1</sup>The Organization for Economic Cooperation and Development's 2010 "Nuclear Energy Technology Roadmap."



We need more electricity, but we also want to protect the environment for future generations. With nuclear energy, we can do both.



reduce greenhouse gases



desalinate water



power hybrids

COURTESY OF TOYOTA

## Protecting the Environment For Future Generations

- Nuclear power does not emit air pollutants or greenhouse gases when generating electricity, making it a powerful tool for combating climate change.
- Nuclear plants are clean over their entire life cycle. An International Energy Agency analysis found that a nuclear power plant's life cycle emissions range from 2 to 59 gram-equivalents of carbon dioxide per kilowatt-hour. Only hydropower's range ranked lower, at 2 to 48 grams of carbon dioxide-equivalents per kilowatt-hour.
- Three 1,000-megawatt reactors generate enough electricity to meet the annual electricity demand of a city the size of Montréal, but produce only 60 metric tons of used fuel each year—48 grams per inhabitant, or about 8 uranium fuel pellets. All nuclear power plant fuel is managed safely, from its beginnings in uranium mines through recycling and/or permanent disposal.

## Reactors Planned, Proposed or Under Construction Worldwide<sup>1</sup>

Country	# of reactors	Megawatts
China	177	184,000
India	64	68,312
Russia	54	52,960
USA	32	43,980
Ukraine	22	28,900
Japan	15	20,588
UAE	14	20,000
Italy	10	17,000
UK	10	15,200
Vietnam	14	15,000
South Korea	12	14,890
Turkey	8	10,400
Canada	9	9,700
South Africa	27	7,565
Indonesia	6	6,000
Poland	6	6,000
Thailand	6	6,000
Brazil	5	5,270
France	3	4,890
Finland	3	4,600
Belarus	4	4,000
Switzerland	3	4,000
Czech	3	3,600
Lithuania	2	3,400
Iran	4	3,115
Pakistan	5	2,900
Hungary	2	2,200
Argentina	4	2,199
Slovakia	3	2,040
Bangladesh	2	2,000
Egypt	2	2,000
<b>Total</b>	<b>531</b>	<b>572,709</b>

<sup>1</sup>Partial list. For full list see: World Nuclear Association, "World Nuclear Power Reactors & Uranium Requirements," Aug. 1, 2010.

nuclear. clean air energy.



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## Nuclear Energy's Indispensable Role in Global Climate Change Strategy

The world's developed nations have an ethical obligation to accelerate the deployment of low-carbon technologies, including renewable energy options and nuclear energy, on a global scale. Aggressive mitigation actions will help reduce the impacts of climate change on the most vulnerable countries, such as low lying countries like Bangladesh and the Netherlands, small island developing states, and the world's least developed countries.

The Intergovernmental Panel on Climate Change (IPCC) highlighted nuclear energy as a “key mitigation technology” in its Fourth Assessment Report. The nuclear energy industry supports an effective international agreement that recognizes nuclear energy’s role in climate change mitigation.

Nuclear energy is the largest scalable and most efficient source of emission-free electricity. Globally, nuclear energy provides 15 percent of the world’s electricity each year while preventing 2.6 billion metric tons of carbon dioxide. Independent analysis of climate change mitigation strategies internationally show that a substantial expansion of nuclear energy is needed to meet climate change goals in a manner that reduces the cost of energy to consumers. These benefits are being expanded with more than 50 new reactors under construction.

International partnerships, along with financial assistance for technology transfer, should be established to promote the development of new nuclear energy plants in accordance with the United Nations Framework Convention on Climate Change. Countries pursuing commercial nuclear energy programs should receive international recognition within the UNFCCC process for their emission reduction efforts.

Increased access to energy is essential to poverty reduction efforts world-wide. People with greater access to electricity enjoy a healthier standard of living. Nuclear energy generates emission-free power for hundreds of millions of people around the world and is used to provide clean water in nations with scarce freshwater supply.

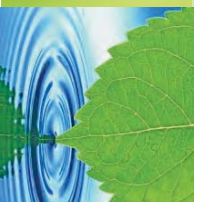


### Fast Facts

- 438 nuclear reactors produce 14% of world electricity.
- Nuclear energy generates 45% of global carbon-free electricity.
- Climate change mitigation requires a strong role for nuclear energy among low-carbon energy options.
- 57 new reactors are being built worldwide; 430 are proposed to be built.

*In the opinion of these countries, nuclear energy can play an essential role, as it meets the dual challenge of reducing greenhouse gas emissions and lowering fossil-fuel consumption. ... We note that, in the opinion of a growing number of countries, the use of nuclear power can diversify the energy mix, contribute to energy security while reducing greenhouse gas emissions.”*

—G8 Leaders, Aug. 7, 2009



## Analyses of Nuclear Energy's Effective Role In Reducing Greenhouse Gases

### Studies on the United States:

Source	Study or Analysis of Proposed Legislation (Year Released)	Number of new reactors <sup>1</sup>	Gigawatts	Timeframe
Energy Information Administration	Updated Annual Energy Outlook 2009 <sup>2</sup> Representatives Waxman/Markey, H.R. 2454 (2009) Senators Lieberman/Warner, S. 2191 (2008)	8 69 191	11 96 268	2030 2030 2030
Environmental Protection Agency	Representatives Waxman/Markey, H.R. 2454 (2009) Senators Lieberman/Warner, S. 2191 (2008)	187 179	262 250	2050 2050
National Academy of Sciences	America's Energy Future: Technology and Transformation (2009) <sup>3</sup>	77	108	2035
Electric Power Research Institute	Prism/Merge Analyses: 2009 Update	46	64	2030
McKinsey & Company	U.S. Greenhouse Gas Abatement Mapping Initiative - Mid-Range Case (2007)	18	25	2030

### Studies on the World:

Source	Study	Number of new reactors <sup>1</sup>	Gigawatts	Timeframe
International Atomic Energy Agency	Energy, Electricity and Nuclear Power Estimates for the Period up to 2030	99-311	139-435	2030
OECD International Energy Agency	World Energy Outlook 2009 - 450 Policy Scenario Energy Technology Perspectives - ACT Map scenario <sup>3</sup> Energy Technology Perspectives - BLUE Map scenario <sup>3</sup>	235 414 642	330 579 899	2030 2050 2050
OECD Nuclear Energy Agency	Nuclear Energy Outlook 2008 - Low and High Scenarios <sup>3</sup>	149-734	208-1,028	2050
McKinsey & Company	Global Greenhouse Gas Abatement Cost Curve, Version 2 <sup>3</sup>	199	279	2030

**All countries can access peaceful nuclear energy... We must harness the power of nuclear energy on behalf of our efforts to combat climate change, and to advance peace for all people.”**

—President Barack Obama, United States, April 2009

**So however we look at it, we will not secure the supply of sustainable energy on which the future of the planet depends without a role for civil nuclear power:”**

—Prime Minister Gordon Brown, United Kingdom, March 17, 2009.

**In the years ahead, China will further integrate our actions on climate change into our economic and social development tasks... we will vigorously develop renewable energy and nuclear energy. We will endeavor to increase the share of non-fossil fuels in primary energy consumption to around 15 percent by 2020.”**

—President Hu Jintao  
People's Republic of China  
Sept. 22, 2009

**Our nuclear industry is poised for a major expansion and there will be huge opportunities for the global nuclear industry. This will sharply reduce our dependence on fossil fuels and will be a major contribution to global efforts to combat climate change.”**

—Prime Minister Manmohan Singh  
India  
Sept. 30, 2009

<sup>1</sup>In these tables and throughout this document, unless stated otherwise, each new reactor is 1,400-MW.  
<sup>2</sup>Based on business as usual – no climate policy.  
<sup>3</sup>Numbers calculated based on a 90% capacity factor.

# Nuclear Energy: Powering America's Future



# Energy for the Future

Supplying electricity to grow our economy and protecting our air quality are important national goals. With new nuclear power plants, America can do both. The energy industry is planning to build advanced nuclear plants to meet growing electricity demand while enhancing U.S. energy independence and reducing greenhouse gases.

The U.S. Department of Energy projects that electricity demand will rise 21 percent by 2030. Even with conservation and efficiency measures, we will need hundreds of new power plants from a diverse portfolio of fuel sources to supply electricity for a high standard of living and to promote domestic economic growth.

The 104 U.S. nuclear reactors operating in 31 states produce about 20 percent of the nation's electricity. Nuclear energy produces more electricity than any other source in New York, New Jersey, South Carolina and Vermont.





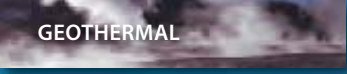


Among clean-air electricity sources, nuclear energy plays an even greater role. Only 26 percent of our nation's overall electricity comes from carbon-free sources, and nuclear power plants generate almost three-fourths of it. Nuclear energy also has the best efficiency rating and one of the lowest costs for producing electricity.

America must increase electricity output from nuclear energy to help power economic growth with the least impact on our environment, the least reliance on foreign nations and the least cost to American consumers.



## Nuclear Energy Is America's Largest Source of Emission-Free Electricity

April 2009

 NUCLEAR ENERGY	73%
 HYDROPOWER	24.1%
 GEOTHERMAL	1.4%
 WIND POWER	1.4%
 SOLAR ENERGY	0.1%

# Nuclear Plants: Safe, Clean Energy

American nuclear power plants are regulated by the U.S. Nuclear Regulatory Commission and operate at peak levels of safety and reliability. The NRC has independent inspectors at each reactor, and the agency's reactor oversight process shows consistently high safety performance across the industry.

The nuclear energy industry's operations include multiple levels of safety. Nuclear plants are massive structures with steel-reinforced concrete walls and layers of backup safety systems. They also have NRC-licensed operators, who spend every sixth week in a continuous training regime. This rigorous training includes sessions in full-scale reactor control room simulators responding to various reactor operating scenarios, with the aim of improving safe operations.

In addition, the industry has the most sophisticated security and emergency preparedness plans in the U.S. industrial sector. All these features protect the safety of workers and plant neighbors.

Nuclear plants play a vital role in protecting our nation's air quality and addressing global climate change. Without nuclear power plants, levels of harmful emissions released into the atmosphere would increase significantly—particularly those that contribute to acid rain (sulfur dioxide) and urban smog (nitrogen dioxide).

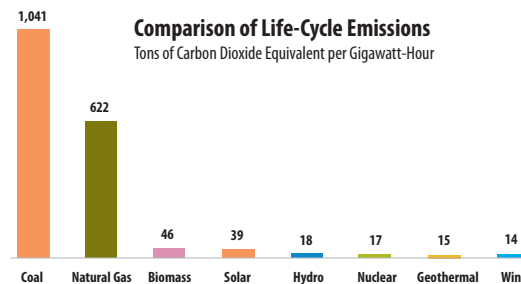
Nuclear power plants do not produce any greenhouse gases during the electricity production process and have among the lowest total "life-cycle" carbon emissions. This reflects all plant-related activities, from uranium mining to construction and decommissioning of the plant.

The life-cycle carbon footprint of a nuclear power plant is comparable to wind and hydropower plants, yet nuclear is a 24/7, large-scale power producer.

*Nuclear energy helps protect the environment for future generations. At far right: Highly trained, federally licensed operators ensure safe nuclear plant operation.*



Expanding non-emitting electricity sources to meet our growing electricity needs is an enormous challenge. Assuming dramatic increases in wind and solar power, the United States would have to build 25 to 30 new nuclear power plants by 2030 simply to maintain nuclear energy's present share of non-emitting electricity capacity.



*Nuclear energy's life-cycle emissions of carbon dioxide are equivalent to those of wind and hydropower—and significantly less than those of solar energy and other electricity sources.*

Source: "Life-Cycle Assessment of Electricity Generation Systems and Applications for Climate Change Policy Analysis," Paul J. Meier, University of Wisconsin-Madison, August 2002.

# Construction of Advanced Nuclear Power Plants

**A** new generation of nuclear power plants will feature advanced designs, refined construction techniques, and a licensing process geared to a mature technology—improvements built on 50 years of experience in operating nuclear plants.

Most U.S. reactors were licensed and built between 1965 and 1985, when commercial nuclear energy and the regulations governing it were new and evolving rapidly.

A new licensing process, established in 1992, moved the resolution of safety issues to the front of three approval processes for new reactors: siting, design and construction/operation.



NRC regulations provide for:

- approval of a site in advance of a decision to build a reactor
- approval of advanced nuclear power plant designs
- combined construction/operating license (“combined license”) that allows a company to operate a completed plant provided it conforms to the approved design.

The new approach makes licensing a nuclear plant more efficient and more transparent to the public. Throughout the licensing process, the public has numerous opportunities to comment before major construction begins.

Companies started applying to the NRC for combined licenses in 2007—for the first time in nearly 30 years.

Although the U.S. nuclear industry has not built a new plant in some years, it has never stopped working on large capital projects that are an



ongoing part of maintaining and refurbishing the 104 existing reactors. For example, the industry has made major upgrades at many plants to boost the amount of electricity they produce.

Also, Tennessee Valley Authority refurbished the Browns Ferry 1 reactor in a five-year, \$1.9 billion project, on schedule and within budget. The reactor had been shut down since 1985, but was restarted in 2007 and provides electricity to serve 800,000 homes.

The industry that is building the next generation of nuclear plants is far different from the one that built the currently operating reactors: It has 50 years’ experience in building, operating and maintaining the world’s largest nuclear energy program and a sustained record of world-class plant performance.



*The U.S. nuclear industry has substantial recent experience in large capital projects, which are part of the ongoing maintenance and refurbishment of existing plants. The development of new nuclear plants is spurring the creation of thousands of high-paying jobs in manufacturing, construction, engineering, skilled crafts and many other areas.*

“These are careers, not just jobs. They enable workers to buy homes, send their children to college, live decent lives and retire with dignity.”

—Steve Kelly

Assistant General President

United Association of Plumbers and Pipefitters

Exhibits to Direct Testimony of William B. Marcus  
STATE OF NORTH CAROLINA UTILITIES COMMISSION DOCKET NO. E 7, SUB 1026

*New nuclear plants create opportunities for expanding U.S. manufacturing. A single new plant requires about 66,000 tons of steel, 400,000 cubic yards of concrete, 44 miles of pipe, 300 miles of electric wiring and 130,000 electrical components.*

# Nuclear Plants Boost State and Local Economies

**N**uclear plants contribute substantially to state and local economies, both in direct spending and in economic activity generated by the presence of the plant and its employees. Each new reactor will create between 1,400 and 1,800 jobs for construction, with peak employment of up to 2,400 workers. Once in operation, the average nuclear plant:

- employs 400 to 700 people in the local community at salaries typically substantially higher than the local average
- generates approximately \$430 million in sales of goods and services in the local community and nearly \$40 million in total labor income
- provides annual state and local tax revenue of more than \$20 million, benefiting schools, roads and other state and local infrastructure.

Many communities and states are actively supporting new nuclear plant projects, recognizing their value as safe, clean and economically beneficial industrial neighbors.

New nuclear projects are in the early stages of development, and the start of major construction is three to five years away. The prospect of new construction already has stimulated significant investment and job creation among companies that supply equipment and services to the nuclear industry.

Over the past three years, the industry has invested more than \$4 billion in new nuclear plants and created 14,000 to 15,000 jobs—with an additional \$8 billion investment to follow in the next few years.

*When it comes to providing good-paying jobs for American workers, [nuclear energy is] one of our economy's leading sectors."*

—Rep. Steny Hoyer (D-Md.)



*Southern Company has started preliminary site preparation for two reactors at its Vogtle nuclear plant in Georgia. Preparing a site while a license application is under review can help bring a new plant online up to 18 months earlier.*



*Many plant owners have invested in major upgrades to turbines and other components to increase the amount of electricity the plants can generate. To meet future increases in electricity demand, power companies must build new plants now.*



# Creating the Investment Climate for New Reactors

Electricity is integral to modern life, providing energy to operate home appliances, factories and life-saving medical equipment. However, ensuring a reliable, affordable supply of electricity to meet increasing demand over the next two decades will require an enormous investment in our nation's energy infrastructure.

The electric power sector must invest between \$1.5 trillion and \$2 trillion in new power plants, transmission and distribution systems, and environmental controls. The industry faces a significant challenge in financing this investment.

U.S. government policies and practices support the development of nuclear power plants and other clean energy technologies through limited financial incentives made available by the Energy Policy Act of 2005. The law sustains a long-standing government tradition of providing limited financial backing for energy projects vital to the nation's infrastructure.

Transforming the U.S. electric power sector is both a daunting challenge and a tremendous opportunity. If America rises to the challenge, we will create a 21st century electricity system, produce millions of green jobs, rebuild our manufacturing base and generate economic growth and opportunity.


*There is bipartisan recognition in Congress that the United States needs new nuclear plants to meet increasing electricity demand while curbing emissions of greenhouse gases.*



*Appliances account for 65 percent of the electricity consumed by the average U.S. household.*



*Nuclear energy is the only large-scale source of constantly available electricity that can be expanded significantly with such a small environmental footprint. A single 1,000-megawatt nuclear plant can generate enough electricity for a city the size of Boston.*

 A large portion of the jobs that would be supported by the nuclear investment program ... are high-tech, value-added jobs. ... Benefits of the investment program are not confined to states which are expected to increase nuclear capacity.”

—“Economic Benefits of Nuclear Energy in the USA,” Oxford Economics, May 2008.

# perspective on public opinion

prepared for the Nuclear Energy Institute

## Upward Trend in Public's Favorable Attitudes Toward Nuclear Energy

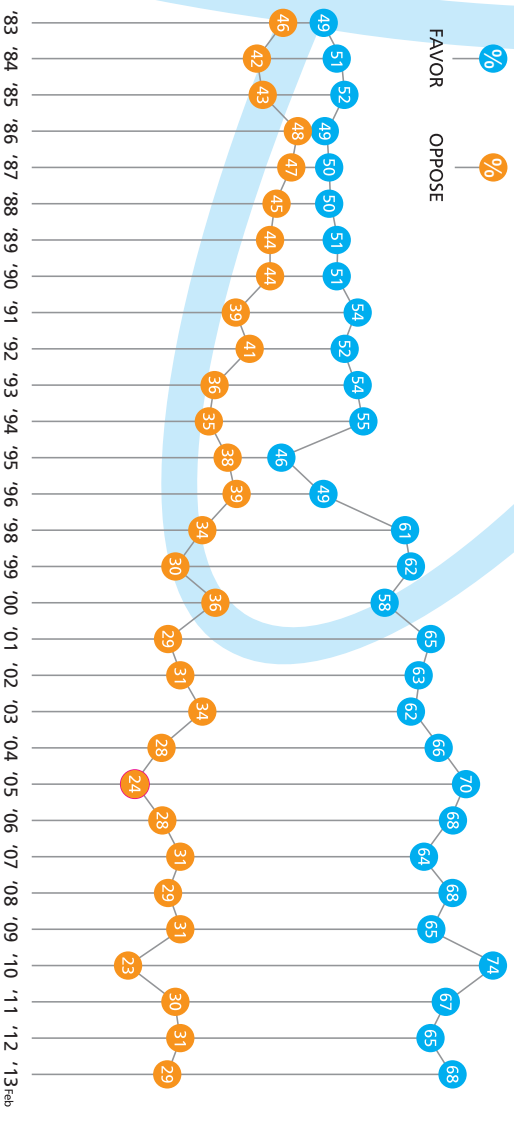
By Ann S. Bisconti, PhD, President, Bisconti Research, Inc.

Nuclear energy is increasingly viewed in a favorable light. A February survey of U.S. public opinion found that 68 percent now favor the use of nuclear energy as one of the ways to produce electricity—up from 65 percent in September 2012 and 62 percent in September 2011. The longer-term trend reveals a three-decade climb from a public that was evenly divided.

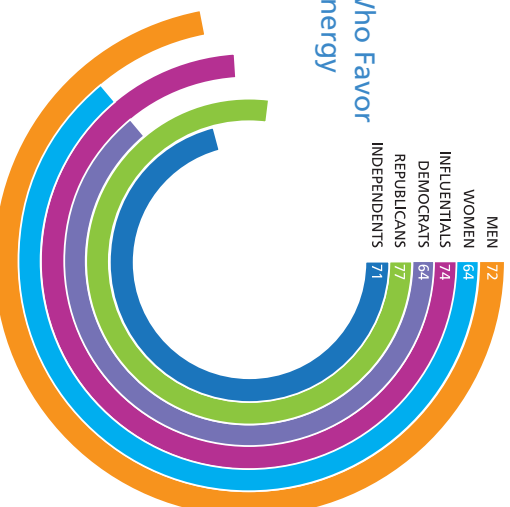
april  
2013

### Percent Who Favor and Oppose Nuclear Energy: Annual Averages 1983 to 2013

**"OVERALL, DO YOU STRONGLY FAVOR, SOMEWHAT FAVOR, SOMEWHAT OPPOSE, OR STRONGLY OPPOSE THE USE OF NUCLEAR ENERGY AS ONE OF THE WAYS TO PROVIDE ELECTRICITY IN THE UNITED STATES?"**



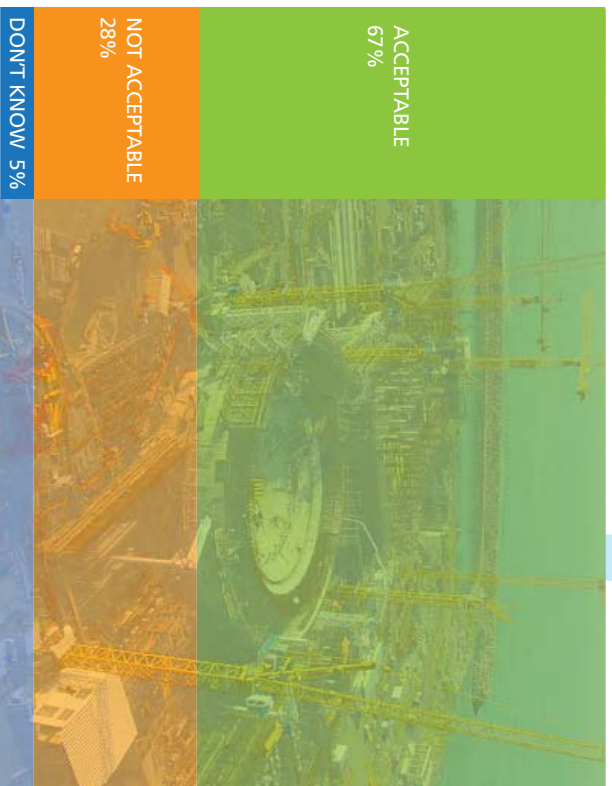
### Percent Who Favor Nuclear Energy



<sup>1</sup> Source: Bisconti Research, Inc. with GfK Roper. A nationally representative sample of 1,000 U.S. adults interviewed by phone February 8-10, 2013; margin of error is +/- three percentage points. NEI sponsored the survey. For the detailed survey questions and answers, see NEI.org.

## Nuclear Energy Expansion in America and Around the World Gains Support

More than 70 new nuclear power plants are under construction around the world, including five reactors in the United States. The February survey found that 81 percent believe that nuclear energy will play an important role in meeting the nation's electricity needs in the years ahead — up from 77 percent in September 2012, 81 percent support license renewal of nuclear power plants that continue to meet federal safety standards, and 55 percent agree we should definitely build more nuclear power plants in the future. Two-thirds of those surveyed would find a new reactor would be acceptable at the nearest operating nuclear power plant site, if a new power plant is needed.



### Acceptability of Adding a New Reactor Next to Nearest Operating Nuclear Power Plant

"IF A NEW POWER PLANT WERE NEEDED TO SUPPLY ELECTRICITY, WOULD IT BE ACCEPTABLE TO YOU OR NOT ACCEPTABLE TO YOU TO ADD A NEW REACTOR AT THE SITE OF THE NEAREST NUCLEAR POWER PLANT THAT IS ALREADY OPERATING?"

## U.S. Nuclear Energy Leadership in World Markets

Three-fourths of those surveyed agree that, as countries around the world build new nuclear power plants, it is important for the U.S. nuclear industry to continue to play a leading role in global markets; 21 percent disagree.

"PLEASE TELL ME IF YOU STRONGLY AGREE, SOMEWHAT AGREE, SOMEWHAT DISAGREE, OR STRONGLY DISAGREE WITH THE FOLLOWING STATEMENT: AS COUNTRIES AROUND THE WORLD BUILD NEW NUCLEAR POWER PLANTS, IT IS IMPORTANT FOR THE U.S. NUCLEAR INDUSTRY TO CONTINUE TO PLAY A LEADING ROLE IN WORLD MARKETS."

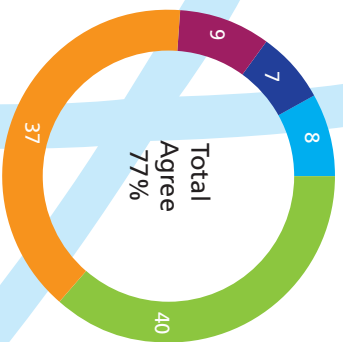


The Department of Commerce estimates the global market for nuclear products, services and fuel could be worth as much as \$740 billion over the next 10 years.

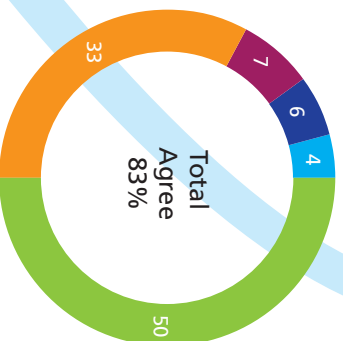
## Attitudes on Used Nuclear Fuel Management

On the issue of managing spent nuclear fuel rods from nuclear power plants, 77 percent of survey respondents agree that consolidated storage centers should be developed for short-term management of the fuel. Also 83 percent agree that the federal government should develop a final disposal facility for spent nuclear fuel rods as long as it meets U.S. Nuclear Regulatory Commission regulations; 50 percent strongly agree. Regarding transportation of spent nuclear fuel rods, 76 percent believe that nuclear waste can be transported safely as long as secure containment and proper procedures are used.

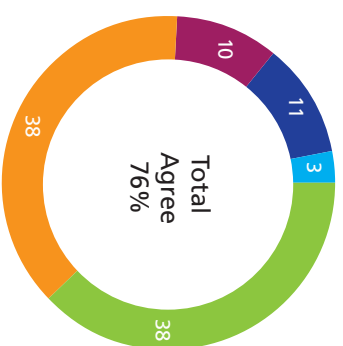
**"DO YOU STRONGLY AGREE, SOMEWHAT AGREE, SOMEWHAT DISAGREE, OR STRONGLY DISAGREE WITH THE FOLLOWING STATEMENTS:**



**"THE UNITED STATES SHOULD RETOOL ITS PROGRAM FOR MANAGING SPENT NUCLEAR FUEL RODS FROM NUCLEAR POWER PLANTS TO FOCUS ON CONSOLIDATING THE FUEL RODS AT STORAGE CENTERS WHILE THE NATION DEVELOPS A PERMANENT DISPOSAL FACILITY."**



**"THE FEDERAL GOVERNMENT SHOULD DEVELOP A FINAL DISPOSAL FACILITY FOR SPENT NUCLEAR FUEL RODS AS LONG AS IT MEETS U.S. NUCLEAR REGULATORY COMMISSION REGULATIONS."**



**"NUCLEAR WASTE CAN BE TRANSPORTED SAFELY, AS LONG AS SECURE CONTAINMENT AND PROPER PROCEDURES ARE USED."**

- STRONGLY AGREE
- SOMEWHAT AGREE
- SOMEWHAT DISAGREE
- STRONGLY DISAGREE
- DON'T KNOW

## Perceptions of Plant Safety Much More Favorable

Over time, public perceptions of the safety of nuclear power plants have become much more favorable. Between 1984 and 2013, those giving high ratings to the safety of nuclear power plants doubled from one-third of the public to two-thirds of the public, and those giving low ratings dropped from half the public to just 14 percent.

### Rating Nuclear Power Plant Safety, 1984 and 2013

THINKING ABOUT THE NUCLEAR POWER PLANTS THAT ARE OPERATING NOW, HOW SAFE DO YOU REGARD THESE PLANTS? PLEASE THINK OF A SCALE FROM "1" TO "7," WHERE "1" MEANS VERY UNSAFE AND "7" MEANS VERY SAFE. THE SAFER YOU THINK THEY ARE, THE HIGHER THE NUMBER YOU WOULD GIVE.



## public opinion

### perspective

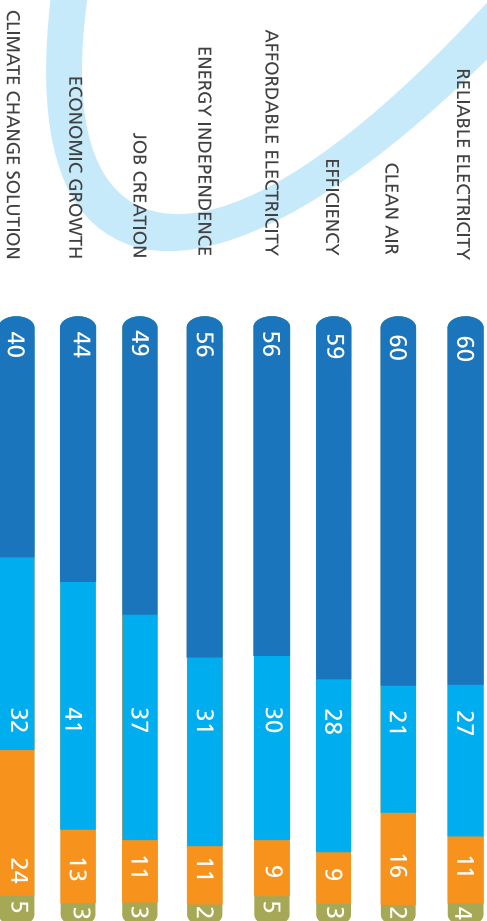
on

# Nuclear Energy's Benefits, Stand Out Clearly to Consumers

The recent upturn in favorable attitudes toward nuclear energy can be attributed in part to the increased awareness of nuclear energy's benefits. About 60 percent of Americans now associate nuclear energy "a lot" with reliable electricity, clean air, efficiency, affordability, and energy independence. The strength of these associations has increased since 2012 by double digits.

## perspective on public opinion

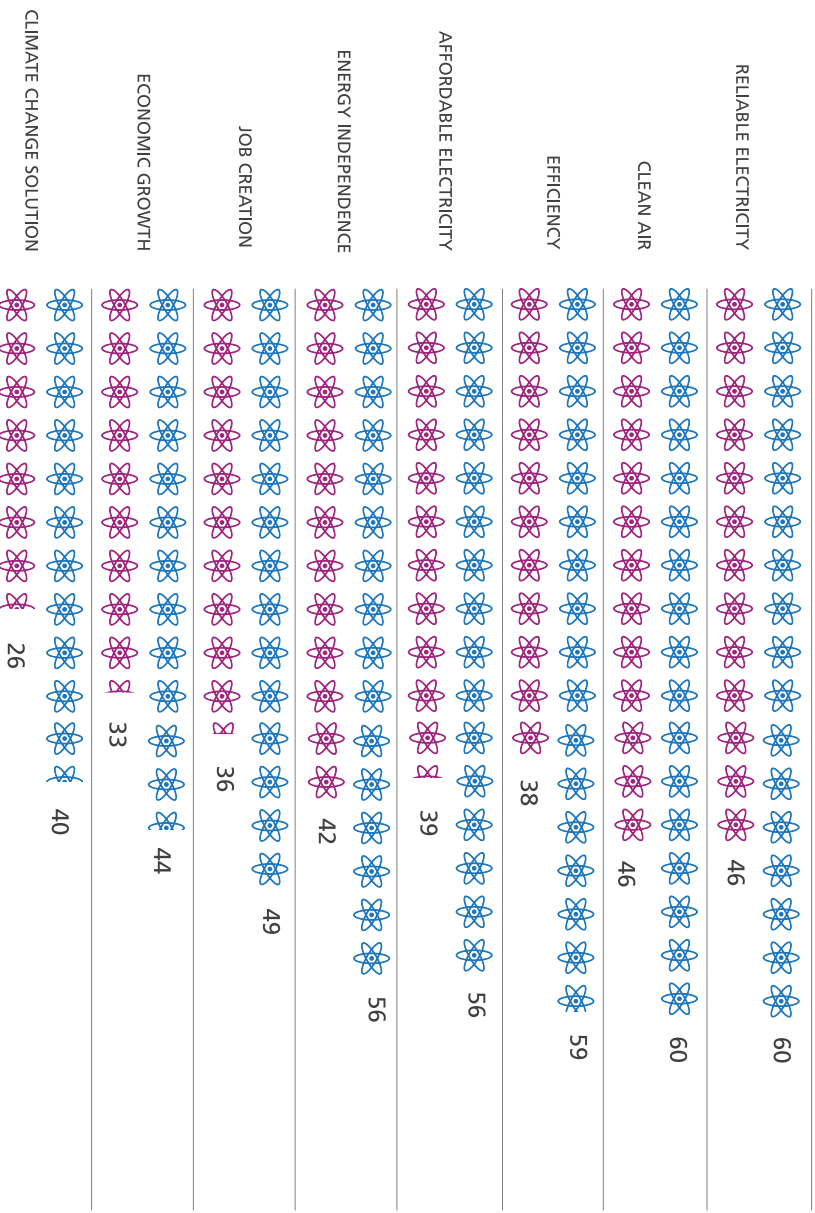
### Percent Who Associate Features with Nuclear Energy



"DO YOU ASSOCIATE NUCLEAR ENERGY A LOT, A LITTLE, OR NOT AT ALL WITH..."

■ A LOT  
■ A LITTLE  
■ NOT AT ALL  
■ DON'T KNOW

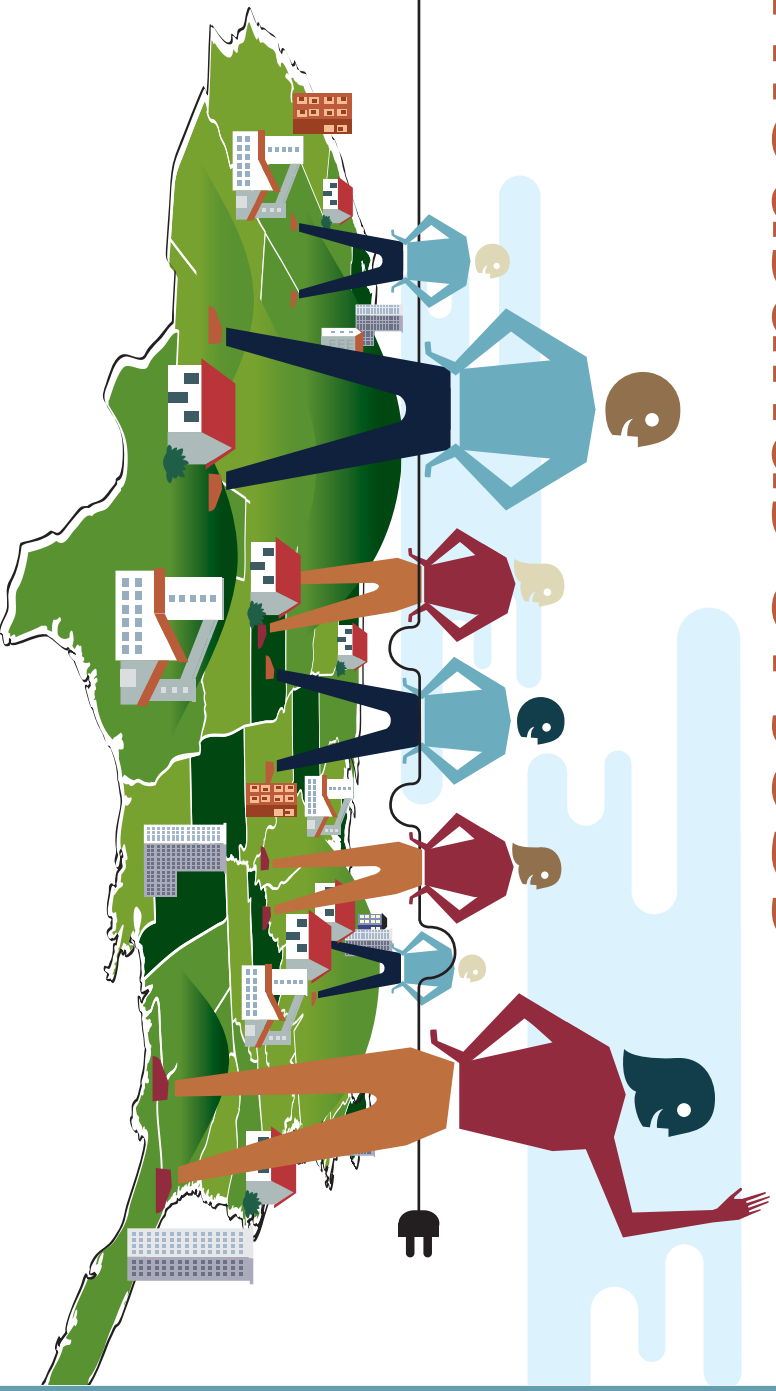
### Percent Who Associate Features with Nuclear Energy (A Lot)



for more information on public opinion about nuclear energy issues, please visit [www.nei.org](http://www.nei.org)

MADE IN AMERICA

# Nuclear Energy Produces Thousands of Jobs



*How can we generate more  
low-carbon electricity that is affordable  
while creating more American jobs?*

Reliable nuclear power plants in 31 states supply one-fifth of America's electricity. The nuclear energy industry plays an important role in job creation and economic growth, providing both near-term and career-long employment.

Worldwide, more than 200 nuclear energy projects are in the licensing and advanced planning stage, with 63 reactors under construction. This means more demand for U.S. nuclear energy expertise and components for the \$740 billion global market over the next 10 years.

With demand for electricity also growing here in the United States, the nuclear energy industry will create tens of thousands of jobs for American workers while providing global customers with the safest technology in the marketplace.

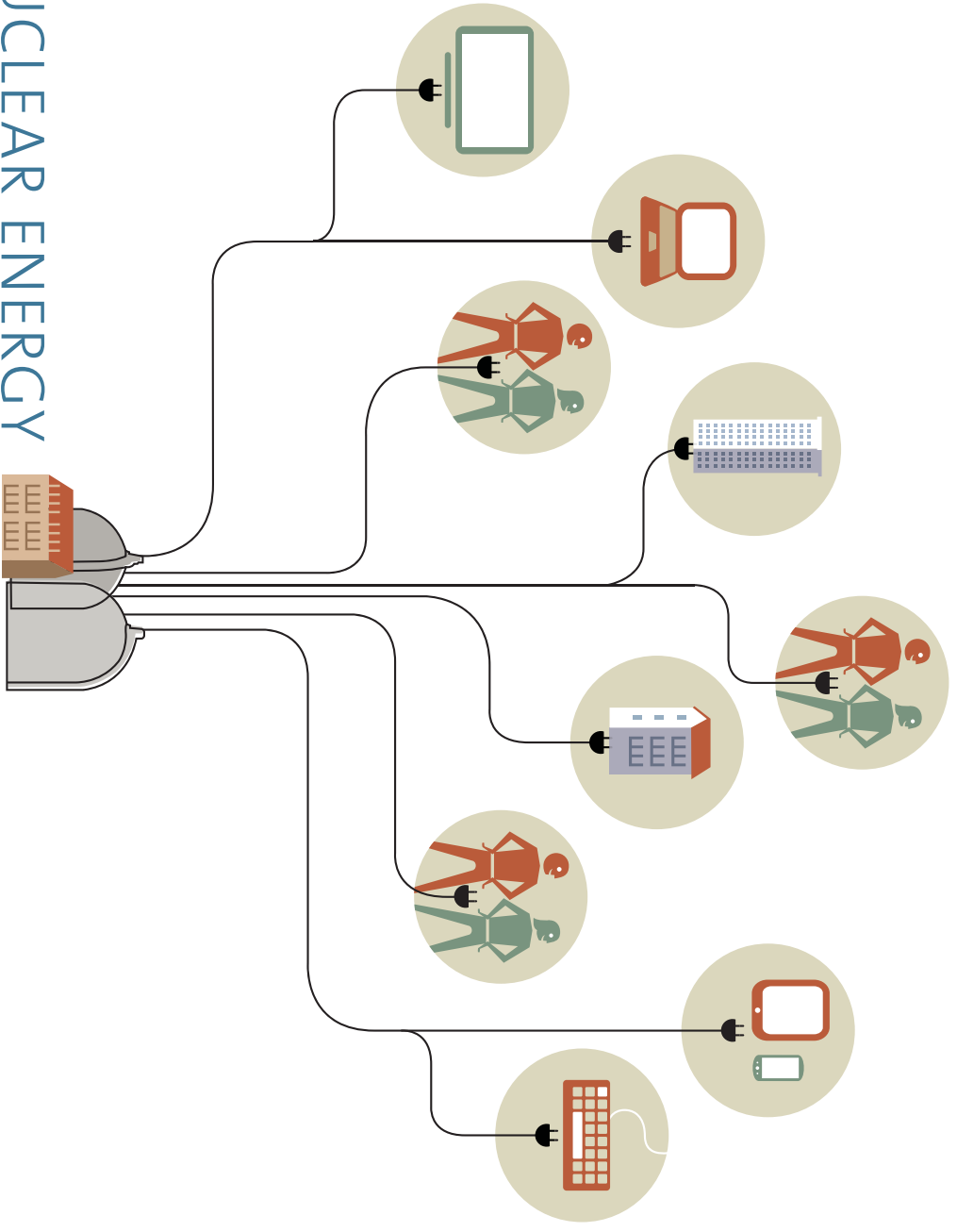


NUCLEAR ENERGY INSTITUTE

Nuclear. Clean Air Energy.



[nei.org/jobs](http://nei.org/jobs)



NUCLEAR ENERGY

# Reliable & Affordable Electricity

*Nuclear energy powers America's high-tech lifestyle at a price we can afford.*



NUCLEAR ENERGY INSTITUTE

Imagine what our lives would be like without a reliable supply of electricity. It powers our homes, offices and industries. It enables communications, entertainment, medical services and various forms of transportation.

Nuclear. Clean Air Energy.

Nuclear energy is a reliable and affordable source of 24/7 electricity that emits no greenhouse gases. Nuclear energy already provides one-fifth of our electricity and new reactors are being built to power future generations. Providing more low-carbon, affordable electricity cannot be achieved without nuclear energy playing a significant role in America's balanced energy portfolio.



[nei.org/value](http://nei.org/value)

# 24/7

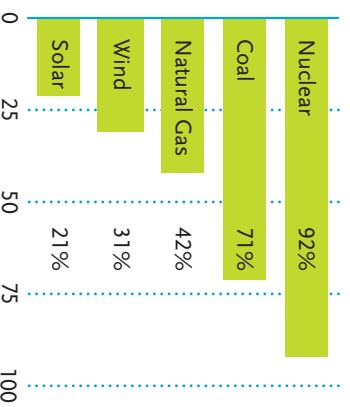
## Nuclear Energy Produces Reliable Electricity When You Need it.

We need electricity around the clock. Shouldn't our electricity sources be available when we need them?

Nuclear energy generates electricity 24 hours a day, 7 days a week.

Solar and wind power generate electricity only when the sun shines and the wind blows. And while they should be part of our country's energy future, we still need electricity every minute of every day. Nuclear energy is one of the most reliable ways to provide large amounts of electricity. It also can lead the way to a portfolio of cleaner energy options that protects the environment and promotes energy security.

### Average Operating Efficiency\* by Source of Electricity



Sources: Venturx / U.S. Energy Information Administration, 2008  
\*Operating efficiency is measured by capacity factor, the ratio of the amount of electricity produced by a plant to the amount of electricity that could have been produced if the plant operated all year at full power.



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[Nuclear. Clean Air Energy.](#)



Visit [nei.org/10](http://nei.org/10) to learn more and take our online quiz. 96

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# NEI: Nuclear Energy Institute



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## **Resources & Stats**

### **New Plants**

#### **Radio Ad, MD and VA, Washington Capitals, 2009-2010**

"MD and VA" is a 30-second ad that will air during the local radio broadcast of all Washington Capitals games in the 2009-2010 season. Game audio will also be streamed live on the team's official Web site, [washcaps.com](http://www.washcaps.com). The ad promotes the "nuclear: clean air energy" message and is part of NEI's corporate sponsorship program with the Washington Capitals.



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## clean air energy

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"If global warming continues, then the outdoor game and the shinny won't be happening." - *Willie Mitchell, Vancouver Canucks*

"Perhaps we [the NHL] present the most graphic visual with respect to global warming, when you hear people talking about the ice melting." - *Gary Bettman, NHL Commissioner*

"Nuclear energy is an important part of a technology-based solution to climate change. It's a proven energy provider in Virginia and Maryland for Capitals fans and we are pleased to work with NEI to raise awareness of the role that it can play in reducing greenhouses gases across America." - *Ted Leonis, Majority Owner, Washington Capitals*

### Hockey and Global Warming

Hockey and global warming may seem unrelated, but for some there is a deep and dramatic connection. Consider this Bloomberg News story, "[NHL Players Save Planet for Next Wayne Gretzky](#)."

In the autumn of 2006, Boston Bruins defenseman Andrew Ference met with David Suzuki, a broadcaster and environmentalist. Suzuki repeated the oft-told tale about how Wayne Gretzky as a child would practice late into the night on the backyard ice rink his father built in Brantford, Ontario. The story made a big impression on Ference. "I imagine a kid nowadays would say he can't have that kind of outdoor rink," Ference told Bloomberg News. "It really drives home the point that *something* is happening" with our climate.

Many scientists agree that "something" is indeed happening. A rising concentration of greenhouse gases in our atmosphere is creating changes in the climate—changes that already are having an impact on hockey. "From Vancouver to Vermont, Stockholm to Moscow," the ponds we grew up playing on are freezing later in the year and melting sooner. In order to stop the effects of climate change, the world must **develop a cleaner mix of energy sources**, such as nuclear energy and renewable energy.

Nuclear power plants do not emit any greenhouse gases or air pollution while generating electricity. Because uranium fuel produces electricity through the fission process rather than burning traditional fuels like coal or gas, nuclear energy does not produce carbon dioxide or other greenhouse gases. **The 104 nuclear plants provide 20 percent of U.S. electricity overall; 70 percent of all carbon-free electricity.** In Canada, nuclear energy generates 53% of Ontario's electricity.

For local Caps fans, **85 percent** of the clean electricity produced in Maryland comes from the nuclear power plant in Calvert Cliffs, located 45 miles from [Verizon Center](#). In Virginia, nuclear energy produces **91 percent** of the state's emission-free power.

And here's a Hart Trophy-worthy statistic: the volume of greenhouse gas emissions prevented at U.S. nuclear power plants is equivalent to taking nearly all passenger cars off America's roadways.

Hockey players are uniquely qualified to comment on the demonstrable effects of global warming. We applaud the initiatives that NHL teams, the NHL and the NHL Players' Association have undertaken to raise climate change awareness among hockey fans everywhere.

*NEI President and CEO Marv Fertel (left) with Washington Capitals Majority Owner Ted Leonis at Kettler Iceplex, the Capitals' practice facility, located in Arlington, Virginia.*

# CleanEnergyAmerica

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Clean Energy America (CEA) is comprised of a group of nuclear energy experts who volunteer their time to raise awareness about the benefits of nuclear energy as a clean, reliable and affordable source of energy. During operation, nuclear power plants produce zero carbon emissions, thus providing a clean alternative for today and the future. Nuclear energy produces electricity 24 hours a day, seven days a week and has an exemplary safety record. In addition to the environmental benefits and high safety standards, nuclear energy is an affordable way to produce electricity. As we strive to anticipate the needs of future generations and with the rising consumer costs we face today, nuclear energy must remain a vital part of the energy portfolio of the United States.

As the up and coming leaders in their field, Clean Energy America speakers will play a crucial role in the nuclear industry and in the nation's energy industry as a whole. Some work day to day in nuclear power plants as nuclear and design engineers. Other speakers have backgrounds in finance, law and mining. Many CEA speakers are young professionals and all feel compelled to share their expertise and passion for a clean, reliable and affordable energy source.

**FACT:**  
nuclear power plants produce zero carbon emissions

CEA media tours include events on college campuses, presentations to civic groups and meetings with other organizations. The program seeks to make students aware of career opportunities in the nuclear energy industry. The program utilizes traditional and new media outlets to reach a large audience and generate greater awareness of nuclear energy.

The U.S. currently uses nuclear energy to provide 20% of its electricity. From 1990 to 2007, nuclear energy prevented 2 billion metric tons of carbon pollution that would have been emitted through coal and natural gas plants. The rising popularity of hybrid cars will play a crucial part in reducing carbon emission and nuclear energy can provide the electricity needed to fuel them. As the U.S. explores energy alternatives, nuclear energy must be used along with renewable energy sources to reduce our CO2 emissions.

A mix of energy sources will be imperative as the industry strives to meet the growing demands for electricity in the U.S. and globally. As the only carbon free energy solution that does not depend on wind, sun and water, nuclear energy provides electricity production constantly, performing 24 hours a day, seven days a week.

As the price of oil and natural gas continues to skyrocket, nuclear energy production costs remain steady and well below that of electricity produced from gas, petroleum and coal. Going

<http://www.cleaneenergy4america.org/clean-energy-mission.html>

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Read what our experts have to say about nuclear power generation

forward, nuclear energy represents a reliable and affordable solution to rising electricity demands.

Clean Energy America is sponsored by the **Nuclear Energy Institute**. More information can be found on the CEA website, [www.cleanenergy4america.org](http://www.cleanenergy4america.org). For questions or to arrange an interview please contact Allison Sparks, 703-740-1755, email: [allison@cleanenergy4america.org](mailto:allison@cleanenergy4america.org).

(click here to meet our **nuclear power experts**)

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## Alliance for ENERGY & ECONOMIC GROWTH

[www.yourenergyfuture.org](http://www.yourenergyfuture.org)



# Home

## AEEG Hosts State Climate Dialogues

The Alliance for Energy & Economic Growth, U.S. Chamber of Commerce, and National Association of Manufacturers are hosting a series of state climate change dialogues in 2009 designed to raise awareness of important energy-related issues. The dialogues are intended to stimulate a national discussion on key climate change issues and provide:

- A real-world assessment of our current and projected energy needs;
- An overview of the energy technologies and resources that will be available to substitute for fossil fuels should Congress or EPA reduce the availability of those energy sources;
- A look at the economic impact of policy changes on businesses, consumers and American workers; and
- An understanding of the critical need to develop legislation that harmonizes technology development with mandated emissions reductions in order to avoid economic disruptions.

## Dialogue Summaries

- [Missouri, South Carolina, Michigan, and Pennsylvania](#) 

## Past Dialogues

- **Michigan**  
May 19, 2009  
[Registration](#)  
[Agenda](#) 
- **Presentation**  
[Tom Myers, Counsel, Regulatory Affairs, U.S. Chamber of Commerce: Living in a Carbon-Constrained World: The Potential Cost of Future Legislative Action on Michigan's Economy,](#) 
- **South Carolina**  
May 14, 2009  
[Registration](#)  
[Agenda](#) 
- **Colorado**  
November 12, 2008  
[Registration](#) 

## The Latest From The Alliance

- [Alliance for Energy & Economic Growth Letter on H.R. 6899, the "Comprehensive American Energy Security and Consumer Protection Act"](#)   
September 18, 2008
- [Letter to U.S. Senate opposing cloture on the Boxer manager's amendment to S. 3036, the "Lieberman-Warner Climate Security Act of 2008"](#)   
June 5, 2008
- [Letter to the U.S. Senate opposing S. 3036, the "Lieberman-Warner Climate Security Act of 2008" or the Boxer substitute to S. 3036](#)   
June 4, 2008
- [Letter to Reps. Rick Boucher and Fred Upton on greenhouse gas emissions and the Clean Air Act](#)   
April 21, 2008

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## [Agenda](#)

- **Virginia**  
November 3, 2008  
[Registration](#)  
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### **Presentations**

- [American Chemistry Council - Industry Perspective](#)
- [American Petroleum Institute Climate Change - Energy Markets & Carbon Control](#)
- [ATA Sustainability Plan](#)

[CEE - Climate Science and Economics, Understanding and Balancing the Climate Debate](#)

[Dominion Presentation - 2009, Year of Energy & the Environment](#)

[ERM Presentation on ANPR & CAA](#)

[Natural Gas Perspective - Securing Our Energy Future in a Carbon Constrained World](#)

[Fact Sheet on ANPR](#)

- **Nevada**  
September 25, 2008  
[Registration](#)  
[Agenda](#)

- **Morristown, Tennessee**

August 13, 2008  
State Co-Sponsors: Tennessee Chamber of Commerce & Tennessee Association of Chamber Executives  
[NAW/ACCF Economic Impact Study](#)

### **Presentations**

- [Alcoa - Emission and Energy Reduction Initiatives](#)
- [Center for Energy Economics - Creatures of Carbon: Understanding and Balancing the Climate Debate](#)
- [Swift - Industry Perspective: National Industry Implications of GHG Policy](#)
- [Climate Change Dialogue East TN Clean Fuels Coalition](#)
- [Climate Change Dialogue Eastman Presentation](#)

- **Columbus, Ohio**  
May 2, 2008  
State Co-Sponsors: Ohio Manufacturers Association,

Ohio Farm Bureau, Ohio Chamber of Commerce,  
American Electric Power, Ohio Chemistry Technology  
Council, Senator Voynovich's Ohio Office

[Meeting Summary](#) 

[NAM/ACCF Economic Impact Study](#) 

- **Billings, Montana**

March 19, 2008

[Meeting Summary](#) 

[NAM/ACCF Economic Impact Study](#) 

- **Fargo, North Dakota**

March 18, 2008

[Meeting Summary](#) 

[NAM/ACCF Economic Impact Study](#) 

- **Manchester, New Hampshire**

March 12, 2008

[Meeting Summary](#) 

[NAM/ACCF Economic Impact Study](#) 

#### Other State-Specific Information

- **North Carolina**

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- **South Carolina**

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- **Virginia**

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- **West Virginia**

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For more information, please contact Erica Robinson at 202-563-5642 or e-mail [erobinson@uschamber.com](mailto:erobinson@uschamber.com).

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Donna	Harman		President and CEO	American Forest & Paper Association
David	Parker		President and CEO	American Gas Association
Andrew	Sharkey		President and Chief Executive Officer	American Iron and Steel Institute
Red	Cavaney		President and CEO	American Petroleum Institute
Edward	Hamberger		President & CEO	Association of American Railroads
Thomas	Kuhn		President	Edison Electric Institute
Donald	Santa	Jr.	President & CEO	Interstate Natural Gas Association of America
Jay	Timmons		Executive Vice President	National Association of Manufacturers
Evan	Gaddis		President and CEO	National Electrical Manufacturers Association
Kraig	Naasz		President and CEO	National Mining Association
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John	Shaw		Senior Vice President, Government Affairs	Portland Cement Association
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NUCLEAR ENERGY IS AMERICA'S CLEAN AND SAFE ENERGY SOLUTION

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## Mission

The **Clean and Safe Energy Coalition (CASEnergy Coalition)** supports the increased use of nuclear energy to ensure an environmentally clean, safe, affordable and reliable supply of electricity. Nuclear power enhances America's energy security and economic growth, helps attain cleaner air and improves the quality of life, health and economic well-being for all Americans.

### Nuclear Energy

- **ensures an environmentally clean and emission-free source of electricity.** Nuclear power emits zero controlled air pollutants, such as sulfur dioxide, nitrogen oxides and particulates, and does not produce greenhouse gases, which promotes a healthier America.
- **offers a safe source of electricity.** Strict government regulations, continuous training by the industry, and enhanced security measures have combined to ensure the safety and security inside and outside America's nuclear power plants.
- **provides an affordable and reliable source of energy.** Nuclear power has the lowest production cost of the major sources of electricity and its plants are the most efficient on the electricity grid.
- **enhances our nation's energy security.** Nuclear energy is a domestically produced, sustainable energy source not dependent on unstable foreign suppliers.
- **boosts economic growth and supports high-paying jobs.** For each construction, manufacturing, or operations job created in a nuclear power plant, four new jobs are created to provide goods and services to that plant and the surrounding community.
- **drives technologies that deliver improved health, cleaner water and a safer food supply.** Nuclear technology supports about 16 million medical procedures each year in the U.S.; analyzes pollutants, runoff and flow rates in streams and rivers; and preserves stored fruits and vegetables.

The **CASEnergy Coalition** supports nuclear energy as a clean and safe choice for meeting our country's energy, health and economic needs now and in the future.

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[Next: A Message from Our Co-Chairs](#)



NUCLEAR ENERGY IS AMERICA'S CLEAN AND SAFE ENERGY SOLUTION

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## About the Coalition

The **Clean and Safe Energy Coalition (CASEnergy Coalition)** is an important voice in the public dialogue over current and future energy needs, particularly in addressing how nuclear power can contribute to America's energy security and economic growth.

The **CASEnergy Coalition** was formed in 2006 to reflect the broad-based and diverse support of nuclear power and is a large national grassroots coalition of allies united across the business, environmental, academic, consumer and labor communities. We believe that nuclear energy can improve energy security, ensure clean air quality, and enhance the quality of life and economic well-being of all Americans. The Coalition is funded by the Nuclear Energy Institute.

Through news conferences, media events, grassroots advocacy and issues education, the **CASEnergy Coalition** ensures that everyone from consumers to policymakers have the necessary tools to make an informed decision about nuclear energy.

We all have a shared stake in America's energy future and that is why the **CASEnergy Coalition** actively promotes nuclear energy as a clean, safe and dependable source of power.

Nuclear energy should be part of a diverse mix of electricity sources to meet our growing needs.

The **CASEnergy Coalition** will make sure we get there.

[Next: Mission](#)



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June 25, 2010



### **Christine Todd Whitman, Patrick Moore Fail to Disclose They are Paid to Promote Nuclear Energy**

Over the past four years, former Environmental Protection Agency (EPA) Administrator Christine Todd Whitman and industry press agent Patrick Moore have been promoting a nuclear energy revival without mentioning the fact that the nuclear industry is paying them for their services.

The benignly named “coalition” they co-chair, the Clean and Safe Energy Coalition (CAsEnergy) was founded and is solely funded by the Nuclear Energy Institute (NEI), the industry trade association. The coalition, which Whitman and Moore call a “grassroots” group, is nothing more than a website featuring a list of nuclear power supporters.

Over the last decade, the nuclear industry has spent \$600 million on lobbying and \$63 million on campaign contributions, according to a recent [investigation](#) by former Los Angeles Times reporter Judy Pasternak. At least \$8 million of that money went to Hill & Knowlton, which NEI hired in 2006 to launch a [public relations campaign](#). The PR firm, known for defending the tobacco industry in the 1950s and ‘60s, created CAsEnergy, set up and staffed its website, and tapped Whitman and Moore to serve as spokespersons. Since then, both of them have been crisscrossing the country, making public appearances and writing op-eds proclaiming the benefits of nuclear power. NEI, meanwhile, quotes both of them on its website in a section featuring “environmentalists” who support nuclear power, but there is no mention of the connection between NEI and the coalition.

Whitman also has not fully disclosed her financial ties to other energy producers. In late April, Newsweek reported that from 2006 to 2009, BP paid her \$120,000 a year to serve on a company advisory board. A week later, a half dozen newspapers published a Bloomberg News-syndicated [op-ed](#) by Whitman on BP’s Gulf of Mexico oil spill. The disaster, she wrote, shouldn’t stop us from pursuing additional offshore drilling. She also took the opportunity to plug nuclear power in the piece. Not only did she again omit the fact that she is paid by the nuclear industry, she did not disclose her ties to BP.

Moore, who says he co-founded Greenpeace, began working for industry interests in the mid-1980s, hiring himself out as a [spokesman](#) for logging, mining and chemical companies, among others. He is no stranger to Astroturf groups. In 1991, the same year he started a PR firm called Greenspirit Strategies, he was appointed the director of the British Columbia Forest Alliance, a front group set up for the logging industry by Bunsen-Marseller, the same PR firm that represented Exxon after the Valdez oil spill and Union Carbide after the Bhopal chemical disaster.

On May 12, Whitman and Moore appeared at the National Press Club in Washington, D.C., to release CAsEnergy’s four-point energy [plan](#). It called for the federal government to: promote the construction of a new fleet of nuclear reactors, significantly increase the federal loan guarantee program, support education programs for workers in the industry, and promote reprocessing of nuclear waste. (Watch for an upcoming UCS Factcheck debunking the plan). That same day, the Hill, a congressional newspaper, published an [op-ed](#) by the pair, “Energy Innovation: An economical path forward.” Again, there was no mention of their relationship with the industry.

Only when called out by UCS in a [letter to the editor](#) in the Hill did Whitman acknowledge her funding sources. In a letter in response, she wrote: “Although I am compensated for my work with the Clean and Safe Energy Coalition (which is funded by the Nuclear Energy Institute), CAsEnergy couldn’t pay me enough money to promote something in which I did not believe.”

Whether Whitman believes in the product she is selling is irrelevant. The public has right to know that Whitman and Moore are being paid by the nuclear industry and are not presenting an independent, disinterested view.

The Union of Concerned Scientists puts rigorous, independent science to work to solve our planet’s most pressing problems. Joining with citizens across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.

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STATE OF NORTH CAROLINA UTILITIES COMMISSION DOCKET NO. E 7, SUB 1026

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# Public Policy

## NEI Policy Positions

NEI works with its members to establish policies on key issues. View policy briefs, fact sheets and other resources in each area.

### NEI Policy Positions by Key Issue

#### Protecting the Environment

Nuclear energy is America's largest source of clean-air, carbon-free electricity, producing no greenhouse gases or air pollutants. The industry's commitment to the environment extends to protecting wildlife and their habitats.

- [Policy Briefs](#)
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#### Reliable and Affordable Energy

Nuclear power plants produce 20.2 percent of U.S. electricity. No other source of electricity can provide the combined benefits of nuclear energy: large amounts of reliable and affordable electricity, long-term price stability and no greenhouse gas emissions.

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#### New Nuclear Power Plants

The U.S. Department of Energy projects that U.S. electricity demand will rise 28 percent by 2035. That means our nation will need hundreds of new power plants to provide electricity for our homes and continued economic growth.

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#### Safety and Security

The nation's nuclear power plants are among the safest and most secure industrial facilities in the United States.

Multiple layers of physical security, together with high levels of operational performance, protect plant workers, the public and the environment.

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#### Managing Used Nuclear Fuel

Like other industrial facilities, nuclear power plants produce necessary waste byproducts. These include used nuclear fuel and less radioactive waste like filters, tools and protective clothing.

- [Policy Briefs](#)
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## **NEI Policy Highlights**

### **U.S. Needs New Nuclear Plants to Meet Energy Demand, Maintain Supply Diversity**

Nuclear power plants produce 20 percent of U.S. electricity and are essential to helping meet growing demand for electricity and preserving the technology diversity that is the strength of the U.S. electric supply system.

### **Nuclear Energy Plays Essential Role in Climate Change Initiatives**

Nuclear power plants generate 69.3 percent of all carbon-free electricity in America and are an essential mitigation tool for reducing greenhouse gases.

# Nuclear Energy Plays Essential Role In Climate Change Initiatives

November 2009

## Key Points

- The nuclear energy industry supports the administration’s goal of transitioning the United States to a clean-energy, low-carbon economy. According to independent analyses, a significant expansion of nuclear energy is essential to meet this goal.
- In October, the Nuclear Energy Institute proposed a comprehensive package of policy initiatives required to facilitate the expansion of nuclear energy in coming decades on the scale that *independent analyses* conclude is required to ensure a reliable supply of low-carbon electricity. (See page four for details on these analyses.)



- Nuclear energy has played a major role in reducing U.S. emissions of carbon dioxide, sulfur dioxide and nitrogen oxides by substituting for fossil fuels that otherwise would have been burned to generate electricity. The 104 nuclear power plants operating in 31 states provide electricity for one in five homes and businesses without emitting carbon dioxide, the major greenhouse gas. In fact, nuclear energy provides 72 percent of the electricity that comes from emission-free sources, which also include renewable technologies and hydroelectric power plants.
- Nuclear energy is the only scalable option available today that can provide baseload electricity production 24/7 economically and without emitting greenhouse gases. Even if carbon dioxide emissions are evaluated on a total life-cycle basis, nuclear energy is comparable to other energy sources, such as solar, wind and hydropower.

## Nuclear Energy’s Vital Role in Reducing Greenhouse Gas Emissions

Carbon dioxide—a significant greenhouse gas emitted by human activity—is the major focus of policy discussions to combat climate change. At a time when the United States faces a projected 25 percent increase in electricity demand by 2030, failure to develop a holistic policy that meets the nation’s energy demands, security needs and greenhouse gas reduction goals could threaten progress toward these objectives.

According to the U.S. Environmental Protection Agency, the largest source of carbon dioxide emissions globally is the combustion of fossil fuels (coal, oil and natural gas) in power plants, automobiles, industrial facilities and other sources. Generating electricity is the single largest source of carbon dioxide emissions, representing 41 percent of all emissions.

Nuclear power plants produce electricity without emitting carbon dioxide or other greenhouse gases. Nuclear energy provides about one-fifth of U.S. electricity—and 72 percent of the nation’s carbon-free electricity.

Globally, 436 nuclear reactors generate about 15 percent of the world’s electricity. Construction is under way on more than 50 reactors; 137 reactors are on order or planned in 26 countries. Nearly 300 reactors are under consideration in 36 countries, according to the World Nuclear Association.<sup>1</sup>

Nuclear power plants already play a powerful role in preventing greenhouse gases in the electricity

<sup>1</sup> “World Nuclear Power Reactors & Uranium Requirements,” World Nuclear Association, September 2009.

## Nuclear Energy Plays Essential Role In Climate Change Initiatives

*Page 2 of 4—November 2009*

sector. By using nuclear energy rather than fossil fuel-based plants, electric utilities prevented 689 million metric tons of carbon dioxide emissions in the United States in 2008. For perspective, the volume of greenhouse gas emissions prevented at nuclear power plants is equivalent to taking 98 percent of all passenger cars off America's roadways. In the near future, nuclear energy will help de-carbonize the transport sector by providing carbon-free electricity to plug-in hybrid electric vehicles and electric light rail.

Worldwide, nuclear energy prevents the emission of more than 2.6 billion metric tons of carbon dioxide each year.

### **Diverse Groups Recognize Nuclear Energy's Climate-Friendly Benefits**

U.S. policymakers are weighing legislative and other approaches for reducing greenhouse gas emissions. While many predict that meaningful climate change policy may take several years to finalize, the role that nuclear energy can play in carbon reduction programs is clear. All mainstream analyses of the climate change issue by independent organizations show that reducing carbon emissions will require a portfolio of technologies, that nuclear energy must be part of the portfolio, and that major expansion of nuclear generating capacity over the next few decades is essential.

The Obama administration has made energy legislation a priority, and the U.S. Congress continues to debate climate change legislation. In June, the House of Representatives approved the American Clean Energy and Security Act (H.R. 2454). The bill, with a primary goal of reducing carbon emissions by 83 percent by 2050, contained several provisions favoring nuclear energy.

Analyses of H.R. 2454 by EPA and the U.S. Energy Information Administration (EIA) demonstrate that substantial increases in nuclear

generating capacity will be essential to meet the legislation's carbon-reduction goals.

In the EPA analysis, nuclear generation increases by 150 percent, from 782 billion kilowatt-hours (kWh) in 2005 to 2,081 billion kWh in 2050. If all existing U.S. nuclear power plants retire after 60 years of operation, 187 new nuclear plants must be built by 2050.

In the "Basic" scenario in the EIA's analysis, the United States would need to build 96 gigawatts of new nuclear generation by 2030 (69 new nuclear plants). This would result in nuclear energy supplying 33 percent of U.S. electricity generation, more than any other source of electric power. To the extent the United States cannot deploy new nuclear power plants in these numbers, the cost of electricity, natural gas and carbon allowances will be higher.

Also in June, the Senate Committee on Energy and Natural Resources approved the American Clean Energy Leadership Act of 2009 (S. 1462), which designates nuclear energy as essential in a low-carbon energy mix.

In September, Sens. John Kerry (D-Mass.) and Barbara Boxer (D-Calif.) introduced the Clean Energy Jobs and American Power Act (S. 1733), which aims to create clean-energy jobs, reduce greenhouse gases and enhance domestic energy protection. The bill states, "It is the policy of the United States ... to facilitate the continued development and growth of a safe and clean nuclear energy industry." Hearings on the legislation began in October.

The Senate will continue debate on energy and climate legislation this year.

### **Analyses See Important Role For Nuclear Energy**

Other organizations recognize nuclear energy's potential in mitigating climate change, including:



## Nuclear Energy Plays Essential Role In Climate Change Initiatives

*Page 3 of 4—November 2009*

- A United Nations Framework Convention on Climate Change study called for an additional investment by utilities of \$25 billion in nuclear energy by 2030.
- The World Economic Forum's 2008 analysis of energy stated that nuclear energy is "probably the best option for carbon-neutral energy from the perspective of currently available and easily scalable technologies." In 2009, the forum's [Task Force on Low-Carbon Prosperity](#) recommended establishing a platform for an international public-private dialogue "to discuss the role of nuclear power in the low-carbon economy and how the related policy architecture should be designed to reflect its contribution."

- The Academies of Science for the G8+5 countries issued a joint statement in 2008 that recommends accelerating the transition to a "low carbon economy," producing more energy from such low-carbon sources as nuclear power.

- The Electric Power Research Institute concluded in its "Prism/MERGE Analyses: 2009 Update" that 45 new reactors are needed to reduce carbon dioxide levels by 41 percent from 2005 levels by 2030.

- The International Energy Agency concluded in its 2009 "World Energy Outlook" report that stabilizing atmospheric concentrations of carbon dioxide at 450 parts per million would require nearly doubling global nuclear energy capacity by 2030.

See page four for details on additional reports.

### Federal Policies Needed to Support Nuclear Energy's Expansion

A major expansion of nuclear energy generation requires federal policy in a number of areas, including:

- new plant financing, principally through creation of a Clean Energy Deployment Adminis-

tration that would function as a permanent financing platform

- tax incentives for nuclear energy manufacturing and production facilities and work force development

- ensuring effective achievement of the efficiencies in the new-plant licensing process that was established in 1992, but is only now being tested

- management of used nuclear fuel, including limited financial incentives for the development of voluntary interim storage facilities for used uranium fuel and research and development on recycling technology

- nuclear fuel supply, to enhance the certainty and transparency associated with the disposition of government inventories on uranium markets
- other areas, such as creation of a National Nuclear Energy Council to advise the secretary of energy and authorization of a federal program to advance development and deployment of small modular reactors within the next 15 years.

NEI has developed proposed legislation to address these issues. Details on [NEI's 2009 policy initiative](#) are available at <http://www.nei.org/resourcesandstats/documentlibrary/newplants/policybrief/2009-nuclear-policy-initiative>.

Increasing America's reliance on nuclear energy will serve other national imperatives besides production of carbon-free electricity. Construction of new nuclear power plants will create tens of thousand of jobs—to build the plants themselves and to produce the components and materials that go into the plants. A nuclear construction program also will breathe new life into the U.S. manufacturing sector, as it rebuilds and retrofits to produce the pumps, valves, vessels and other nuclear-grade equipment needed for new nuclear plants.

## Nuclear Energy Plays Essential Role In Climate Change Initiatives

Page 4 of 4—November 2009

*This policy brief is available online at <http://www.nei.org/keyissues/protectingtheenvironment/policybriefs/nuclearenergyclimatechangeinitiatives/>*

### Analyses Recommending an Expanded Role for Nuclear Energy

<p>U.S. Environmental Protection Agency, <a href="#">“EPA Analysis of the American Clean Energy and Security Act of 2009 (H.R. 2454).”</a> June 2009.</p>	<p>The core policy scenario for reducing greenhouse gas emissions would require a 150 percent increase in nuclear power generation, or 180 new reactors, by 2050.</p>
<p>Joint Statement of the Academies of Science for the G8+5 Countries, <a href="#">“Climate Change Adaptation and the Transition to a Low Carbon Economy.”</a> 2008.</p>	<p>The statement recommends accelerating the transition to a “low carbon economy,” producing more energy from such low-carbon sources as nuclear power.</p>
<p>Electric Power Research Institute, <a href="#">“Prism/MERGE Analyses: 2009 Update.”</a></p>	<p>Full portfolio approach to reducing carbon dioxide emissions by 41 percent from 2005 levels by 2030 includes 45 new nuclear reactors.</p>
<p>U.S. Energy Information Administration, <a href="#">“Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009.”</a> August 2009.</p>	<p>The basic scenario projects that the U.S. would need 96 gigawatts of new nuclear capacity, almost 70 reactors, by 2030.</p>
<p>OECD/International Energy Agency, <a href="#">“World Energy Outlook 2009.”</a> OECD/IEA, 2009.</p>	<p>Stabilizing atmospheric concentrations of carbon dioxide at 450 parts per million would require nearly doubling global nuclear energy capacity by 2030.</p>
<p>Business Roundtable, <a href="#">“The Balancing Act: Climate Change, Energy Security and the U.S. Economy.”</a> 2009.</p>	<p>“As the only existing, proven and scalable low-carbon baseload generation technology, nuclear power will be critical to managing the impending turnover in baseload capacity in a sustainable manner.”</p>



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**► Nuclear Waste Disposal**

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**Need for New Nuclear Plants**



Concerns about rising electricity demand and clean air are among the factors driving interest in new nuclear plants. Nuclear energy is the only electricity source that can generate electricity 24/7 reliably, efficiently and with no greenhouse-gas emissions. For more information, see the [NEI policy brief](#) on new plants.

**What's Driving Interest in New Nuclear Plants?**

**Electricity Demand**  
The U.S. Department of Energy projects that the United States will need 28 percent more electricity by 2040. Worldwide, the International Energy Agency reports that the global surge in the use of consumer electronics such as flat screen TVs, iPods and mobile phones will triple electricity consumption by 2030 to 1,700 terawatt-hours. That is the equivalent of home electricity consumption today in the United States and Japan.

**Clean Air**  
Concern about air pollution is leading to increasingly tight restrictions on emissions of sulfur dioxide, nitrogen oxides and mercury. The federal government also is considering regulation of emissions of carbon dioxide, the principle greenhouse gas. Nuclear energy accounts for nearly three-quarters of the U.S. electric generation that emits none of these.

**Excellent Performance**  
The nation's 104 nuclear power plants operate at high levels of safety, reliability and affordability. Results from the U.S. Nuclear Regulatory Commission's reactor oversight process, posted on the agency's Web site, show consistently high safety performance across the industry.

The average capacity factor for nuclear plants—a measure of reliability—has averaged around 90 percent since 2000. In addition, nuclear plants are among the lowest-cost electricity providers, producing electricity for about two cents per kilowatt-hour.

**Price Volatility**  
Natural gas fuels nearly all the electric generating capacity built in the past 10 years. The nation has placed unsustainable demand on the natural gas supply, and that means continuing volatility in prices.

**American Public Supports Nuclear Energy**

A national survey conducted by Biscotti Research Inc. in November 2011 found a high level of support for nuclear energy among the public, with 62 percent saying they favor nuclear energy as one way to generate electricity and 83 percent saying they believe nuclear energy should play a role in meeting the U.S. need for clean energy in the years ahead.

[Perspective on Public Opinion](#)

**DID YOU KNOW?**

U.S. nuclear plants' electricity production costs are 2.19 cents per kilowatt-hour, compared to 3.23 cents for coal and 4.51 cents for natural gas.

- [New Nuclear Plant Status](#)
- [New Nuclear Plant Status Illustration of licensing process](#)

**Videos: Global New Nuclear Development Will Continue Despite Fukushima, Industry Experts Say**

U.S. Nuclear Industry Will Move Forward With New Plants - features Southern Nuclear Operating Co.'s CEO and President Jim Miller  
 Global Nuclear Development Projects Remain on Track - features Westinghouse Electric Co.'s CEO and President Arts Candris  
 Fukushima Will Have Limited Impact on Financing for New Plants - features Barclays Capital's Managing Director Jim Asselstine

# Resources & Stats

## Belarusian Children Learn ABCs of Nuclear Energy

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Warmth from the summer sun, the smell of hotdogs on the grill and faint cheers from a fishing boat created the perfect backdrop for an American barbecue.

But this time, the picnickers, who enjoyed such a setting at a U.S. nuclear power plant, live thousands of miles away. This summer more than a dozen children from Belarus visited the World of Energy, Oconee Nuclear Station's visitor center. Besides a picnic and boat tour of Lake Keowee, they learned about the operation of the nuclear plant at the Duke Energy site. This marked the second year that many of these children visited the United States.

The children lived with host families for six weeks. The families sponsored the cost of bringing the children from Belarus and coordinated their visit through the American Belarusian Relief Organization (ABRO). While in America, the children received free medical, dental and vision care.

For some Belarusian youngsters, a visit to a nuclear power plant causes a mixture of emotions, from fascination to anxiety. In 1986, a safety experiment at the Chernobyl nuclear power plant, conducted in violation of the plant's technical specifications, went wrong. A resulting fire released a large amount of radiation into the atmosphere, affecting the people of Belarus, Russia and Ukraine.

Michaël Cousar, an insurance agent from Anderson, S.C., and host parent, shared his Belarusian child's reaction upon arriving at the plant. "As we pulled up to the main security entrance of the station, with the three reactor buildings towering off in the distance, Vlad, the Belarusian child living with my family, motioned with his hands an explosion and yelled, 'no go, no don't go.'"

Belarusian children learn about the Chernobyl accident, and photographs of what happened are displayed around their country. "Once Vlad arrived at the World of Energy, he relaxed and quickly realized he was safe and had a wonderful day," Cousar added.

Jason Walls of Duke Energy community affairs hosted the children at the World of Energy. "This event provides a first-hand opportunity for these children to see the safe operation of a nuclear plant and enjoy the natural beauty of Lake Keowee in the mountains of South Carolina," Walls said.

Bert Spear, an engineer at Oconee, and his family have served as hosts for their Belarusian child, Anastasiya Liavonenka, for the past two years. "ABRO is a great program and provides the Belarusian children with an opportunity to improve their health and to enjoy some of the South Carolina summer activities with host families," Spear said.

"Anastasiya is a part of our family while she's here and became close friends with my youngest daughter, Katie. Katie is learning Russian, and the two girls plan to keep in touch by telephone after Anastasiya returns to Belarus. Our family benefits from this experience by learning about the country, people and culture of Belarus," Spear added.

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# Energy & Environment

What Washington Reads For Policy News And Insight

Friday, April 2, 2010 11:00 AM

## Salary Survey: Nuclear Exec Earns \$3 Million

By **Amy Harder**, NationalJournal.com

The nuclear power industry may be stagnant, but the sector's top trade group is banking on turning that around -- and as one sign, it's giving its top executive a hefty salary.

The Nuclear Energy Institute in 2008 paid its president and CEO, at that time **Frank Bowman**, more than \$3 million in total compensation. Bowman was the seventh-highest-paid executive out of more than 500 organizations in all different policy areas, according to an annual National Journal salary survey. Eight other energy and trade groups, including the American Petroleum Institute, Edison Electric Institute, American Iron and Steel Institute, and American Gas Association, also gave their top executives seven figures in 2008.

At the other end of the spectrum, it apparently doesn't pay to be green. The Union of Concerned Scientists, Greenpeace, the National Wildlife Federation and the American Wind Energy Association were among seven groups paying their chiefs between \$400,000 and \$100,000. Greenpeace's former executive director, **John Passacantando**, was the fifth-lowest-paid executive in the survey overall, making a (comparatively) paltry \$103,624. The Environmental Defense Fund and World Wildlife Fund paid their executives the most of the green groups, at roughly \$496,000 and \$486,000, respectively.

The presidents of the Business Roundtable and U.S. Chamber of Commerce received salaries of \$5.6 million and \$3.8 million, respectively. But these groups lobby on much more than just energy and the environment.

Subscribers to National Journal can see the entire survey here, including nonprofits and trade associations that have an office in D.C. with revenue of \$10 million or more.

After the jump, see a list of the top 10 compensation packages that groups in the energy/environment sector paid their chiefs.

Organization	Top executive salaries in 2008
1. Nuclear Energy Institute	\$3.0 million
2. American Petroleum Institute	\$2.7 million
3. Edison Electric Institute	\$2.5 million
4. National Rural Electric Cooperative Association	\$2.0 million
5. American Coalition for Clean Coal Electricity	\$1.7 million
6. American Iron and Steel Institute	\$1.6 million
7. American Gas Association	\$1.4 million
8. American Chemistry Council	\$1.3 million
9. Association of American Railroads	\$1.1 million
10. American Forest and Paper Association	\$896,168

**More in Energy** Go to section

July 07, 2010 | Energy and Environment Bulletin  
**Need-To-Know Memo, July 7**

July 07, 2010 | CongressDaily

**Lawmakers Issue Protest On Yucca Decision**

July 07, 2010 | CongressDaily

**CBO: Kerry-Lieberman Bill Would Save \$19B**



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## Resources

Guide to researching the energy & climate change debate

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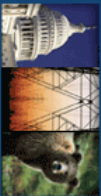


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## 1. LOBBYING: Disclosure forms don't tel full story (*Greenwire, 10/26/2009*)

Anne C. Mulken, E&E reporter

Coal's big lobbying group this August sent workers to 264 cities to attend state fairs, visit Kiwanis meetings and set up tables at college campuses, all part of a campaign aimed at powering advocacy for the fuel.

That activity in eight states led to media coverage, a plus for the group, the American Coalition for Clean Coal Electricity, or ACCCE. "Likely members of Congress would have seen those stories and read those stories and seen there was support for coal," said Lisa Camosso Miller, an ACCCE spokeswoman. The effort came just before the Senate was due to return from its August break and consider climate legislation that is likely to have a profound effect on coal.

But none of the money ACCCE spent on that August effort is reflected in the lobbying report it filed with Congress, detailing spending in July, August and September. The report also fails to capture what ACCCE spent on television advertisements featuring "real people" talking about the importance of coal as a source of low-cost electricity in their lives.

The \$302,700 that ACCCE told Congress it spent on lobbying in the third quarter does not include the summer spending, the group said, because by law it is not obligated to disclose it. Congress allows groups that file lobbying reports to choose from three formats for totaling their spending. One is a narrower disclosure as defined by Congress. The other two, defined by the Internal Revenue Service, use a far broader definition for lobbying.

ACCCE -- along with groups that include the American Petroleum Institute, the American Wind Energy Association and the Solar Energy Industries Association -- uses the format that excludes grass-roots activity, leaves out most advertising spending and does not show money spent on state and local lobbying.

ACCCE and the other trade groups say they are following the law and that they fully reveal all lobbying expenses to the IRS.

While grass-roots activities "might be influencing Congress," said Ronald Jacobs, an attorney with Venable LLP who works for ACCCE, "on the other hand, it's not captured in the definition of lobbying disclosures, so it's not reported."

But government watchdogs find the uneven disclosure in filing to Congress troubling, especially as more groups use grass-roots work, advertising and community-based efforts to sway lawmakers' votes.

"The stakes are too high," said Tyson Stocum, director of the energy program at Public Citizen. "On every major issue, you see sophisticated efforts to sway the debate one way or another. The outside D.C. grass-roots activity, that sometimes is having the most influence on swinging the public debate."

"Everything hinges on the impact that these grass-roots or AstroTurf campaigns have," Stocum added, "so it's really significant."

<http://www.eenews.net/public/Greenwire/print/2009/10/26/1>

Exhibits to Direct Testimony of William B. Marcus  
STATE OF NORTH CAROLINA UTILITIES COMMISSION DOCKET NO. E 7, SUB 1026

Because Congress allows different filing methods, Stocum said it is impossible to compare companies and trade groups and see which ones carry the biggest lobbying wallets. (Public Citizen, which does some lobbying, files under the same method as ACCCE and those others. In the third quarter, it reported \$50,000 in lobbying. Stocum said the group does not do state lobbying and does very little grass-roots activity.)

ACCCE reports lobbying as it is required under the federal law as written by Congress, spokeswoman Miller said.

"We didn't write the law," Miller said. "Certainly, the IRS has defined it one way and the Lobbying Disclosure Act [passed by Congress] defines it another."

"We work every day to ensure that we comply with the rules as they are written," Miller added.

Concerns about how lobbying expenditures are reported comes as the House Select Committee on Energy Independence and Global Warming investigates whether ACCCE failed to properly disclose all of its lobbying spending.

Committee Chairman Ed Markey (D-Mass.) asked the trade group whether its lobbying reports should include money paid to the Hawthorn Group, a public relations firm, according to a document viewed by E&E. ACCCE paid the Hawthorn Group, among other things, to coordinate an effort to stop the House climate bill from passing. The committee already is investigating ACCCE for its ties to a subcontractor that in June sent forged letters to House members urging them to vote against climate legislation.

While the Oct. 21 letter Markey sent to ACCCE focuses on the Hawthorn Group and its subcontractors, the grass-roots efforts ACCCE funded this summer also are troubling, committee spokesman Eben Burnham-Snyder said.

"What are these activities? They're trying to influence a member of Congress to vote a certain way," Burnham-Snyder said. "To any common-sense observer, it does appear to be something that's a little out of whack."

ACCCE's summer campaign, called "America's Power Army," was run by the Hawthorn Group and subcontractor Lincoln Strategies, which also worked on the effort to contact lawmakers about the House energy bill.

### Lobbying formats vary

The formats that Congress allows companies and organizations to use for their lobbying disclosures are known as methods A, B and C.

Method A, which ACCCE uses, is based on the Lobbying Disclosure Act that Congress passed in 1995. It allows groups to estimate lobbying expenditures using definitions created by that law and a 2007 ethics reform law. In general, method A focuses on visits and calls to lawmakers, aides and the administration and "efforts in support of such contacts," which groups that file under method A generally define as time spent preparing a position paper or meeting with experts to formulate strategy.

Methods B and C use the IRS definition of lobbying, which includes all federal, state and local efforts, advertising and grass-roots outreach to the public. It is more limited, however, in whom it considers a "covered official." "Talking about policy with a "covered official" is considered lobbying. Method B is for nonprofits and method C is used by for-profit companies and groups.

A previous filing by ACCCE reveals how much more it spends than what is captured under method A. ACCCE this year switched to method A from the IRS definition, which it used in 2008.

Changing methods meant ACCCE reported a lobbying amount more than 10 times smaller than what it reported when it used the IRS guideline. In the third quarter of 2008, when using method C, ACCCE reported spending \$3.8 million on lobbying efforts. The same period this year, it reported \$302,700.

ACCCE switched reporting methods "after many, many media comparisons" of the trade group's expenditures to those of other groups that used the less expansive standard.

enb@actiononmiller.com

#### How lobbyists disclose spending

Lobbyists file disclosures using one of three formats.

Method A estimates lobbying expenditures using definitions written by Congress and focuses on federal lobbying and any supporting actions.

Method B is for nonprofits only and uses the IRS definition

spreadsheets, internal data.

"There was no account taken for option A or option B," Miller said. "In order for a fair comparison, we decided to file the way other organizations in our area were filing. In order to provide a fair comparison, we decided to file under option A."

## Differences between methods

When it approved the Lobbying Disclosure Act, Congress allowed the three choices because companies said that they did not want to have to keep different sets of books, according to an official at the Senate Office of Public Records who asked not to be identified, citing the policy of the office. Some companies, the official said, wanted to file the same paperwork they file with the IRS in their form 990.

Many nonprofits chose method B, the official said, because they do not want to threaten their nonprofit status by inviting a comparison between their 990 IRS report and what they file in a lobbying report. Nonprofits in general can do very little lobbying, unless they create another arm separate from the nonprofit entity.

Even if they are filing under method A, groups must report some grass-roots lobbying and advertising, the official said. An example would include an advertisement that urges people to contact Congress when that group's lobbyist is telling a lawmaker that there is grass-roots support for the position the company is taking.

If organizations send people to state fairs and universities to drum up support for the position a lobbyist is making, the official said, that should be counted. But the lobbying reporting under method A does not require groups to itemize their expenses. And, the expert said, there is scant oversight.

"We can't audit and investigate under the law," the official said. "We see a figure. We can't really question unless it seems ridiculously low."

That is part of the problem, said Stocum with Public Citizen.

"Anytime you have a law that has no real enforcement and largely voluntary compliance, you're going to get lots of fudging," Stocum said.

Attorneys for both ACCCE and the American Petroleum Institute, which also funded community outreach efforts this summer, said the federal Lobbying Disclosure Act clearly excludes grass-roots activities.

Proof of that, said Jacobs, attorney for ACCCE, is that Congress in 2007 when it formulated an ethics reform bill considered adding grass-roots activities to what would be reportable as federal lobbying. Grass-roots work ultimately was not included in the legislation.

## Who picks which method?

A trade group for the oil and gas industry, API funded 19 rallies across the country in August and September, intended in part to drive phone calls, e-mails and letters to lawmakers about climate legislation. Those expenses were not reflected in the group's third-quarter lobbying report because API files using method A. It reported \$2.2 million in lobbying expenses for those three months.

"We feel we're giving a more precise reporting," said John Wagner, senior attorney for API. "We report what the IRS wants," and for federal lobbying, he said, API reports what the Lobbying Disclosure Act rules require.

"We report it," Wagner said of grass-roots efforts. "We just don't report it under the [Lobbying Disclosure Act]. That's not really what the LDA is after. It is a specific definition of lobbying."

The Solar Energy Industries Association also files under method A. It reported

of lobbying that includes all federal, state and local efforts, advertising and grass-roots outreach to the public. Method C employs the IRS definition of lobbying but is used by for-profit groups.

The following entities used Method A and reported this spending for the third quarter: American Coalition for Clean Coal Electricity, \$302,704; American Wind Energy Association, \$808,997; American Petroleum Institute, \$2.2 million; Nature Conservancy, \$350,000; Nuclear Energy Institute, \$550,000; Service Employees International Union, \$776,573; Sierra Club, \$150,000; and Solar Energy Industries Association, \$342,000.

The following used Method B: Edison Electric Institute, \$2.7 million; and National Resources Defense Council, \$166,400.

The following filed under Method C: American Forest & Paper Association, \$678,000; American Gas Association, \$280,000; Blue Green Alliance, \$310,000; National Association of Manufacturers, \$5.8 million; National Mining Association, \$743,025; National Rural Electric Cooperative Association, \$1.2 million; and U.S. Chamber of Commerce, \$34.7 million.

-- Anne C. Milkern



spending \$342,000 in the third quarter.

"In our case, we really focus on federal lobbying," said Monique Hamis, spokeswoman for the trade group. She added, "There is a tiny smidgen of grass roots." The group doesn't lobby at the state level, she said, and its advertising is "very, very limited" and usually is done as part of a coalition.

The National Association of Manufacturers is among those trade groups that files under method C, using the IRS lobbying definitions. It is done that way for simplicity because the calculations are done for the IRS, said spokeswoman Erin Streeter.

The National Mining Association, a trade group for coal companies, also files under method C. For the third quarter of 2009, it reported \$743,025 in lobbying expenses.

"We have to report all of our expenses to the IRS. We just do one report," said Carol Raulston, spokeswoman for the National Mining Association. "So it's for ease of reporting."

The trade group does not do any state lobbying, Raulston said. Grass-roots efforts are mostly online, she said, to save money.

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**Exhibit WBM-5**  
**Response to NC WARN DR 1-83**

**DUKE ENERGY CAROLINAS, LLC**  
**Response to NC WARN Request**  
**WARN 1-83**

**Docket No. E-7, Sub 1026**

**Date of Request: 4/15/13**

**Response Dated: 5/20/13**

**CONFIDENTIAL: \_\_\_\_\_ Yes**

*(Provided Pursuant to Confidentiality Agreement)*

\_\_\_\_\_ **X** \_\_\_\_\_ **NO**

**The attached response was consolidated and prepared under my supervision.**

Customer Services  
Name

Title

550 South Tryon St. Charlotte, NC 28202  
Business address

## WARN 1-83

### **Request:** Regarding survey research:

- a. Please identify the total costs spent on survey research by Duke Energy Carolinas and the total costs allocated or assigned from any affiliates company, by FERC Account in the Test Year and in the 2009-2011 calendar years.
- b. Identify and briefly describe each survey conducted and its costs.
- c. For any surveys with costs assigned or allocated by the affiliated companies by specific affiliate, provide the total cost of the survey, explain the method of cost allocation or assignment and explain the benefit to Duke Energy Carolinas ratepayers.

**Response:** All survey research conducted in this period was undertaken on behalf of the Duke Energy utilities overall, rather than for just one or more of those entities. The survey research was conducted by market research and customer insights personnel in the Duke Energy Business Services organization. Survey research costs were allocated, based on each utility's share of revenue. Attachments provide 1) an itemization of the costs incurred for those surveys; 2) identification of each survey, how Duke Energy Carolinas rate payers benefit, and the total cost of the survey, and the share allocated to Duke Energy Carolinas based on share of revenue; 3) Details by FERC account.

Survey Research by FERC account

Specific Survey items identified in (b) and (c)

Account ID CB	Account Long Descr CB	Annual Figures			Test Year
		2009	2010	2011	
186110	Miscellaneous Work In Process		54,696.00		
557000	Other Expenses-Oper		11,248.30		15,105.00
910100	Exp-Rs Reg Prod/Svces-CstActs		70,000.00	635,755.75	937,726.94
921200	Office Expenses	3,800.00			
923000	Outside Services Employed	167,410.00	150,695.50	120,876.00	
		<b>171,210.00</b>	<b>286,639.80</b>	<b>756,631.75</b>	<b>952,831.94</b>

Support work to run the Market Research organization, not tied to specific surveys

Account ID CB	Account Long Descr CB	Annual Figures			Test Year
		2009	2010	2011	
182364	Reg Asset Smartgrid Gas Furn		4,334.00		-4,334.00
182383	IN Core EE Deferred Costs				1,057.50
182401	Deferred DSM Costs	6,310.33	7,013.61		
186110	Miscellaneous Work In Process		-54,696.00		
408960	Allocated Payroll Taxes	54.70			38.25
417320	Exp-Unreg Products & Svcs	5,500.00	44,412.58	243.99	
557000	Other Expenses-Oper	118,972.08	253,974.17	379,147.43	335,182.62
910000	Misc Cust Serv/Inform Exp	2,779.70	658.97	23,000.00	20,000.00
910100	Exp-Rs Reg Prod/Svces-CstActs	4,000.00	622,896.70	1,742,169.33	1,236,381.03
913001	Advertising Expense		12.98		
920000	A & G Salaries	725.45	0.00	0.00	
921100	Employee Expenses	9,586.02	7,114.34	-3,000.00	3,000.00
921200	Office Expenses	45,269.86	34,794.00	3,850.00	2,100.00
921400	Computer Services Expenses	15,000.00			
921540	Computer Rent (Go Only)		-0.02		
923000	Outside Services Employed	772,877.63	-63,388.01	-113,376.00	
926600	Employee Benefits- Transferred	135.95			123.25
	<b>Grand Total</b>	<b>981,211.72</b>	<b>857,127.32</b>	<b>2,033,092.25</b>	<b>1,592,491.15</b>

Total Market Research Costs

Account ID CB	Account Long Descr CB	Annual Figures			Test Year
		2009	2010	2011	
182364	Reg Asset Smartgrid Gas Furn		4,334.00		-4,334.00
182383	IN Core EE Deferred Costs				1,057.50
182401	Deferred DSM Costs	6,310.33	7,013.61		
186110	Miscellaneous Work In Process		0.00		
408960	Allocated Payroll Taxes	54.70			38.25
417320	Exp-Unreg Products & Svcs	5,500.00	44,412.58	243.99	
557000	Other Expenses-Oper	118,972.08	265,222.47	379,147.43	350,287.62

<b>910000</b>	Misc Cust Serv/Inform Exp	2,779.70	658.97	23,000.00	20,000.00
<b>910100</b>	Exp-Rs Reg Prod/Svces-CstAccts	4,000.00	692,896.70	2,377,925.08	2,174,107.97
<b>913001</b>	Advertising Expense		12.98		
<b>920000</b>	A & G Salaries	725.45	0.00	0.00	
<b>921100</b>	Employee Expenses	9,586.02	7,114.34	-3,000.00	3,000.00
<b>921200</b>	Office Expenses	49,069.86	34,794.00	3,850.00	2,100.00
<b>921400</b>	Computer Services Expenses	15,000.00			
<b>921540</b>	Computer Rent (Go Only)		-0.02		
<b>923000</b>	Outside Services Employed	940,287.63	87,307.49	7,500.00	
<b>926600</b>	Employee Benefits- Transferred	135.95			123.25
<b>Grand Total</b>		<b>1,152,421.72</b>	<b>1,143,767.12</b>	<b>2,789,724.00</b>	<b>2,545,323.09</b>

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**Exhibit WBM-6**  
**Response to NC WARN DR 1-104**

**DUKE ENERGY CAROLINAS, LLC**  
**Response to NC WARN Request**  
**WARN 1-104**

**Docket No. E-7, Sub 1026**

**Date of Request: 4/15/13**

**Response Dated: 6/05/13**

**CONFIDENTIAL: \_\_\_\_\_ Yes**

*(Provided Pursuant to Confidentiality Agreement)*

\_\_\_\_\_ **X** \_\_\_\_\_ **No**

**The attached response was consolidated and prepared under my supervision.**

Corporate Accounting  
**Name**

**Title**

550 South Tryon St. Charlotte, NC 28202  
**Business address**



## WARN 1-104

### **Request:** Regarding stock-based compensation:

- a. Please identify the amount of stock based compensation which Duke Energy Carolinas proposes to include in rates in the Test Year; divide into costs of Duke Energy Carolinas employees and costs assigned or allocated to Duke Energy Carolinas from other Duke Energy Carolinas Energy affiliates. Also provide the total amount of stock-based compensation for employees whose costs are assigned or allocated to Duke. If the answer is not zero, please answer the remaining subparts of this question.
- b. Please provide the actual and targeted amounts of stock-based compensation for Duke Energy Carolinas for each year from 2007-2012; divide into costs of Duke Energy Carolinas employees and costs allocated to Duke Energy Carolinas. Also provide the total amount of stock-based compensation for employees whose costs are assigned or allocated to Duke Energy Carolinas.
- c. Provide a written description of the current stock-based compensation program.
- d. Was any portion of the stock-based compensation program charged to ratepayers affected by the approval of the merger with Progress Energy? If so, how many dollars in total and allocated to Duke.
- e. Please provide the amount (total and allocated to Duke) for (i) the CEO; (ii) all other executives named in the Duke Energy Carolinas Energy proxy statement reflecting test year compensation; (iii) all other executives (providing the number of such executives receiving stock based compensation), (iv) all non-executive managerial employees (providing the number of such employees receiving stock-based compensation); and (v) all other employees (providing the number of such employees receiving stock-based compensation)

**Response:** See attached files.

**NCWARN Data Request #104 (Stock-Based Compensation)**

a. Please identify the amount of stock based compensation which Duke Energy Carolinas proposes to include in rates in the Test Year; divide into costs of Duke Energy Carolinas employees and costs assigned or allocated to Duke Energy Carolinas from other Duke Energy Carolinas Energy affiliates. Also provide the total amount of stock-based compensation for employees whose costs are assigned or allocated to Duke. If the answer is not zero, please answer the remaining subparts of this question.

**Stock-Based Compensation for 12 months ending June 30, 2012**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	9,772,736	34,297,381	44,070,117
Allocated to Duke Energy Carolinas	15,117,263	(15,117,263)	-
<b>Total Stock-Comp</b>	<b>24,889,999</b>	<b>19,180,119</b>	<b>44,070,117</b>

**NCWARN Data Request #104 (Stock-Based Compensation)**

b. Please provide the actual and targeted amounts of stock-based compensation for Duke Energy Carolinas for each year from 2007-2012; divide into costs of Duke Energy Carolinas employees and costs allocated to Duke Energy Carolinas. Also provide the total amount of stock-based compensation for employees whose costs are assigned or allocated to Duke Energy Carolinas.

**Stock-Based Compensation for 12 months ending December 31, 2012**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	7,568,696	70,720,983	78,289,679
Allocated to Duke Energy Carolinas	13,740,315	(13,740,315)	-
<b>Total Stock-Comp</b>	<b>21,309,011</b>	<b>56,980,668</b>	<b>78,289,679</b>

**Stock-Based Compensation for 12 months ending December 31, 2011**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	8,213,429	44,526,381	52,739,810
Allocated to Duke Energy Carolinas	19,811,483	(19,811,483)	-
<b>Total Stock-Comp</b>	<b>28,024,912</b>	<b>24,714,898</b>	<b>52,739,810</b>

**Stock-Based Compensation for 12 months ending December 31, 2010**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	7,304,013	63,125,675	70,429,688
Allocated to Duke Energy Carolinas	30,732,620	(30,732,620)	-
<b>Total Stock-Comp</b>	<b>38,036,634</b>	<b>32,393,055</b>	<b>70,429,688</b>

**Stock-Based Compensation for 12 months ending December 31, 2009**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	6,061,499	38,367,299	44,428,797
Allocated to Duke Energy Carolinas	17,275,454	(17,275,454)	-
<b>Total Stock-Comp</b>	<b>23,336,953</b>	<b>21,091,844</b>	<b>44,428,797</b>

**Stock-Based Compensation for 12 months ending December 31, 2008**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	6,633,162	29,676,537	36,309,699
Allocated to Duke Energy Carolinas	14,507,869	(14,507,869)	-
<b>Total Stock-Comp</b>	<b>21,141,032</b>	<b>15,168,668</b>	<b>36,309,699</b>

**Stock-Based Compensation for 12 months ending December 31, 2007**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>
Duke Energy Carolinas Direct Charged	6,786,201	14,215,983	21,002,185
Allocated to Duke Energy Carolinas	1,752,146	(1,752,146)	-
<b>Total Stock-Comp</b>	<b>8,538,348</b>	<b>12,463,837</b>	<b>21,002,185</b>

**NCWARN Data Request #104 (Stock-Based Compensation)**

c. Provide a written description of the current stock-based compensation program.

d. Was any portion of the stock-based compensation program charged to ratepayers affected by the approval of the merger with Progress Energy? If so, how many dollars in total and allocated to Duke.

Part c: please see attached file: **NCWARN 104 part C.docx**

Part d: No.

**NCWARN Data Request #104 (Stock-Based Compensation)**

e. Please provide the amount (total and allocated to Duke) for (i) the CEO; (ii) all other executives named in the Duke Energy Carolinas Energy proxy statement reflecting test year compensation; (iii) all other executives (providing the number of such executives receiving stock based compensation), (iv) all non-executive managerial employees (providing the number of such employees receiving stock-based compensation); and (v) all other employees (providing the number of such employees receiving stock-based compensation)

**Stock-Based Compensation for 12 months ending June 30, 2012**

	<b>DE Carolinas</b>	<b>Affiliates</b>	<b>Total</b>	<b>#</b>
CEO	4,435,924	3,479,099	7,915,023	1
Other Executives (Proxy)	2,370,717	1,354,430	3,725,147	3
Other Executives (Not in Proxy)	6,298,867	4,183,208	10,482,075	45
Non-Executive Managers	11,784,491	10,163,382	21,947,873	510
<b>Total Stock-Comp</b>	<b>24,889,999</b>	<b>19,180,119</b>	<b>44,070,117</b>	<b>559</b>

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**Exhibit WBM-7**  
**Excerpt from James C. Bonbright, Principles of**  
**Public Utility Regulation, 1961 Edition**

*THREE-PART ANALYSIS OF THE COSTS OF AN ELECTRIC UTILITY BUSINESS*

In order to simplify the exposition of a typical fully apportioned cost analysis, let us assume the application of the analysis to an electric utility company supplying a single city with power generated by its own steam-generation plant. Let us also assume the existence of only one class or type of service, all of which is supplied at the same voltage, phase, etc. to residential, commercial, and industrial customers. This latter assumption will permit us to center attention on the most controversial aspect of modern public utility cost analysis—the distinction among costs that are functions of outputs of the same service measured along different dimensions.

Since the company under review is supplying what we are here regarding as only one kind of service, we might suppose that the problem of total cost apportionment would be very simple; indeed, that it would be limited to a finding of the total annual operating and capital costs of the business, followed by a calculation of this total in terms of annual cost per kilowatt-hour of consumption. In fact, however, the problem is not so simple. For a statement of costs per kilowatt-hour would ignore the fact that many of these costs are not a function of kilowatt-hour output (or consumption) of energy. A recognition of multiple cost functions is therefore required.

The simplest division, and the one most frequently used (with subdivisions) in gas and electric rate cases, is a threefold division of the total operating and capital costs into "customer costs," "energy" or "volumetric costs," and "demand" or "capacity" costs.<sup>7</sup> If this threefold division of costs were to have its counterpart in the

<sup>7</sup> Other cost breakdowns, such as those allowing for the power factor, for voltage differences, for distances between points of generation and points of consumption, and for the customer-density factor, have been used to a limited extent. Compare Vickroy's selection of six parameters in order to approximate the response of the operating costs of the New York City Rapid Transit System to various changes in service and traffic: Train miles; car miles; maximum number of cars in service; number of passengers carried during the peak hour; number of passengers carried; and the layout of the system, consisting of the number of route miles, number of stations, etc. William S. Vickrey, *The Revision of the Rapid Transit Fare Structure of the City of New York*, Technical Monograph No. Three, Finance Project, Mayor's Committee on Management Survey of the City of New York, Feb., 1932, p. 8.

actual rates of charge for service, as it actually does have in some rates, there would result a three-part rate for any one class of service. For example, the monthly bill of a residential consumer might be the sum of a \$1 customer charge, a \$5 charge for 250 kilowatt-hours of energy at 2¢ per kilowatt-hour, and a \$2 charge for a maximum demand of 2 kilowatts during the month at the rate of \$1 per kilowatt—a total bill of \$8 for that month. But our present interest lies in the measurement of costs of service, and only indirectly in rates that may or may not be designed to cover these costs. Let us therefore consider each of the three types of cost in turn, recognizing that this simplified classification is used only for illustrative purposes; costs actually vary in much more complex ways.

1. THE CUSTOMER COSTS

These are those operating and capital costs found to vary with number of customers regardless, or almost regardless, of power consumption. Included as a minimum are the costs of metering and billing along with whatever other expenses the company must incur in taking on another consumer. These minimum costs may come to \$1 per month, more or less, for residential and small commercial customers, although they are substantially higher for large industrial users, who require more costly connections and metering devices. While costs on this order are sometimes separately charged for in residential and commercial rates, in the form of a mere "service charge," they are more frequently wholly or partly covered by a minimum charge which entitles the consumer to a very small amount of gas or electricity with no further payment.

But the really controversial aspect of customer-cost imputation arises because of the cost analyst's frequent practice of including, not just those costs that can be definitely earmarked as incurred for the benefit of specific customers but also a substantial fraction of the annual maintenance and capital costs of the secondary (low-voltage) distribution system—a fraction equal to the estimated minimum capacity of a hypothetical system of minimum capacity. This minimum capacity is sometimes determined by the smallest sizes of conductors deemed adequate to maintain voltage and to keep from falling of their own weight. In any case, the annual costs of this phantom, minimum-sized distribution system are treated as

FULLY DISTRIBUTED COSTS

customer costs and are deducted from the annual costs of the existing system, only the balance being included among those demand-related costs to be mentioned in the following section. Their inclusion among the customer costs is defended on the ground that, since they vary directly with the area of the distribution system (or else with the lengths of the distribution lines, depending on the type of distribution system), they therefore vary indirectly with the number of customers.

What this last-named cost imputation overlooks, of course, is the very weak correlation between the area (or the mileage) of a distribution system and the number of customers served by this system. For it makes no allowance for the density factor (customers per linear mile or per square mile). Indeed, if the company's entire service area stays fixed, an increase in number of customers does not necessarily betoken any increase whatever in the costs of a minimum-sized distribution system.

While, for the reason just suggested, the inclusion of the costs of a minimum-sized distribution system among the customer-related costs seems to me clearly indefensible, its exclusion from the demand-related costs stands on much firmer ground. For this exclusion makes more plausible the assumption that the remaining cost of the secondary distribution system is a cost which varies continuously (and, perhaps, even more or less directly) with the maximum demand imposed on this system as measured by peak load.

But if the hypothetical cost of a minimum-sized distribution system is properly excluded from the demand-related costs for the reason just given, while it is also denied a place among the customer costs for the reason stated previously, to which cost function does it then belong? The only defensible answer, in my opinion, is that it belongs to none of them. Instead, it should be recognized as strictly unallocable portion of total costs. And this is the disposition that it would probably receive in an estimate of long-run material costs. But the fully-distributed cost analyst dare not avail

This is in accord with the views of Hubert F. Hawlik: *Service Charges in Gas Electric Rates* (New York, 1938), Chap. 8 and Appendix A. Allocation, in meter were added to the three traditional cost components. See G. P. Watkins, *Electric Rates* (New York, 1921), p. 212. But if this factor were embodied, not in cost analysis but in the resulting rate differentials, rates would not be firm throughout a given community and hence would violate a generally accepted tradition.

FULLY DISTRIBUTED COSTS

himself of this solution, since he is the prisoner of his own assumption that "the sum of the parts equals the whole." He is therefore under impelling pressure to "fudge" his cost apportionments by using the category of customer costs as a dumping ground for costs that he cannot plausibly impute to any of his other cost categories.

2. THE ENERGY COSTS

The energy-cost component of this threefold division of total annual costs is supposed to consist of those costs which would vary with changes in consumption of energy, measured in kilowatt-hours, even if there were no change in maximum load upon the system or subsystem as measured by kilowatts or kilovolt amperes.<sup>9</sup> The most obvious costs of this character are fuel costs, although a small portion even of these costs may be regarded as demand-related on the ground that some fuel is required in order to maintain a "spinning reserve." But other operating costs may also be deemed to vary with output of energy and hence with consumption of energy, including whatever depreciation of the equipment may be regarded as a function of use rather than of obsolescence and aging.

Reduced to costs per kilowatt-hour, the imputed energy costs may be only a fraction of total average costs. It is this relative smallness which is often held to justify a company in conceding very low rates for off-peak or interruptible services, on the ground that these services impose upon the company little or no additional capacity costs.

The treatment of energy costs as a separate cost function is subject to one serious deficiency: namely, in its assumption that the

Estimates of the ratio of energy-related costs to total costs of electric supply (including capital costs) have ranged from  $\frac{1}{3}$  down to only  $\frac{1}{4}$ . Referring to British conditions, Bolton writes: "More accurate costing has shown that, on the average, only one-quarter of the total costs of electricity supply are represented by coal or items proportional to energy, whilst three-quarters are represented by fixed costs or items proportional to power, etc." D. J. Bolton, *Costs and Tariffs in Electricity Supply* (London, 1951), p. 59. But he notes two practical reasons, among others, why this situation does not justify a corresponding dominance of demand charges rather than energy charges in electric rate structures: (a) that the effective power demand imposed upon the system by any given individual is very difficult to determine, and (b) that a pure demand-charge rate would probably lead to a more serious waste of energy than a pure energy rate would lead to a waste of power capacity. The latter reason invokes a "value-of-service" or "demand-elasticity" principle of rate making rather than a cost principle.



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**Exhibit WBM-8**

**George Sterzinger, "The Customer Charge and  
Double Allocation of Costs"**

# The Customer Charge and Problems Of Double Allocation of Costs

By GEORGE J. STERZINGER

AFTER several years of the "great rate debate" Attention finally seems to be turning towards a forgotten part of rate design: the customer charge. Utilities, forced by the Public Utility Regulatory Policies Act to justify or do away with declining energy charges, have begun arguing for cost classification and subsequent rate design with increasingly large customer charges. Recently proposed customer charges seem to be consistently in the \$6 to \$9 range, accompanied by embedded cost-of-service studies supporting even greater charges.

Consumer and environmental groups concerned about rate design reform (rather than using the customer charge as a place to dump costs, as the utilities do) have seen it as a place to shave costs. Concerned primarily with getting a kilowatt-hour or usage charge to reflect incremental or marginal costs more accurately, these groups have attempted to resolve the problem of the resulting excess revenue by proposing that the customer charge be lowered enough to "lose" the

surplus. Negative customer charges or lump sum monthly payments from the utility to consumers have been proposed by more imaginative analysts.<sup>1</sup>

Analyses of the proper customer charge have often yielded contradictory results depending upon whether incremental or embedded costs were used. Incremental analyses often, but not always, support low customer charges, while embedded cost analyses often, but not always, support high customer charges.

The importance of incremental price signals and the need to strike a balance between revenue constraints and

*This article is a critique of the currently most widely used methodology for classifying a portion of electric utility distribution plant as a customer cost. The author argues that this classification, combined with an allocation of the "above minimum" portion on a demand basis, leads to an overallocation of costs to low-use residential customers of the electric system.*

proper price signals have produced wide agreement that the customer charge is the least "informative" of all parts of a rate design and should be the last place a utility is allowed to collect revenues if incremental costs are found to be useful in designing rates.

Unfortunately, the debate on the proper definition and use of incremental costs remains unresolved, while traditional practices of embedded cost allocation seem to support very high customer charges. Regulators, forced with making a decision, have found some cost basis to be

<sup>1</sup>"Customer Charges and the Public Utility Regulatory Policies Act," by Edward F. Renshaw and Perry Renshaw, 104 *Purdue Utilities Forum* 17, August 30, 1979, found high customer charges desirable by the Commission of PURPA.



George J. Sterzinger is an economist with the New England Regional Energy Project where he specializes in electric utility rate design testimony. In 1979 he became director of the project. The NEREP provides economic, legal, and technical assistance to low-income groups on regulatory utility issues and other energy policy matters. Mr. Sterzinger received a BA degree in economics from St. Joseph College, Rensselaer, Indiana, and has completed all requirements but the dissertation for a PhD degree in economics at Purdue University. He is also a visiting professor of William B. Warfield School of Business Administration, University of North Carolina.

STATE OF NORTH CAROLINA UTILITIES COMMISSION

preferable to unresolved speculation, and raised the customer charge based on embedded cost-of-service studies.

Since incremental analyses cannot by themselves support a low customer charge, the embedded cost analyses which support high customer charges must also be closely investigated to determine if they meet current objectives of rate design. An examination of these methodologies reveals the following characteristics:

— Almost all of them rely for their justification on the determination of the cost of a minimum distribution system, and the classification of this system as a customer cost.

— Once the classification has been made, it is an inescapable conclusion of the allocated cost-of-service study that calculated customer costs will be substantial.

— However, an examination of the rationale for the classification and the implications of that classification lead equally inescapably to the conclusion that minimum use residential customers will be overcharged by such cost allocation practices.

— The only reasonable remedy for the problem of overcharging is to classify the entire distribution system on a consistent basis, which would be a demand basis.

— Once this is done, traditional cost-of-service studies no longer provide support for high customer charges.

A national survey of utility practices in classification of distribution system costs determine that the great majority used some form of minimum system to classify costs in the relevant Federal Energy Regulatory Commission accounts. (The survey was conducted by Carolina Power and Light Company, Raleigh, North Carolina.) The survey summarized the results of company practices to determine how much, on average, each distribution plant account was classified as demand. The results by FERC account were as follows:

— Account 364 — Poles and fixtures were separated into primary and secondary; the primary portion was split 50-50 between customer and demand costs, the secondary portion was classified 56.5 per cent customer and 43.5 per cent demand.

— Account 365 — Conductors and devices were also separated into primary and secondary; the primary portion was classified 44.3 per cent customer and 55.7 per cent demand, and the secondary portion was classified 46.4 per cent customer and 53.6 per cent demand.

— Account 368 — Line transformers were classified 34 per cent customer and 66 per cent demand.

— Account 369 — Services were classified 70.8 per cent customer and 29.2 per cent demand.

very difficult to define and consequently susceptible to widely varying interpretations. No single method exists for calculating the cost of this system; nevertheless, a fairly standard approach is to reconstruct the existing distribution system using some type of minimum equipment. Minimum equipment could be of the type employed by the company, currently purchased by the company, currently used in the industry, or currently required by safety code. The cost of this equipment can be either booked or in current prices. Obviously, with this large a menu of definitions to choose from, a utility analyst can calculate costs for these systems over a wide range.

It should be mentioned here that one other method sometimes used to calculate the cost of a minimum system is the "zero-intercept" method whereby regression equations relating cost to various sizes of equipment are derived, and then solved for the cost of zero-sized or "zero-intercept" equipment. The strongest objections to this methodology arise from the limitations on data, the unreliability of the derived equations, and some fundamental problems that arise from making the statistical inference about the cost of the zero-sized equipment.

A typical utility in the sample discussed earlier, faced with the problem of classifying costs in Account 365 —overhead lines, for example, would determine the cost of the minimum equipment needed to replace all existing lines, calculate that cost as a fraction of the total costs of equipment in the account, and use that fraction to classify customer costs. Thus, a utility with 1,000 miles of overhead lines and two types of line costing \$1 per foot and \$2 per foot would calculate a minimum system cost of roughly \$5.28 million (\$1 X 5,280 feet per mile X 1,000 miles). This \$5.28 million can, of course, be varied if different types of minimum lines are used, or if for other reasons the cost of \$1 per foot is changed.

Beyond problems arising from the indeterminate nature of the minimum system, the appropriateness of classifying these costs as customer costs has been long debated. Strictly speaking, customer costs should be limited to those costs which can be shown to vary exclusively with number of customers. Distribution system costs, both as built and hypothetical minimum system, obviously depend to a great extent on geographical considerations — type of terrain and customer density. Several analysts have argued that the nature of cost causation — in this case at least in part due to geography — does not allow the costs to be neatly fit into either demand or customer cost categories; that the costs are simply unallocable. Recent statistical analyses support this notion.<sup>3</sup>

An additional and more severe problem with this methodology arises from the consequences of classifying distribution system costs into both customer and demand portions. Simply put, this practice leads

<sup>3</sup>"The Economics of Electric Distribution System Costs and Investments," by David J. Lewis, 106 Public Utilities Fortnightly 37, December 4, 1980, found no statistical justification for the classification of distribution system costs as customer related.

study to a double allocation and possibly a double collection of these costs from low-use residential customers and a misallocation of costs among customer classes.

To see why this is so, one need only step back for a moment to consider what it is that a cost allocation study attempts to do, and what happens when distribution system costs are split into customer and demand portions and then allocated to individual classes.

An allocation study assigns costs to customers on the basis of usage characteristics; fairness requires that allocated costs follow, as closely as possible, the actual costs of serving customers. Splitting the distribution system into a minimum usage and an above minimum usage portion, and allocating the minimum portion on a customer basis, and the above minimum on a usage basis results in low-use residential customers paying for more of the system than is required to serve them. By splitting the distribution system into two parts, low-use residential consumers are charged twice: once, on a customer basis, for a portion of the system sized to meet their demands; and again on a demand basis for a portion of the system sized to serve demand beyond what would be needed to serve them. The only practical way satisfactorily to assure that low-use customers are charged only once for distribution equipment is to allocate the distribution system costs on a single consistent basis. Of the two considered, customer and demand, it is obvious that only demand can be used to classify and allocate distribution costs on a satisfactory basis.

In order to explain more fully why this method constitutes double charging of low-use customers, we can look more closely at the handling of FERC Accounts 364 and 365 which represent the cost of overhead lines and poles. To illustrate this, suppose the company had only 1,000 miles of overhead lines and 10,000 poles; and in addition it used two types of line — one costing \$1 per foot, for 500 miles of overhead, the other costing \$2 per foot, for the remainder; and two sizes of pole — 5,000 costing \$30 per pole and 5,000 costing \$60 per pole. Total cost of this system would be:

a) Line: 500 miles at \$1 per foot	\$2,640,000	
b) Line: 500 miles at \$2 per foot	<u>5,280,000</u>	
Subtotal		\$7,920,000
c) Poles: 5,000 poles at \$30 per pole	\$ 150,000	
d) Poles: 5,000 poles at \$60 per pole	<u>300,000</u>	
Subtotal		\$ 450,000
Total		<u>\$8,370,000</u>

A minimum system in this case would be determined by calculating the cost of the 1,000 miles of overheads if only the minimum-sized line was used, plus the cost of the 10,000 poles if only the minimum-sized pole was used.

Cost of the minimum system is:

a) Line: 1,000 miles at \$1 per foot	\$5,280,000	
b) Poles: 10,000 poles at \$30 per pole	<u>300,000</u>	
Total		\$5,580,000

Therefore, the cost of the above minimum (or capacity) system would be the remainder, or \$2,780,000.

The minimum system calculated in this fashion could, and actually does, serve a considerable level of usage.

The minimum system is allocated on a customer basis — all customers are charged for an equal share of it. The remainder of the system, the more expensive facilities required to meet loads beyond those handled by minimum-sized equipment, is allocated on some demand basis; noncoincident peak demand is often used. In the calculation of the noncoincident peak demand allocation factors, usage at all levels of the residential and general service customer classes is used to determine allocation factors.

If, for example, the minimum overhead lines, conductors, and poles could supply a demand of two kilowatts per residential customer, that amount of usage would be paid for in the customer charge. In the determination of demand allocation factors, however, each residential customer's demand is calculated and added to determine the portion of the above minimum system costs to be allocated to the residential class and to each customer through the appropriate rates. So a residential customer who has a demand of two kilowatts will have paid for all the distribution costs associated with his load through the customer charge, but will also have his two-kilowatt usage go into the demand allocation factor to allocate distribution costs associated with above minimum usage.

One way to solve the double allocation problem would be to determine, for each piece of minimum equipment, the demand level it would be capable of serving, and then adjusting the demand allocation factors used to allocate the costs of all equipment of that type in order to assure that minimum use customers and the residential class were not charged twice. In many cases this would mean calculating several allocation factors for each FERC distribution account, since more than one type of equipment is used in the account. Even after overcoming all the problems of this approach one is still confronted with the dubious value of charging for equipment on an up-front basis rather than through a per kilowatt-hour charge at a time when conservation is recognized as an important goal of energy policy.

The direct way to assure that problems of overcollection are not built into the methodology used to determine class costs of service is to classify all distribution costs as demand costs. If this methodology is used in embedded cost studies, the studies will produce more equitable estimates of the cost of serving low-use residential customers.

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**Exhibit WBM-9**  
**NCWARN Cost of Service Summary**

DUKE ENERGY CAROLINAS, LLC  
 DOCKET E-7, SUB 1026  
 COST OF SERVICE STUDY  
 FOR THE TEST PERIOD ENDED June 30, 2012

(DOLLARS IN THOUSANDS)

**NC WARN COST STUDY**

North Carolina W/NC METHOD

	TOTSYS	TOT_RETAIL	RS	RS_1	RE_1	GS	SGS	LGS	LT	OL	GL
	TOTAL SYSTEM	NO. CAROLINA	TOT RESIDENTIAL	CATEG 1	CATEG 1	TOT GEN SERVICE	GEN SERVICE	GEN SERVICE	TOT LIGHTING	OUTDOOR LTS	STREET LTS
	TotSys	Retail_1	Retail_2	Retail_3	Retail_7	Retail_10	Retail_11	Retail_12	Retail_15	Retail_16	Retail_37
	1	2	3	4	8	11	12	13	16	17	20
<b>SUMMARY OF RESULTS</b>											
<b>NET INCOME COMPUTATION</b>											
GROSS ELECTRIC PLANT IN SERVICE	31,745,876	23,143,506	10,574,139	6,370,398	4,203,741	3,692,295	1,959,757	1,732,538	922,439	681,214	7,154
TOTAL DEPRECIATION RESERVE	(12,799,617)	(9,108,050)	(4,226,733)	(2,545,461)	(1,681,272)	(1,449,829)	(776,391)	(673,438)	(349,677)	(249,792)	(2,969)
TOTAL RATE BASE ADJUSTMENTS	(2,547,813)	(2,077,864)	(1,009,662)	(596,210)	(413,451)	(317,987)	(169,420)	(148,567)	(124,069)	(96,035)	(835)
TOTAL RATE BASE	16,398,446	11,957,592	5,337,744	3,228,726	2,109,017	1,924,479	1,013,946	910,533	448,692	335,387	3,350
<b>OPERATING REVENUE</b>											
BILLED REVENUE (HP IN OTHER REVENUE BELOW)	6,667,833	4,898,043	2,146,115	1,288,080	858,036	791,347	417,312	374,035	121,709	83,531	1,081
TOTAL OTHER OPERATING REVENUES	306,401	138,843	64,455	37,391	27,064	16,896	9,065	7,831	10,004	9,533	11
TOTAL OPERATING REVENUE	6,974,234	5,036,886	2,210,570	1,325,471	885,100	808,243	426,377	381,866	131,713	93,064	1,092
<b>OPERATING EXPENSES</b>											
TOTAL O&M EXPENSE	3,586,910	2,498,126	1,071,928	636,364	435,564	395,508	207,239	188,269	44,524	28,360	424
TOTAL DEPRECIATION EXPENSE	1,055,547	795,047	354,460	215,921	138,539	129,803	68,649	61,153	24,256	17,951	183
TOTAL OTHER TAX & MISC EXPENSE	384,963	309,938	142,038	85,120	56,917	52,414	29,020	23,394	9,578	6,860	87
TOTAL OP EXP EXC INC & OTHER TAX	5,027,420	3,603,111	1,568,425	937,405	631,020	577,725	304,908	272,817	78,358	53,171	694
NET CURR & DEF STATE & FED INCOME TAX	620,000	457,549	203,922	123,491	80,431	73,808	38,879	34,929	16,763	12,523	125
OTHER ADJUSTMENTS	0	0	0	0	0	0	0	0	0	0	0
INVESTMENT TAX CREDIT AMORTIZATION	(6,550)	(4,359)	(1,812)	(1,121)	(691)	(740)	(381)	(359)	(58)	(41)	(0)
INTEREST ON CUSTOMER DEPOSITS	6,164	5,456	4,748	2,397	2,351	510	284	226	61	61	0
TOTAL OPERATING EXPENSE	5,647,034	4,061,757	1,775,283	1,062,172	713,112	651,303	343,690	307,613	95,123	65,714	819
<b>RETURN ON RATE BASE</b>	1,343,707	975,129	435,287	263,299	171,988	156,940	82,687	74,253	36,590	27,350	273
OTHER ADJUSTMENTS	0	0	0	0	0	0	0	0	0	0	0
TOTAL ELECTRIC COST OF SERVICE	6,990,741	5,036,886	2,210,570	1,325,471	885,100	808,243	426,377	381,866	131,713	93,064	1,092
TOTAL OPERATING REVENUE - TOTAL ELECTRIC COS	(16,507)	0	0	0	0	0	0	0	0	0	0
<b>TOTAL RETURN EARNED</b>	1,333,660	975,129	435,287	263,299	171,988	156,940	82,687	74,253	36,590	27,350	273
RATE OF RETURN EARNED ON RATE BASE	0.0813	0.0815	0.0815	0.0815	0.0815	0.0815	0.0815	0.0815	0.0815	0.0815	0.0815

**DUKE ENERGY CAROLINAS, LLC**  
**DOCKET E-7, SUB 1026**  
**COST OF SERVICE STUDY**  
**FOR THE TEST PERIOD ENDED June 30, 2012**

(DOLLARS IN THOUSANDS)

**NC WARN COST STUDY**

**North Carolina W/NC METHOD**

	PL	OL_GL_PL	TS	IND	I	OPT	OPT_G	OPT_H	OPT_I
	STREET LTS	OUTDOOR & ST LTS	TRAFFIC SIGNALS	TOT INDUSTRIAL	INDUSTRIAL	TOT OPT POWER	GENERAL	HIGH LD FACTOR	INDUSTRIAL
	Retail_17	Retail_19	Retail_20	Retail_21	Retail_22	Retail_25	Retail_26	Retail_27	Retail_28
	21	23	24	25	26	29	30	31	32
<b>SUMMARY OF RESULTS</b>									
<b>NET INCOME COMPUTATION</b>									
GROSS ELECTRIC PLANT IN SERVICE	225,766	914,133	8,306	821,840	821,840	7,132,793	3,759,701	327,871	3,045,222
TOTAL DEPRECIATION RESERVE	(93,337)	(346,098)	(3,579)	(320,026)	(320,026)	(2,761,784)	(1,456,184)	(126,964)	(1,178,635)
TOTAL RATE BASE ADJUSTMENTS	(26,467)	(123,336)	(733)	(70,170)	(70,170)	(555,977)	(297,524)	(25,920)	(232,533)
TOTAL RATE BASE	105,962	444,699	3,994	431,644	431,644	3,815,033	2,005,993	174,987	1,634,053
<b>OPERATING REVENUE</b>									
BILLED REVENUE (HP IN OTHER REVENUE BELOW)	35,346	119,958	1,752	169,588	169,588	1,669,283	865,298	76,437	727,548
TOTAL OTHER OPERATING REVENUES	413	9,957	47	3,427	3,427	44,061	23,775	3,028	17,258
TOTAL OPERATING REVENUE	35,759	129,915	1,799	173,015	173,015	1,713,344	889,073	79,465	744,806
<b>OPERATING EXPENSES</b>									
TOTAL O&M EXPENSE	14,793	43,577	947	81,881	81,881	904,286	462,664	42,856	398,765
TOTAL DEPRECIATION EXPENSE	5,862	23,996	261	29,135	29,135	257,393	135,484	11,562	110,347
TOTAL OTHER TAX & MISC EXPENSE	2,516	9,464	114	10,390	10,390	95,518	51,011	4,146	40,361
TOTAL OP EXP EXC INC & OTHER TAX	23,171	77,036	1,321	121,406	121,406	1,257,197	649,159	58,564	549,473
NET CURR & DEF STATE & FED INCOME TAX	3,964	16,611	152	16,573	16,573	146,484	77,031	6,701	62,751
OTHER ADJUSTMENTS	0	0	0	0	0	0	0	0	0
INVESTMENT TAX CREDIT AMORTIZATION	(17)	(58)	(1)	(171)	(171)	(1,578)	(826)	(70)	(682)
INTEREST ON CUSTOMER DEPOSITS	0	61	0	7	7	130	121	0	9
TOTAL OPERATING EXPENSE	27,118	93,651	1,473	137,815	137,815	1,402,232	725,486	65,195	611,551
<b>RETURN ON RATE BASE</b>	8,641	36,264	326	35,200	35,200	311,112	163,587	14,270	133,255
OTHER ADJUSTMENTS	0	0	0	0	0	0	0	0	0
TOTAL ELECTRIC COST OF SERVICE	35,759	129,915	1,799	173,015	173,015	1,713,344	889,073	79,465	744,806
TOTAL OPERATING REVENUE - TOTAL ELECTRIC COS	0	0	0	0	0	0	0	0	0
<b>TOTAL RETURN EARNED</b>	8,641	36,264	326	35,200	35,200	311,112	163,587	14,270	133,255
RATE OF RETURN EARNED ON RATE BASE	0.0815	0.0815	0.0816	0.0815	0.0815	0.0815	0.0815	0.0815	0.0815