MEMO

TO: The Honorable Co-Chairs of the Legislative Commission on Global Climate Change, Rep. Pricey Harrison and Mr. John L. W. Garrou
FROM: Members of the Commission: Mr. Dan Crawford, Ms. Susan Tompkins, Dr. Richard "Pete" Andrews, Dr. Dolores Eggers, Mr. Tim Toben, Dr. Stephen A. Smith, Mr. Michael S. Regan
CC: Mariah Matheson, **mariahm@ncleg.net**
RE: Proposals for Final Report Recommendations
DATE: February 8, 2010

"Beyond Code" Building Design Incentives and Targets. Provide incentives and targets to induce the owners and developers of new and existing non-government buildings to markedly improve the efficiency of energy and resource use in those buildings. Promote improved design and construction standards for resource conservation, promote the use of renewable energy technologies.

Building Energy Codes. Require new residential buildings and new, renovated and expanded commercial buildings to comply with the latest version of the International Energy Conservation Code. Specify minimum energy efficiency levels for new buildings or existing buildings undergoing major renovations. Adopt stringent codes to improve energy use in buildings.

Energy Efficiency Requirements for Government Buildings. Require new, renovated or expanded buildings owned or operated by units of state and local government to comply with the latest version of the International Energy Conservation Code. Establish beyond-code goals and standards for energy-efficiency in all current buildings, new construction, and major renovations owned or operated by units of state and local government. Buildings should adhere to or exceed the energy-related guidelines in the LEED standard (Leadership in Energy and Environmental Design), a program that promotes green building.

Improved Appliance and Equipment Efficiency Standards. Adopt a state-level appliance efficiency standard for appliances stronger than current federal standards where significant efficiency improvements would result and implement it with other states in the Southeast region.

Remove Barriers to Combined Heat and Power (CHP) and Distributed Generation. CHP is more energy efficient than separate generation of electricity at a central electric plant and production of localized thermal energy for the end user. This distributed generation resource allows for recycling the heat, which is normally wasted to cooling towers or lakes at centralized electric generating stations, to meet onsite thermally

driven demand such as process and space heating, cooling and dehumidification. Development of state legislative language is needed to remove the barriers to implementation and permitting of CHP, and create incentives for CHP and clean distributed generation.

Demand Side Management. The utility companies of North Carolina ought to pursue Demand Side Management initiatives wherever possible, including the introduction of smart metering devices for all residential and commercial customers as rapidly as possible. The NC LCGCC urges the NCUC to work with the utilities to identify and develop more opportunities for Demand Side Management.

Remove Barriers to Growth in Net Metering. Increase the amount of cumulative capacity of energy generation that can be met through net metering. Eliminate the size difference between residential and non-residential units. Eliminate structural or market barriers for residential and non-residential net metering. Incentivize residential use of net metering. Significantly simplify the sign up process for net metering by January 1, 2009. Significantly raise the caps on net-metered electricity that can be supplied to the grid by residential and commercial producers.

Increase Transportation Initiatives that Reduce Greenhouse Gas Emissions. Ensure rapid implementation of the Heavy-Duty Vehicle Idling Restrictions (NC's 15A NCAC 02D.1010) as planned in May 2010 as these rules can significantly reduce localized air pollution, black carbon emissions (a potent greenhouse gas), and health impacts to local communities from diesel pollution. Further delay will continue to put NC's air quality and citizen's health at risk while also missing the opportunities to save NC's businesses money on fuel. Other policy recommendations for the state of North Carolina to pursue include mode shifting from heavy reliance on trucks for transportation of goods to railways to reduce vehicle miles of heavy-duty vehicles. Increase state incentives and commitment to infrastructure to support electric vehicles powered by renewable energy. Increase Vehicle Purchase Incentives (VPI) to remove older, less efficient vehicles from NC highways and drive purchases of hybrids, high efficiency/low- and zero-emissions vehicles, and electric vehicles.

Use of a Carbon Fund to Convert Lagoon-and-Sprayfield Systems on Hog Farms. Create a fund to support the reduction of greenhouse gas emissions on hog farms. The fund would support entities willing to invest in conversion to cleaner technologies. By seeding the greenhouse gas market for North Carolina's transition from lagoon-and-sprayfield management systems, the State would provide the venture capital necessary to prove the feasibility of technologies, and increase on-the-ground knowledge and acceptance in agricultural community with regard to the technologies.

Soil Carbon Sequestration. Establish protocols for crediting activities that increase the sequestration of carbon in soil. Protocols should recognize activities that are not "business as usual" and give priority to activities with manageable rates of reversal.

Protocols should also take in to account the full effect of practices on the entire ecosystem and work to incentivize activities that not only sequester carbon but contribute to long term ecosystem health.

Forest Carbon Sequestration. Establish protocols for crediting activities that increase the sequestration of carbon in forests. Establish methodologies and best practices for management of forest for carbon sequestration. Forest management for carbon sequestration is a rapidly evolving industry. The development of protocols and methodologies should take this growth into account and all possible effort should be made to incorporate the latest research and policy proposals on a national and international scale. Protocols should also take into account the full effect of practices on the entire ecosystem and work to incentivize activities that not only sequester carbon but contribute to long term ecosystem health.

Municipal Solid Waste. Create state policies to decrease GHG emissions associated with the solid waste stream by further encouraging, requiring and/or enforcing a) diversion of organic waste from all landfills and composting of organic waste, b) increases in recycling rates for materials with high GHG emissions reduction potentials, such as aluminum and cement, c) advances in source-reduction activities, and d) increases in methane recovery and/or combustion at existing landfills.

Education. Provide information and education to current and future consumers regarding the energy and greenhouse gas emissions implications of consumer choices, including reliable (audited) point-of-sale energy information disclosure documents on use and source and site energy efficiency for major purchases and financial instruments for amortizing the capital costs of energy-saving options that can be offset by lower energy costs in operation. In addition, establish specific and targeted education, outreach, and licensing requirements for professionals in a variety of building-related trades, as well as energy auditors, realtors, mortgage lenders, and other providers of energy-efficiency loan discounts.

Develop capacity for the state, in its own education and outreach activities, to establish a pro-active capability to assist in the implementation of climate adaptation and mitigation activities. These activities should target at minimum five specific audiences: policymakers and managers; educators; community leaders and community-based organizations; general public; and industrial and economic sectors.

Residential, Commercial, and Industrial (RCI) Energy and Emissions Technical Assistance. Provide incentives, expertise, information, and technical assistance to identify options to reduce fossil energy use and non-energy emissions of global warming pollution in the RCI sector.

Market Transformation and Technology Development Programs. Provide incentives to increase sustainable green businesses and green jobs in North Carolina, including

bridging support for a smooth transition from green jobs supported by temporary federal stimulus funds to stable and ongoing careers, and community college and other education programs to create that workforce.

Also provide support for incentives to increase the development and use in North Carolina of new technologies that reduce global warming pollution, through funding of research and development, tax credits for research and development of new technologies, patent protection, low/no interest loans, collaborative marketing, state procurement preferences, and other financial incentives to businesses and industries to upgrade their equipment to more efficient and renewable energy technologies.

Significantly expand existing retrofit and insulation programs through all means including extensively increasing the percent of funding from all sources used by state and local government housing program administrators that can be used for weatherization and energy efficiency. Encourage local governments to reduce barriers to same.

Greenhouse Gas (GHG) Inventory and Forecast, GHG Reporting, GHG Registry. Develop and maintain a full greenhouse gas inventory, reporting system and registry that is compatible with national and international standards, in order to provide North Carolina businesses with certified baselines and emissions tracking to allow their voluntary and profitable participation in national and international carbon markets.

Public Benefits Fund. Develop state policies to collect funds of 1% of utility revenues to be administered by a third party in order to provide energy efficiency auditing services and remediation programming, such as incentives for customers, retailer training, marketing, promotion, and education.

Adaptation. Direct a state government assessment of adaptation as soon as possible and develop a state Climate Change Adaptation Plan. The Plan should include at least the following: Comprehensive identification of potential climate change impacts, recommended steps to respond to these impacts, coordination of response efforts through state, local and federal agencies, organizations, etc., establishment of time- and program-based goals, a benefit-cost analyses of the potential costs of a "status quo" approach as compared to implementing the Plan's recommendations, prioritization of adaptation measures that also mitigate GHG emissions and recommendations based on the certainty and severity of adverse impacts to citizens, ecosystems and local economies, and periodic review and update of the Plan.

Wind Energy. Develop a comprehensive wind permitting process for the state of North Carolina to regulate the responsible siting of wind turbines across all regions of the state while respecting the desire and will of local cities and counties.

No New Pulverized Coal. Develop policies to ensure that the state of North Carolina prohibits construction of new coal-fired power plants that do not capture and sequester carbon dioxide. Develop a timetable to phase out existing coal plants in the state of North Carolina that do not sequester carbon dioxide. These recommendations are based on findings from presentations to the NC LCGCC February 2006 – January 2010 such that the emission of carbon dioxide from conventionally coal-fired power plants is the largest contributor to greenhouse gases in North Carolina.[i]

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[i] 1. Feb. 3, 2006. *Electric Fuel Sources Report* by PEW Center- Judith Greenwald
Coal combustion has a 67% energy waste factor; delivering only approximately 33% electricity.
2. October 2009 FINAL REPORT by Climate Action Plan Advisory Group (NC CAPAG); Chapter "Energy Supply - p.4-1) Coal is the most carbon intensive fossil fuel and the dominant source of North Carolina's electricity (61%) shows; *Emissions are expected to increase to about 98% MMtCO2e by 2020. But those impacts would decline with reduced fossil fuel emissions from electric generation.*
- o EX-4
- o Figure 1-1 1-7 Electricity Source chart
- o Energy Supply Chapter 4 (4-1) Gross Generation by source 4-2
- o IGCC has limited storage in NC region 4-8

3. Feb. 11, 2008 The NCLCGCC Meeting with Rajendra Pachauri at NC State's Emerging Issues Forum – North Carolina State Graduate in Industrial Engineering, President of the IPCC and Nobel Prize Winner: addressed the danger of delaying action to reduce carbon dioxide emissions saying: *Leaders need to start reducing carbon emissions by 2015 at the latest.*
4. *Impact of Future of Electricity Mix* by Electric Power Research Institute Ap. 22, 2008 p. 13
5. John Wilson of Southern Alliance for Clean Energy – Nov. 28, 2008 in "Cornerstone Report." (p. 20) energy fuel charts indicate the predominance of coal's contribution of carbon dioxide in the earth's atmosphere.
6. Dr. Dee Eggers, PhD MSPH-UNC – Asheville - "Bases for Policy Recommendations" – Jan. 12, 2008 – NC imports energy at a cost of ten billion dollars a year.