

July 21, 2008

Ms. Karen Webb  
Florida Public Service Commission  
2540 Shumard Oak Blvd  
Tallahassee, FL 32399

**RE: Southern Alliance for Clean Energy's Information Relevant to RPS Data Collection**

Dear Ms. Webb:

Thank you for the opportunity to respond to the RPS data collection data request issued July 14, 2008. The Southern Alliance for Clean Energy does not have data directly responsive to your data request, but we have encouraged a number of firms to contact you with relevant data.

We are taking this opportunity to provide literature references on lifecycle costs and greenhouse gas emissions of electric generating technology. We also have an extensive library of fuel-related lifecycle analyses, which may have some relevance to the questions being considered by the Commission. Many of these references include data directly relevant to the data request and can offer independent validation of data you may acquire.

Brown, E and M Mann, "Initial market assessment for small-scale biomass-based CHP," National Renewable Energy Laboratory, NREL/TP-640-42046 (2008).

De La Torre Ugarte, D et al, "The economic impacts of bioenergy crop production on U.S. agriculture," US Department of Agriculture, Agricultural Economic Report Number 816 (2003).

English, B et al, "Economic impacts of using alternative feedstocks in coal-fired plants in the southeastern United States," University of Tennessee, Agri-Industry Modeling and Analysis Group (2004).

Federal Energy Regulatory Commission, "Increasing costs in electric markets," presentation to Commission June 19, 2008 Item No. A-3 (2008).

Fthenakis, V and H Kim, "Quantifying the life-cycle environmental profile of photovoltaics and comparisons with other electricity-generating technologies," IEEE 4<sup>th</sup> World Conference on Photovoltaic Conversion (2006).

Gaunt, J and J Lehmann, "Energy balance and emissions associated with biochar sequestration and pyrolysis bioenergy production," Environmental Science and Technology (2008).

Great Plains Institute, "State policies for promoting the next generation of biomass technologies," Biomass Working Group (2006).

Greenaction for Health and Environmental Justice and Global Alliance for Incinerator Alternatives, "Incinerators in disguise: Case studies of gasification, pyrolysis, and plasma in Europe, Asia and the United States" (2006).

Haq, Z, "Biomass for electricity generation," Energy Information Administration, Renewable Energy Modeling Workshop (2004).

Johansson, D and C Azar, "A scenario based analysis of land competition between food and bioenergy production in the US," *Climatic Change* (2007).

Lahoda, J et al, "Biomass looking for efficient utilization – the reheat concept," Siemens Power Generation (2006).

Langholtz, M et al, "Wood to energy community economic profile, Florida: Alachua, Clay, Leon, Nassau, and Santa Rosa counties," University of Florida Institute of Food and Agricultural Sciences (2007).

Lazard, "Levelized cost of energy analysis" (2008).

Lubowski, R et al, "What drives land-use change in the United States? A national analysis of landowner decisions," National Bureau of Economic Research (NBER), Working Paper No. W13572 (2007).

Malmsheimer, R et al, "Forest management solutions for mitigating climate change in the United States," *Journal of Forestry*, April/May 2008.

Mann, M and P Spath, "Life cycle assessment comparisons of electricity from biomass, coal and natural gas," 2002 Annual Meeting of the American Institute of Chemical Engineers Paper No. 18d (2002).

Mann, M and P Spath, "Life cycle assessment of a biomass gasification combined-cycle system," National Renewable Energy Laboratory, NREL/TP-430-23076 (1997).

Morrow, W et al, "State-level infrastructure and economic effects of switchgrass cofiring with coal in existing power plants for carbon mitigation," *Environmental Science & Technology* (2007).

National Renewable Energy Laboratory, "Minnesota biomass – Hydrogen and electricity generation potential," report for Minnesota Department of Commerce (2002).

Overend, R and A Milbrandt, "Tackling climate change in the U.S.: Potential carbon emissions reductions from biomass by 2030," National Renewable Energy Laboratory (2007).

Paisley, M and M Welch, "Biomass gasification combined cycle opportunities using the Future Energy Silvagas gasifier coupled to Alstrom's industrial gas turbines," Proceedings of ASME Turbo Expo 2003, GT2003-38294 (2003).

Reilly, J and S Paltsev, "Biomass energy and competition for land," The MIT Joint Program on the Science and Policy of Global Change, Report No. 145 (2007).

Ruether, J et al, "Greenhouse gas emissions from coal gasification power generation systems," *J. Infrastructure Systems* v. 10 (2004).

Schneps, R, "Agriculture-based renewable energy production," Congressional Research Service, Report for Congress RL32712 (2006).

Solow, J et al, "Estimating the economic impact of substituting switchgrass for coal for electric generation in Iowa," University of Iowa Center for Global and Regional Environmental Research (2005).

Sovacool, B, "Valuing the greenhouse gas emissions from nuclear power: A critical survey," *Energy Policy* v. 36 (2008).

Spath, P and M Mann, "Biomass power and conventional fossil systems with and without CO<sub>2</sub> sequestration – comparing the energy balance, greenhouse gas emissions and economics," National Renewable Energy Laboratory, NREL/TP-510-32575 (2004).

Spath, P and M Mann, "Capturing and sequestering CO<sub>2</sub> from a coal-fired power plant – assessing the net energy and greenhouse gas emissions," National Renewable Energy Laboratory (2001).

Speth, P and S Kelley, "Understanding the science of air quality, greenhouse gases, and woody biomass," National Renewable Energy Laboratory (2006).

Spitzley, D and G Keolein, "Life cycle metrics for comparing alternative electricity generating technologies," InLCA Conference (2003).

Also, we would particularly urge you to consider whether the existing load forecasts used to establish expected electricity sales may need to be revised. The 2007 federal energy bill will have a significant effect on future energy demand.

Prindle, B et al, "Assessment of the house renewable electricity standard and expanded clean energy scenarios," American Council for an Energy-Efficient Economy, Report No. E079 (2007).

We are sending you these files via CD. Please contact me if you have any difficulty with the files. We would be pleased to assist with review of these files by identifying those which are directly responsive to needs you may identify.

Sincerely,



**John D. Wilson, MPP**  
Director of Research