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State of North Carolina

Utilities Commission

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May 5, 2011

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Dr. Richard Fireman
Public Policy Coordinator
North Carolina Interfaith Power & Light,
a program of the NC Council of Churches

Re: Docket No. E-7, Sub 819

Dear Dr. Fireman:

FILED
MAY 05 2011
Clerk's Office
N.C. Utilities Commission

On behalf of the North Carolina Utilities Commission (NCUC), I want to acknowledge receipt of your e-mail and the attachments thereto regarding the request for approval of nuclear development funds filed by Duke Energy Carolinas, LLC, which is now pending before the NCUC in Docket No. E-7, Sub 819. I have taken the liberty of filing your comments with our Chief Clerk so that they will be available in our electronic docket system.

The Commission appreciates your participation and the testimony that you offered on behalf of North Carolina Interfaith Power & Light at our public hearing in Docket No. E-7, Sub 819. We expect the formal parties to the case to file their proposed orders and legal briefs by Tuesday, May 10th. The Commission will then take the matter under advisement and will, in due course, enter a written order or decision that will be publicly available.

Sincerely,

Edward S. Finley, Jr.
Chairman

ESF/bb

cc: Commissioners Joyner, Culpepper, Beatty, Rabon, Brown-Bland, and Allen
Renne C. Vance, Chief Clerk
Robert Gruber, Director – Public Staff
Office of the Governor
Consumer Services

(2)
To Dist

Campbell, Kim

From: Richard Fireman [firepeople@main.nc.us]
Sent: Friday, April 29, 2011 9:36 AM
To: Finley, Ed
Cc: Joyner, Lorinzo; Culpepper, Bill; Beatty, Bryan; Rabon, Susan; Brown-Bland, ToNola; Allen, Lucy; Vance, Renne; Robert Gruber; consumer.services@psncuc.nc.gov
Subject: Docket E-7 Sub 819
Attachments: Letter Chairman Finely Docket E-7 Sub 819 final-4-29-11..pdf; ATT00001.htm; ACEEE Arkansas E104.pdf; ATT00002.htm; Burning Coal, Burning Cash (exec sum).pdf; ATT00003.htm; Full Cost Accounting for the life Cycle of Coal.pdf; ATT00004.htm

Chairman Finley;

Attached below as text and attached as a pdf are additional comments from North Carolina Interfaith Power & Light to Docket E-7 Sub 819, Duke Energy's request for pre-construction costs for nuclear power plants at its Lee Station. These comments relate to new information regarding Energy Efficiency as adopted by Arkansas's Public Service Commission, another southern state, which should be a model for North Carolina.

It was very interesting in regards to "least cost" to read Robert Gruber's recent statement in the Charlotte Observer regarding Duke Energy's plan to stop sourcing coal from MTR mining.

"The N.C. Utilities Commission's Public Staff, which represents customers, sees no way the least-cost principle would permit Duke to pay extra for non-mountaintop coal.
'We don't like blowing up mountains more than anyone else, but we think they have to follow least-cost,' said executive director Robert Gruber.
Gruber said allowing an exception on environmental grounds 'could lead to a slippery slope' of other exemptions that would drive up consumer costs."

NC IPL believes that the Commission should apply the least cost principle to Docket E-7 Sub 819.
Please take time to read our written comments and the report from ACEEE which is also attached as a pdf.

Respectfully,

Richard Fireman
Public Policy Coordinator, North Carolina Interfaith Power & Light
NC IPL is a program of the NC Council of Churches

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April 29, 2011

DOCKET NO. E-7, SUB 819

Chairman Finely,



April 29, 2011

DOCKET NO. E-7, SUB 819

Chairman Finely,

NC Interfaith Power and Light has recently learned some important information that we believe should be considered as you evaluate Duke Energy's request for additional funding for preconstruction costs for nuclear reactors at its Lee plant.

The state of Arkansas is poised to become the leader in energy efficiency in the Southeast because its Public Services Commission was willing to take bold steps to ensure that their state used nearly every available means to reduce energy demand. The American Association for an Energy Efficient Economy (ACEEE) stated, *"An interim release of ACEEE's Arkansas report¹ has already been successful in influencing energy efficiency policy in the state. The study was delivered to government officials, including the Arkansas Public Service Commission (APSC), in June 2010 and utilized during APSC proceedings. On December 10, 2010, the APSC issued 10 orders designed to expand the energy efficiency efforts of Arkansas utilities, making Arkansas the first state in the Southeast to adopt a comprehensive set of policies on utility energy efficiency programs."*

The report indicates that ... *"(i)nvestments in energy efficiency across all four of Arkansas' economic sectors — residential, commercial, industrial, and transportation — would create over 11,000 jobs, generate \$240 million in revenue for the state, and save consumers \$3.2 billion in energy bills by 2025."*

In a press release dated March 29, 2011, ACEEE stated *"On December 10, 2010, the APSC issued 10 orders designed to expand the energy efficiency efforts of Arkansas utilities, making Arkansas the first state in the Southeast to adopt a comprehensive set of policies on utility energy efficiency programs. Among the programs created by the APSC orders is an Energy Efficiency Resource Standard (EERS), which sets a statewide goal for long-term energy savings. In order to meet the EERS targets, the report suggests instituting a number of programs including weatherization assistance for inefficient homes, energy-efficient financing for the Arkansas agricultural sector, and investments in the efficiency of Arkansas' public buildings. The report projects that investments in this suite of programs and policies will not only create jobs and lower energy bills, but will also increase the state's productivity and revenue."*

I am attaching the full report for your review.

As you remember I submitted ACEEE's recommendations for North Carolina in my testimony before the Commission on March 15, 2012. The Commission has the duty to provide a "least cost mix" of generation, demand side reduction and energy efficiency, and has the authority to require that the utilities in North Carolina adopt comprehensive and systematic targets for energy efficiency.

A North Carolina version of a program like the one adopted in Arkansas would obviate any need for new base load nuclear power generation in the foreseeable future. Such a comprehensive program would provide a significant number of new, well paying, blue collar jobs distributed statewide, improve and keep revenue in the

state, and save consumer's billions of dollars in the coming decades. There is no other reasonable and prudent path to a "least cost" energy solution.

NC IPL believes that there are moral implications to the Commission's "least cost" mandate, as the statutory requirements for prudence implies. All economic choices involving energy have far reaching consequences for the well-being of living North Carolinians and for generations to come. The Commission also has a deeper moral (as well as statutory) duty to protect the health and welfare of the people of North Carolina. There are 5 areas of particular concern to us in which very practical health and welfare losses will accrue to North Carolinians in the near and long term without a comprehensive energy plan like Arkansas's which emphasizes efficiency and renewable energy production:

- Economic costs for all fossil fuels will increase over time. Fossil fuels are finite ensuring that when supply peaks and begins to fall, cost will rise. These costs are passed on to rate-payers, many of whom have limited financial reserves. Furthermore, all coal, our major fossil fuel, is imported - meaning that North Carolina is sending billions of dollars (currently over \$2.3 Billion) out of state.²
- The Health and Social Costs of Fossil Fuels are estimated to be about \$345 B per year in the US, adding close to 17.8 cents per kWh of electricity generated.² From the Abstract of the analysis:

Each stage in the life cycle of coal—extraction, transport, processing, and combustion—generates a waste stream and carries multiple hazards for health and the environment. These costs are external to the coal industry and are thus often considered "externalities." We estimate that the life cycle effects of coal and the waste stream generated are costing the U.S. public a third to over one-half of a trillion dollars annually. Many of these so-called externalities are, moreover, cumulative. Accounting for the damages conservatively doubles to triples the price of electricity from coal per kWh generated, making wind, solar, and other forms of non-fossil fuel power generation, along with investments in efficiency and electricity conservation methods, economically competitive.

Failure to recognize and minimize these costs is a failure of the Commission's requirement to protect public health and welfare.

- The cost of new nuclear power is already higher than any other energy form, and will continue to be the most expensive option if historical trends continue. Nuclear fuel is also a finite resource, 100% imported and subject to rising cost as availability decreases. Safety costs for both plant construction and waste storage will likely continue to rise in the aftermath of the Fukushima disaster. From an economic as well as a human health and welfare perspective, new nuclear plants do not seem to conform to "least cost mix" now or in the future.
- Fuel sources imported from out of state reduce money available to support North Carolina businesses, jobs and people. 100% of all coal and all nuclear material is imported representing billions of dollars lost from the state annually. For coal alone, we lose \$2.3 billion annually. Continuing to rely on these finite and imported fuels is much more costly than using savings from aggressive energy efficiency programs to develop the alternative energy resources that are indigenous to our state, wind, solar and bio-fuels with local companies, manufacturing and jobs.
- Finally, climate change is upon us. North Carolina DENR and DHHS are actively planning public health, disaster and environmental responses to climate change for North Carolina. That there will be harmful changes related to climate change is universally recognized, but the severity and extent of those changes is still modifiable. The Commission is in the powerful position to take action to mitigate the extent of climate change through development and adoption of a comprehensive energy plan which has

at its foundation broad-based energy demand reduction through development of maximal energy efficiency standards. Energy efficiency is not only the cheapest way to reduce our carbon emissions, it is the quickest to deploy. Spending tens of billions of rate-payers dollars for new nuclear power is just plain wrong, when a fraction of that amount dedicated to energy efficiency would quickly and effectively reduce our energy use and greenhouse gas production while providing thousands of green jobs. The correct and just path to a healthier and more prosperous North Carolina is to prioritize energy efficiency, and develop indigenous energy options which are renewable, clean, safe and support local economies and people.

Duke Energy's vision for North Carolina is extremely risky. I ask you to look again at Hagar Exhibit B in Duke Energy's testimony from Nov. 15, 2010. Duke pie graphs of future energy mix contradicts their written testimony in which they claim that "resources diversity serves as a risk mitigant... it serves to ensure that all of our resource "eggs" are not in one basket." Yet their nuclear capacity will serve up to 51% of their generating capacity. This puts North Carolinians at severe risk for power outages for failure of their system. Their extremely low projections for Energy Efficiency and Renewable Energy belie their claim of resource diversity, and place all of us unnecessarily in harms way. A truly diverse and resilient energy future would maximize Energy Efficiency, wind farms, and a distributed network of solar thermal and solar voltaic systems and sustainable biomass across North Carolina.

On both practical and moral ground, we therefore respectfully ask the Commission to deny Duke Energy's request for additional preconstruction funds for its proposed nuclear power stations. Instead we ask the Commission to begin the planning process that would require the utilities to adopt comprehensive energy efficiency programs in the short term, and a diversified renewable energy mix moving consistently away from finite imported fuel sources for the long term benefit of the people of North Carolina now and for generations. We believe the scientific, the economic and the moral/ethical arguments are sound and converge on an energy future like that envisioned by the Arkansas plan. North Carolina should take the hint and then take the lead into a smart, sustainable energy future.

Respectfully,



Richard Fireman
Public Policy Coordinator
NC Interfaith Power & Light,
a program of the NC Council of Churches



Kathy Shea, M.D.
Director
NC Interfaith Power & Light,
a program of the NC Council of Churches

Cc: Commissioner Joyner, Commissioner Culpepper, Commissioner Beatty, Commissioner Rabon, Commissioner Brown-Bland, Commissioner Allen, Chief Clerk Vance, Director Public Staff Robert Gruber, Office of the Governor

1. Advancing Energy Efficiency in Arkansas: Opportunities for a Clean Energy Economy, March 2011, ACEEE Report No. E-104 – attached
2. Burning Coal, Burning Cash, May 2010, Union of Concerned Scientists – attached
3. Full Cost Accounting for the Life Cycle of Coal, Paul Epstein et al, Annals of the New York Academy of Sciences, 1219 (2011) - attached

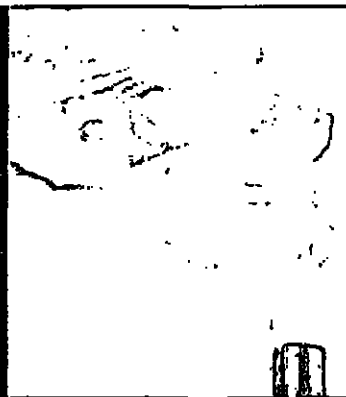


Union of
Concerned
Scientists

EXECUTIVE SUMMARY

Burning Coal, Burning Cash

Ranking the States That Import the Most Coal



THE COST OF IMPORTED COAL IS A MAJOR drain on the economies of many states that rely heavily on coal to produce electricity. In 2008, 38 states were net importers of coal—from other states and, increasingly, other nations. Eleven of those states spent more than \$1 billion on net coal imports (the cost of coal brought into the state, minus revenue from the coal that in-state mines exported).

Most of the nation's coal comes from just three states: Wyoming, West Virginia, and Kentucky. However, one state, Wyoming, increasingly dominates the market. That state provided 40 percent of U.S. coal production in 2008 (up from just 18 percent in 1990). In 2008, mines in Wyoming's Powder River Basin shipped coal to power plants in 34 states (up from 27 states in 2002)—some located as far away as New York and Georgia.

Many eastern states also import coal from other regions of the world, including South America and even Southeast Asia. Those trends—combined with rising coal prices over the last several years—mean that many states spent dramatically more on imported coal in 2008 than they did just six years earlier.

Burning Coal, Burning Cash analyzes this annual drain on state economies. The report also provides individual profiles of

the 24 most coal-dependent states, showing, among other things, where they send the funds now used to pay for imported coal. These profiles also suggest ways individual states can boost their economies by investing those funds in energy efficiency and homegrown renewable energy instead.¹

The cost of importing coal is a major drain on the economies of many states that rely heavily on coal-fired power. But these states can reap economic and environmental benefits by reducing their use of imported coal and investing in energy efficiency and local, renewable energy sources.

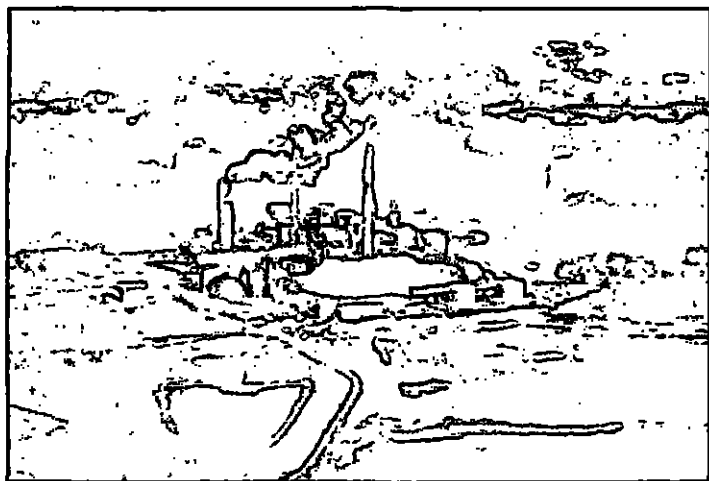
Such investments yield well-documented economic benefits for all states, including new jobs, higher local tax revenues, and more income for farmers, ranchers, and rural landowners. However, these benefits are even greater for states now dependent on imported coal. That's because those states can channel funds that would otherwise leave the state (to pay for coal) into measures that spur local development and a clean energy economy.

The States Most Dependent on Imported Coal

In our report, we ranked states' dependence on imported coal in each of six categories, and created a list of the top 10 states on each measure. The six measures include net spending on imported coal, net weight of imported coal, per capita spending on imported coal, spending relative to the size of the state economy, reliance on net imports relative to total power use, and spending on international coal imports.²

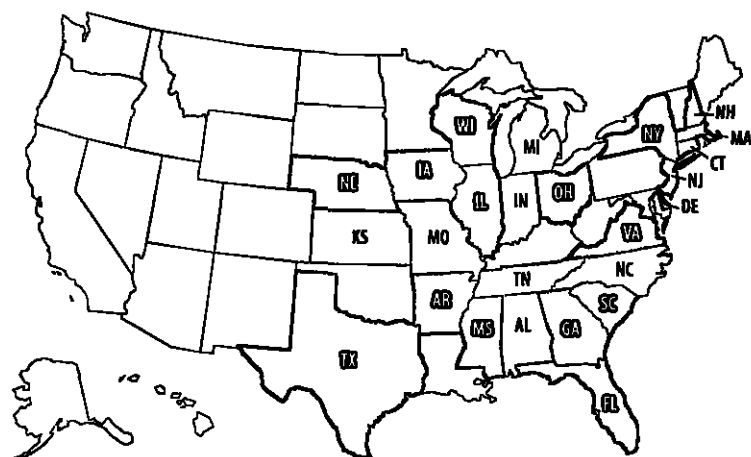
Twenty-five states appear on at least one of our six lists. Georgia ranks in the top 10 in all categories—the only state to do so (Figure 1, p. 2).

States in the Southeast and Midwest dominate our lists of the most-dependent states. That is because states in these two regions use considerable amounts of coal despite having limited—or in most cases no—local coal production. Several Northeast states, most of which are less dependent on coal, also appear on our lists because they import a surprisingly large share of their coal from other countries.



Coal-fired power plants—like this one in North Carolina—account for about half of the United States' electricity supply. Like most others, the plant burns coal to generate the steam that turns the turbines to create electricity. The plant uses large quantities of water from a nearby source and also releases large quantities of heat-trapping carbon dioxide (CO₂) into the atmosphere. In this photo, a stockpile of imported coal sits between the facility and a 50-acre slurry pond, which can store 450 million gallons of toxic coal ash waste.

FIGURE 1. The States Most Dependent on Coal Imports



Number of Appearances on Lists of Most Coal-Dependent States

☐ 6 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1

These 25 states appear on at least one of our six lists of the 10 most-dependent states, based on different measures. The colors show how often each state appears on the lists.

In this summary, we identify the 10 states that are most dependent on coal imports according to three of the six measures: spending on net coal imports, per capita spending on net coal imports, and spending on international imports. These categories measure states' absolute and relative dependence on imported coal, and reveal the broad geographic range of the *most-dependent states*.

The Billion-Dollar Club: 10 States That Spend the Most on Net Coal Imports

Each of the 10 states on this list—along with South Carolina, which ranks eleventh—spent more than \$1 billion in 2008 on imported coal (Figure 2). Georgia, the biggest spender, shelled out more than \$2.6 billion on coal imports.

Many states on this list saw their expenditures on coal imports rise steeply from 2002 to 2008.³ For example, Georgia's expenditures over those six years rose 87 percent (up by \$1.2 billion), North Carolina's climbed 88 percent (up by \$1.1 billion), and Alabama's jumped 170 percent (up by \$875 million). Those increases largely reflect the rising price of coal—but also the fact that many of these states imported more coal in 2008 than in 2002.⁴

Ten States That Spend the Most on Imported Coal per Person

All 10 states making this list spent more than \$165 per resident on imported coal in 2008 (Figure 3).⁵ Alabama tops this list: it spent nearly \$300 per resident to pay for imported coal burned in in-state power plants.

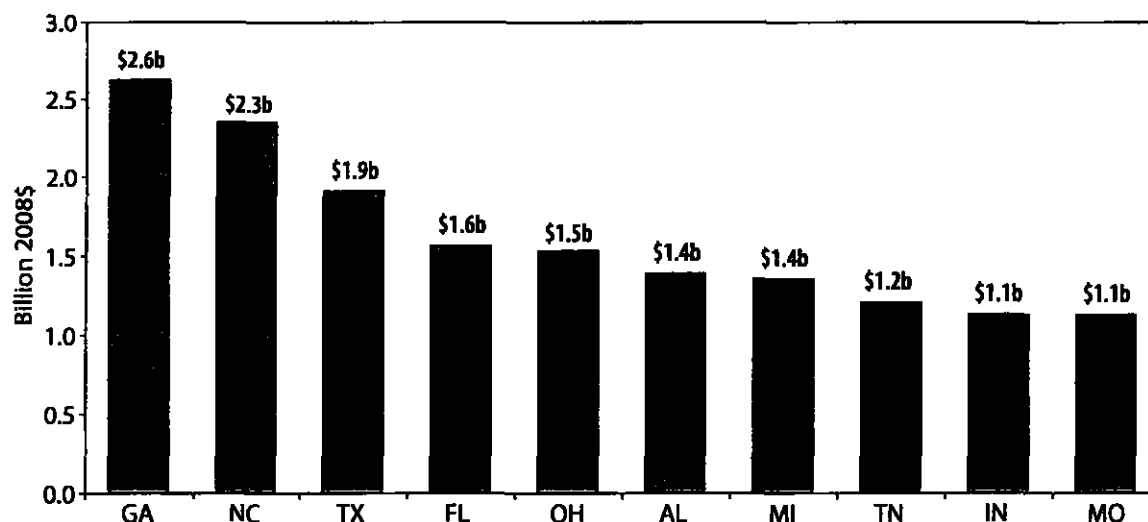
Georgia—the nation's ninth most-populous state—ranks as the second most coal-dependent according to this measure, spending \$270 per person. Delaware ranks forty-fifth in population but still spends \$183 per person annually on coal imports—eighth highest among all states.

To put this amount in context, six of the states on this list—Alabama, Delaware, Georgia, Indiana, Missouri, and North Carolina—spent less than one dollar per person on ratepayer-funded electricity efficiency programs. Yet such programs are a proven way to reduce electricity demand while saving ratepayers money.

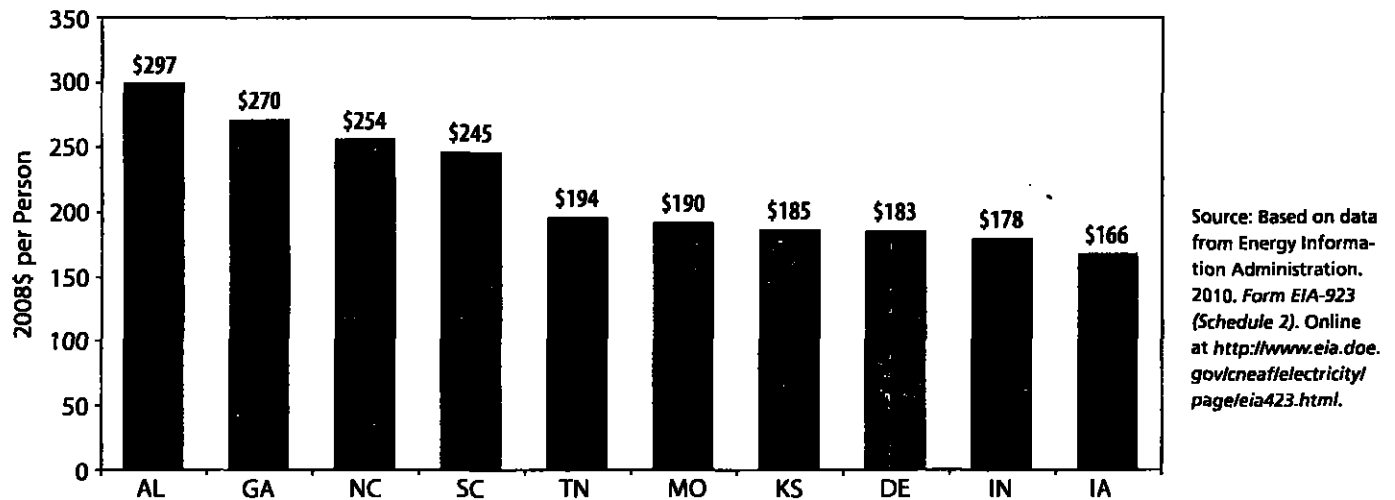
Ten States That Spend the Most on International Coal Imports

Despite the abundance of coal and other clean energy resources in the United States, 16 states together spent more than \$1.8 billion to import 25.4 million tons of coal from abroad in 2008 (Figure 4). That is equivalent to the cargo of nearly 1,700 oceangoing barges—or more than four arriving in U.S. ports every day. Alabama spent the most on international imports

FIGURE 2. The 10 Most Coal-Dependent States: Spending on Net Coal Imports (2008)



Source: Based on data from Energy Information Administration. 2010. Form EIA-923 (Schedule 2). Online at <http://www.eia.doe.gov/cneaf/electricity/page/eia423.html>.

FIGURE 3. The 10 Most Coal-Dependent States: Spending on Net Coal Imports per Person (2008)

(\$489 million), while Massachusetts obtained the highest share of its coal from foreign sources (82 percent).

More than 80 percent of U.S. coal imports from other nations came from Colombia in 2008, but imports also arrived from Venezuela and as far away as Indonesia. Foreign imports still account for a small share of U.S. coal use, and the nation continues to export more coal than it imports. However, international imports more than tripled from 1999 to 2008 (before dropping during the recession in 2009) because of growing demand for low-sulfur coal and the high cost of rail transport from Wyoming's Powder River Basin.

Clean Energy Can Curb Dependence on Imported Coal

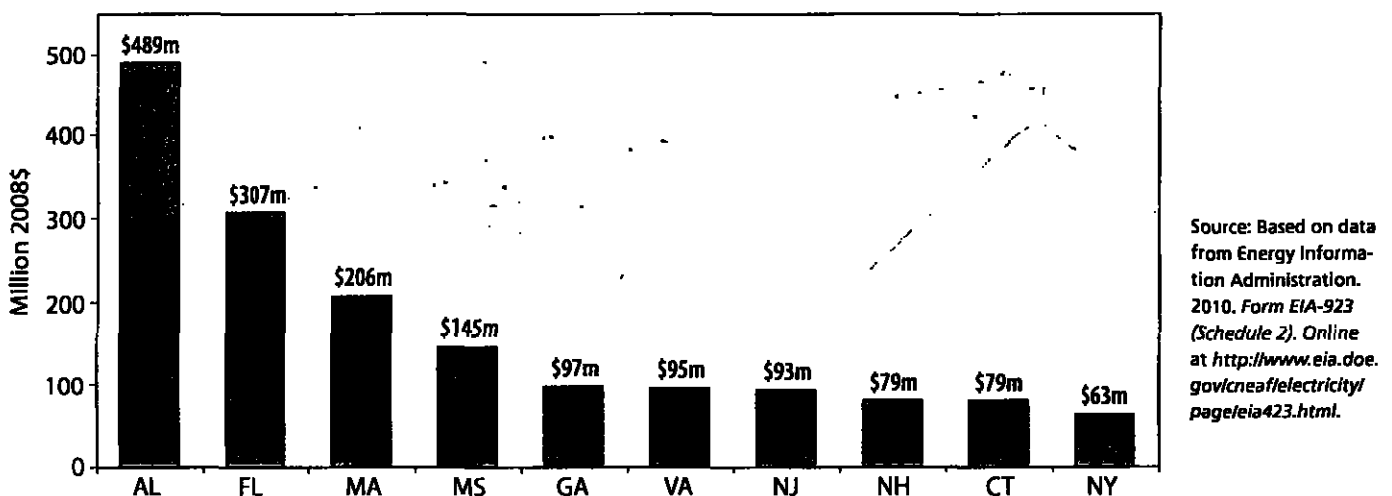
Energy efficiency is a clean, fast, and low-cost way to meet consumers' energy needs while redirecting funds now spent on imported coal into the local economy. The United States has a tremendous reservoir of untapped potential to boost energy

efficiency. Making buildings and industry more efficient, for example, could reduce electricity demand 24 percent by 2030. Southern states account for nearly half of that potential.

Years of experience show that state and utility energy efficiency programs can reduce electricity demand at average costs well below the retail cost of electricity in the states most dependent on imported coal. Some of those states already have strong ratepayer-funded electricity efficiency programs, and standards requiring utilities to save specific amounts of electricity. However, many states that are most dependent on imported coal lag far behind in adopting such policies.

States can also reduce their dependence on imported coal by boosting their investments in local renewable energy. While the potential and costs of such clean energy resources vary by region, all states could more fully exploit these readily available resources.

The Midwest has some of the best wind and bioenergy resources in the country. Several midwestern states dependent on

FIGURE 4. The 10 Most Coal-Dependent States: Spending on International Coal Imports (2008)



imported coal have begun to develop significant renewable energy resources, spurred by aggressive state policies. For example, Illinois, Iowa, and Minnesota have a combined total of more than 7,000 megawatts of installed wind capacity—about 20 percent of the U.S. total. However, the region still has the potential to make much greater use of wind and other renewable resources.

The Southeast could also greatly expand its use of in-state renewable resources. States heavily dependent on coal imports could, for example, burn abundant bioenergy resources from the forest products industry and other sustainable sources directly in coal plants, displacing up to 15 percent of the coal. Yet the region now exports biomass pellets for use in European power plants while importing coal from Colombia. The Southeast also has untapped solar, wind (land-based and offshore), and small-scale hydropower.

Twenty-nine states have already adopted renewable electricity standards requiring utilities to gradually increase their use

of renewable energy. The states most dependent on imported coal can redirect the funds that now leave their economies by adopting or strengthening such standards. A strong federal renewable electricity standard would also help by setting a national floor for renewable energy across all states, including those in the Southeast.

Of course, state reliance on imported coal creates more than economic problems. Burning coal also causes serious harm to public health, the global climate, and the overall environment. Indeed, coal plants are the nation's largest source of carbon dioxide, the main cause of global warming.

State and federal policies that promote energy efficiency and renewable energy, and cap carbon emissions, are essential to protecting our health, climate, and environment. Fortunately, such policies can also boost each state's economy while spurring the move to a national clean energy economy.

Endnotes

- 1 The full report—with profiles of the 24 states most dependent on imported coal—is available at www.ucsusa.org/burningcoalburningcash.
- 2 We created these rankings using data collected by the Energy Information Administration and the Federal Energy Regulatory Commission. We based the lists on 2008 imports—the latest year for which data are available. Some coal-producing states both import and export coal. We account for this by reporting the net imports for all our rankings, except the final one on international imports. Appendix B of the full report provides a detailed description of our methodology.
- 3 We compare 2008 data to 2002, where appropriate, because 2002 is the first year for which comprehensive information on both utility-owned and independent power plants are available.
- 4 The amount of coal burned in power plants nationwide dropped significantly in 2009, as did the price of coal, because of the recession (and, no doubt, because of clean energy policies in some states). Spending on net coal imports therefore also likely dropped in most states from 2008 to 2009, though complete state-specific data were not yet available. However, absent comprehensive federal climate and energy legislation, states that lack policies for advancing clean energy technologies will likely see a rebound in spending on imported coal as the economy recovers.
- 5 This result is the average spent per person per year indirectly through electricity rates. The actual amount will vary according to each person's electricity use. Figures do not reflect sales of coal power generated in one state and sold in another.

The full text of this report is available on the UCS website at www.ucsusa.org/burningcoalburningcash.



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The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world.

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