Summary of Statement of Eugene M. Trisko
Before the Committee on Energy & Commerce
Subcommittee on Energy and Power
Washington, D.C.
April 14, 2015

My statement summarizes the findings of state-level studies of the impacts of energy costs on American families prepared for the American Coalition for Clean Coal Electricity. These studies assess current consumer energy costs for households in 31 geographically-diverse states. The 31 states represent two-thirds of the nation's households, and were selected based upon the expected impacts of EPA's proposed Clean Power Plan (CPP) on state economies.

The 31 state reports analyze the pattern of energy expenditures among three categories of pre-tax and after-tax household income. The studies rely on actual state residential energy expenditures in 2014 from the U.S. Department of Energy's Energy Information Administration (DOE/EIA), and government surveys of residential and transportation energy consumption for household income groups. Household income data are based on U.S. Bureau of the Census data for 2013, the most recent available. Energy expenditures as a percentage of after-tax income are estimated after the effects of federal and state income taxes and federal social insurance payments, using CBO tax rates and individual state income tax data.

Key findings are:

1) One-half of the households in these 31 states have average pre-tax annual incomes below $50,000. The median after-tax income of these 38 million households is $23,317, equivalent to a take-home income of less than $2,000 per month.

2) The 50% of households in these 31 states with pre-tax incomes of $50,000 or less spend 14% to 19% of their after-tax income on residential and transportation energy, with median expenditures of 17%.

3) Low-income families, those with pre-tax annual incomes less than $30,000, represent 30% of the households in these 31 states. Their median after-tax income is $15,464. These households spend 18% to 25% of their after-tax income on residential and transportation energy, with a median expenditure of 22%.

4) Recent consumer savings at the gas pump are being eroded by steady increases in electricity prices. Residential electricity represents 76% of total residential energy expenditures in the 31 states, on a household-weighted average basis.

5) From 2005 to 2014, residential electricity prices in the 31 states increased overall by a weighted average of 38% in current dollars, and by 13% in constant 2014 dollars.

6) Large electric price increases will result with the implementation of EPA's proposed Clean Power Plan. A recent analysis by National Economic Research Associates (NERA) estimates that the carbon rule will increase delivered electricity prices in the 31 states by 15%, on average, during the period 2017 to 2031 (State Unconstrained Scenario BB1-4). These average price increases mean that electricity prices for consumers will be 15% higher, on average, each year under the Clean Power Plan than they would be without the CPP. Peak year electric price increases during this period average 22% for the 31 states. These estimates are conservative because NERA did not consider any additional natural gas infrastructure or electric transmission investments needed to comply with EPA's proposed rule.

7) The U.S. Census Bureau reports that the real pre-tax incomes of American households have declined across all five income quintiles since 2001, measured in constant 2013 prices. The largest percentage losses of income are in the two lowest income quintiles. The loss of annual real income among all American households averages $3,947 since 2001. In comparison, DOE/EIA's current estimate of annual gasoline savings for American consumers due to lower oil prices is $701 per household.

8) Declining real incomes increase the vulnerability of lower-income households to energy price increases such as rising utility bills. Lower-income families are more vulnerable to energy costs than higher-income families because energy represents a larger portion of their household budgets. Energy costs reduce the amount of income that can be spent on food, housing, health care, and other basic necessities. Data presented in the 31 state reports show that minorities and senior citizens are disproportionately represented among lower-income households.

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Good morning, Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee. I am Eugene Trisko, an energy economist and attorney in private practice.

I am here today to summarize the findings of state-level studies of the impacts of energy costs on American families. I have conducted household energy cost studies periodically since 2000 for the American Coalition for Clean Coal Electricity and its predecessor organizations. The studies I will summarize today assess current consumer energy costs for households in 31 geographically-diverse states.

These 31 states have 76 million households, or two-thirds of the nation's households as of 2013. The states were selected based upon the expected impacts of EPA's proposed Clean Power Plan (CPP) on state economies. These states generally produce coal or rely on coal for a substantial portion of their electric generation.

Summary of 31 State Energy Cost Studies

The 31 state studies analyze the pattern of energy expenditures among three categories of pre-tax and after-tax household income. The studies rely on

actual state residential energy expenditures in 2014 from the U.S. Department of Energy's Energy Information Administration (DOE/EIA), and government surveys of energy consumption for household income groups.

Gasoline price projections for 2015 are based on the December 2014 DOE/EIA Short-Term Energy Outlook. At that time, EIA projected an average gasoline price of $2.60 per gallon in 2015. This estimate appears reasonable based on recent cutbacks in domestic drilling investments, and current Wall Street forecasts of future NYMEX oil prices.[1]

Energy expenditures as a percentage of after-tax income are estimated after the effects of federal and state income taxes and federal social insurance payments, using CBO tax rates and individual state income tax data. Household income data are based on U.S. Bureau of the Census data for 2013, the most recent available.

Key findings from the 31 state energy cost studies are summarized in the attached Table 1. In brief:

- One-half of the households in these 31 states have average pre-tax annual incomes below $50,000. The median[2] after-tax income of these 38 million households is $23,317, equivalent to a take-home income of less than $2,000 per month.

[1] See, www.blogs.wsj.com/moneybeat/2015/04/01/forecasters-are-finding-oil-hard-to-pin-down/. Eleven investment bank forecasts show 2016 NYMEX oil prices ranging from $57 to $93 per barrel.

[2] Median household income is the midpoint, where one-half of households have incomes above this value, and the other one- half have incomes below it.

- The 50% of households in these 31 states with pre-tax incomes of $50,000 or less spend 14% to 19% of their after-tax income on residential and transportation energy, with median expenditures of 17%.
- Low-income families, those with pre-tax annual incomes less than $30,000, represent 30% of the households in these 31 states. Their median after-tax income is $15,464. These households spend 18% to 25% of their after-tax income on residential and transportation energy, with a median expenditure of 22%. Census Bureau demographic data presented in the state reports shows that minorities and senior citizens represent the majority of these low-income households.
- More affluent households with pre-tax annual incomes of $50,000 or more represent 50% of total households in the 31 states. These households have median after-tax incomes of $81,630. They spend 6% to 9% of their after-tax income on residential and transportation energy.
- Recent consumer savings at the gas pump are being eroded by steady increases in electricity prices. Residential electricity represents 76% of total residential energy expenditures in the 31 states, on a household weighted average basis.
- From 2005 to 2014, residential electricity prices in the 31 states increased by a weighted average of 38% in current dollars, and by 13% in constant 2014 dollars. These increases are due in part to additional capital, operating and maintenance costs associated with meeting U.S. EPA clean air and other environmental standards.
- Larger electric price increases will result with the implementation of EPA's proposed Clean Power Plan. National Economic Research Associates (NERA) estimates that the carbon rule will increase delivered electricity prices in the 31 states by 15%, on average, during the period 2017 to 2031.

These average price increases mean that electricity prices for consumers will be 15% higher, on average, each year under the Clean Power Plan than they would be without the CPP. Peak year electric price increases during this period average 22% for the 31 states (see Table 1). These estimates are for NERA's "State Unconstrained Building Blocks 1-4" scenario. The estimates are conservative because NERA did not consider any additional natural gas infrastructure or electric transmission investments needed to comply with EPA's proposed rule.

Declining Real Incomes

These substantial increases in residential energy costs should be assessed in the context of the long-term declining trend of real income among American families. The U.S. Census Bureau reports that the real pre-tax incomes of American households have declined across all five income quintiles since 2001, measured in constant 2013 prices. As shown in the table below, the largest percentage losses of income are in the two lowest income quintiles. Households in the lowest quintile lost 13% of their real income between 2001 and 2013.

Real U.S. pre-tax household incomes by income quintile,
2001-2013
(In constant 2013 $)

	1Q	2Q	3Q	4Q	5Q	Avg.
2001	$13,336	$33,510	$56,090	$87,944	$192,063	$76,589
2013	$11,651	$30,509	$52,322	$83,519	$185,206	$72,641
% Chg.	-13%	-9%	-7%	-5%	-4%	-5%
$ Chg.	($1,685)	($3,001)	($3,768)	($4,425)	($6,857)	($3,947)

Source: https://www.census.gov/hhes/www/income/data/historical/household/

The loss of annual real income among all American households averages $3,947 since 2001. In comparison, DOE/EIA's current estimate of annual gasoline savings for American consumers in 2015 is $701 per household,[3] reflecting lower oil price expectations. These reduced gasoline expenditures would offset just 18% of the loss of real incomes by American families since 2001. Most of the savings at the gas pump are realized by higher-income consumers with multiple vehicles per household.

Impacts on Lower-Income Families

The share of household income spent for energy falls disproportionately on lower- and middle-income families earning less than $50,000 before taxes. In the 31 state studies, households earning less than $50,000 before taxes spend 14% to 19% of their after-tax income on residential and transportation energy. While many lower-income consumers qualify for energy assistance, Congress has pared back budgetary support for these government programs in recent years.[4]

Lower-income families are more vulnerable to energy costs than higher-income families because energy represents a larger portion of their household budgets. Energy costs reduce the amount of income that can be spent on food, housing, health care, and other basic necessities.

[3] U.S. DOE/EIA, Short-Term Energy Outlook (March 2015).
[4] Federal funding for the Low Income Home Energy Assistance Program (LIHEAP) has declined from $4.5 billion in FY2011 to $3.0 billion in FY2015. See, http://www.liheapch.acf.hhs.gov/Funding/funding.htm.

Fixed-income seniors are a growing proportion of the U.S. population, and are among the most vulnerable to energy cost increases due to their relatively low average incomes and high per capita energy use.[5] In 2013, the median pre-tax income of 29 million households with a principal householder aged 65 or older was $35,611, 32% below the national median household income of $52,250.[6] Senior citizens and other lower-income groups will bear the burden of higher energy costs imposed by EPA's Clean Power Plan, but will be among the least likely to invest in – or benefit from - the energy efficiency programs that the proposed rule envisions.

Thank you for the opportunity appear before you today. I am happy to answer any questions that the Subcommittee may have.

[5] U.S. DOE/EIA, 2009 Residential Energy Consumption Survey (2012).
[6] U.S. Census Bureau, Statistics of Income and Poverty in the United States: 2013 (September 2014), Table 1.

TABLE 1. SUMMARY OF FINDINGS OF ACCCE STATE HOUSEHOLD ENERGY COST REPORTS, MARCH 2015

State	No. of H/H's (Mil.)	Median Pre-Tax H/H Income US=$52,250	Percent of Households With Pre-Tax Incomes			Average After-Tax Incomes of Households with Pre-Tax Incomes			Esimated Energy* Expenditures as Percent of After-Tax Incomes of H/Hs with Pre-Tax Incomes			Electricity Pct. of Total Residential Energy $	Residential Electricity Pct. Price Chg. 2005-14		NERA Projected EPA Carbon Rule Electricity Pct. Price Increases	
			<$30K	<$50K	>/=$50K	<$30K	<$50K	>/=$50K	<$30K	<$50K	>/=$50K		Current $ Per kWh	Constant 2014$/kWh	Average 2017-31	Peak Year 2017-31
AL	1.8	$42,849	36%	56%	44%	$14,758	$22,324	$77,339	24%	18%	8%	84%	44%	18%	12%	19%
AR	1.1	$40,511	38%	59%	41%	$15,228	$22,578	$74,422	22%	17%	8%	89%	17%	-4%	14%	20%
AZ	2.4	$48,510	31%	51%	49%	$15,503	$23,540	$82,902	20%	15%	7%	86%	36%	12%	13%	15%
CO	2.0	$58,823	25%	43%	57%	$15,885	$24,068	$90,501	19%	14%	6%	61%	36%	11%	15%	19%
FL	7.2	$46,036	32%	53%	47%	$15,528	$23,803	$80,959	21%	16%	7%	96%	24%	1%	13%	18%
GA	3.6	$47,829	32%	52%	48%	$14,983	$22,594	$84,048	25%	19%	8%	75%	54%	26%	12%	20%
IA	1.2	$52,229	27%	48%	52%	$15,852	$23,939	$77,703	22%	16%	8%	59%	24%	2%	14%	23%
IL	4.8	$56,210	27%	45%	55%	$15,223	$23,317	$94,111	21%	16%	6%	53%	34%	10%	15%	25%
IN	2.5	$47,529	31%	52%	48%	$15,510	$23,664	$80,457	22%	16%	8%	70%	49%	6%	12%	15%
KS	1.1	$50,972	29%	49%	51%	$15,673	$23,706	$81,630	22%	16%	7%	66%	54%	26%	10%	18%
KY	1.7	$43,399	35%	56%	44%	$14,668	$22,164	$77,503	23%	17%	8%	77%	53%	25%	12%	34%
LA	1.7	$44,164	36%	54%	46%	$14,521	$21,559	$82,643	23%	17%	7%	85%	8%	-12%	13%	20%
MD	2.2	$73,150	20%	34%	66%	$15,107	$23,308	$95,640	25%	18%	7%	69%	61%	32%	11%	18%
MI	3.8	$48,273	31%	52%	48%	$15,273	$23,225	$82,127	23%	17%	8%	55%	73%	42%	12%	15%
MN	2.1	$60,702	24%	41%	59%	$15,648	$23,697	$83,970	22%	16%	7%	70%	47%	20%	13%	19%
MO	2.4	$46,931	32%	53%	47%	$15,464	$23,161	$78,341	23%	17%	8%	72%	52%	25%	12%	22%
MS	1.1	$37,963	40%	60%	40%	$14,494	$21,508	$74,329	25%	19%	9%	83%	30%	7%	11%	17%
MT	0.4	$46,972	33%	53%	47%	$15,413	$22,881	$77,920	21%	16%	7%	59%	26%	3%	16%	20%
NC	3.8	$45,906	33%	54%	46%	$15,527	$23,120	$81,185	22%	17%	8%	81%	29%	6%	9%	14%
ND	0.3	$55,759	26%	45%	55%	$15,811	$24,145	$86,331	22%	16%	7%	66%	33%	9%	11%	19%
NE	0.7	$51,440	28%	48%	52%	$16,000	$24,089	$78,325	22%	16%	7%	67%	46%	20%	12%	19%
NM	0.8	$43,872	36%	55%	45%	$14,971	$22,388	$79,822	20%	15%	7%	62%	36%	11%	14%	19%
OH	4.6	$48,081	26%	52%	48%	$14,747	$24,205	$79,989	23%	17%	8%	63%	45%	18%	12%	22%
OK	1.4	$45,690	33%	54%	46%	$15,420	$23,234	$78,886	22%	17%	8%	76%	25%	2%	15%	21%
PA	4.9	$52,007	29%	48%	52%	$15,318	$23,109	$86,581	22%	17%	7%	57%	36%	11%	14%	22%
TN	2.5	$44,297	34%	55%	45%	$15,605	$23,590	$85,382	22%	17%	7%	82%	49%	22%	12%	18%
TX	9.1	$51,704	29%	48%	52%	$15,761	$24,069	$95,815	22%	16%	6%	86%	7%	-12%	10%	17%
UT	0.9	$59,770	23%	40%	60%	$16,087	$24,486	$82,482	18%	14%	6%	60%	44%	18%	20%	28%
VA	3.0	$62,666	23%	40%	60%	$15,554	$23,802	$95,336	23%	17%	6%	75%	35%	11%	11%	16%
WV	0.7	$41,253	37%	58%	42%	$14,970	$22,392	$75,371	23%	17%	8%	71%	50%	23%	10%	14%
WY	0.2	$58,752	25%	43%	57%	$16,480	$25,024	$85,198	20%	15%	7%	60%	39%	14%	18%	26%
TOTAL/																
WGT AVG	76.1	$49,572	30%	50%	50%							76%	38%	13%	15%	22%
MEDIAN		$48,081				$15,464	$23,317	$81,630	22%	17%	7%					

*Energy expenditures include residential energy and transportation (gasoline).

Sources: Household energy expenditures are based on DOE/EIA state data for 2014 electricity, natural gas, LPG, heating oil and other residential fuels, allocated by income category with expenditure allocations from the DOE/EIA 2009 Residential Energy Consumption Survey (2012); consumer expenditures for motor gasoline are based on gasoline consumption per household by region and income category reported in the 2001 U.S. DOT National Household Travel Survey (2005), adjusted for a 17% decrease in household-adjueted retail gasoline sales from 2001 to 2014, with DOE/EIA's December 2014 projection of a $2.60/gallon average gasoline price in 2015. The distribution of households by pre-tax income category is from U.S. Bureau of the Census, American Fact Finder (2014). Federal and state tax rates are based on CBO estimates of average effective federal tax rates including social insurance payments and state tax data from the Tax Foundation. Historic state electricity price data are from DOE/EIA Electric Power Monthly (Dec. 2014), adjusted to constant dollars by the CPI.

NERA estimates of delivered electricity price increases from implementation of the proposed EPA Clean Power Plan are from NERA, "Potential Energy Impacts of the EPA Proposed Clean Power Plan," (October 2014, prepared for the American Coalition for Clean Coal Electricity, et al.) Price impacts are presented for State Unconstrained Scenario BB 1-4.