Meeting Energy Demand in Texas:
The Hidden Cost of Coal

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EXECUTIVE SUMMARY

Based on current projections, the state of Texas will soon find it difficult to meet its peak load energy demand through current energy infrastructure. In order to address this shortfall, Texas has proposed building a host of new coal-fired power plants. However, coal plants include various environmental and health externalities that have not been factored into the cost of coal-fired power generation by the generating corporations or the government of the State of Texas. This paper includes an initial valuation of two of these associated costs: carbon emissions and public health.

Recent studies have asserted that coal-fired power is the cheapest option for Texas to meet its burgeoning peak load energy demand. However, a report released by the American Council for an Energy Efficient Economy (ACEEE) challenges those claims. That study found that implementing a suite of programs to meet the state's energy needs through increasing the efficiency of energy use and by investing in renewable energy would actually reduce current electricity costs in Texas by 50%, and provide a cheaper solution than new coal plants.

The proposed coal plants will incur high costs for their emissions. Based on current EPA regulations, the coal plants will incur a total cost of $5.5 billion for their sulfur dioxide, carbon dioxide, nitrogen oxide, and mercury emissions from 2008 to 2023. This price does not include the potential increased cost of carbon dioxide resulting from federal climate change legislation that is likely to pass in the next few years. In sum, all nineteen proposed plants will emit 125 million tons of new carbon dioxide per year. Under three pricing scenarios based on projections from current legislation in Congress, resulting carbon costs to those plants will range from $3.9 Billion to $54 Billion for the fourteen year period of 2009 to 2023.

In addition to these costs, the state will also face costs due to the increased prevalence of diseases that the plants will cause. The accumulated health costs associated with the increased incidence of chronic obstructive pulmonary disease, congestive heart failure, and pediatric asthma will total $4.8 Billion from 2009 to 2023. When accounting for the mortality that these diseases will cause, the cost is $38 Billion, based on the current value of a statistical life.

It is possible that the state will decide not to build all nineteen of the proposed plants analyzed in this report. However, each kilowatt-hour generated from a coal-fired power plant will create a percentage of the external costs described above. When the highest projected costs resulting from carbon legislation are added to projected health costs with mortality defined above, they add 7.46 cents to every kilowatt-hour of coal power generated, which almost doubles its current retail price.

The analysis in this report confirms the conclusion of ACEEE highlighted above, and makes the cost savings of the ACEEE strategy even more apparent by revealing the additional carbon costs of $3.9 to $54 Billion, and public health costs of $4.8 to $38 Billion for the proposed plants. Total additional costs from the higher end of the estimates included in this report could total as much as $90 Billion. Texas legislators and political leaders should consider these costs when deciding whether to meet their energy needs through coal-fired power plants.