

Governor-Elect Perdue  
Transition Advisory Group Sessions  
**Session Summary 8**

**Energy**

November 20, 2008

Session Arranged by the  
Governor-Elect Perdue Transition Team

Session Facilitated by the  
Small Business and Technology  
Development Center (SBTDC)

Report Prepared by the  
UNC-Chapel Hill School of Government



## Session Summary 8

# Energy

### SECTION 1. **Executive Summary**

After hearing from Larry Shirley of the State Energy Office (SEO), thirty-nine participants discussed seven general categories of issues related to charting the course of North Carolina's energy future.

1. Leadership and structure of energy related activities
2. Regulatory and code related issues
3. Green economy and economic development
4. Energy policies and utilities
5. New technologies for efficiency and renewable energy sources
6. Consumer education and outreach
7. Transportation

Within each category, specific needs were identified and prioritized, and potential solutions were discussed.

Focused and transparent leadership on energy issues was identified as a need, and many participants were interested in the identification of an energy "point person" within the next administration who would directly report to the governor.

Participants sought development of a comprehensive, statewide, and multi-state energy strategy that would set specific goals, include incentives for renewable fuels, and take advantage of the opportunity to expand statewide fuel production and distribution as a tool for economic development and long-term energy cost management.

Participants also called for an unbiased and comprehensive source of energy information that would be publicly available to support decision making. In addition, participants noted the opportunity state agencies have to lead by example in the areas of energy efficiency in operations and use of alternative fuels.

The SEO is updating the 2005 edition of the North Carolina State Energy Plan. It anticipates delivering twenty top priorities to Governor Perdue in January 2009.

This report reflects the general interests of many participants, but there was not a consensus for any particular recommendation in Section 5. It is likely that one or more participants do not agree with how an issue or need is described and probably differ on the proposed solutions.

### SECTION 2. **Process Used in Session**

The session began with a morning presentation about the current administration's efforts in the topic area, including issues, opportunities, and challenges. The presentation was made by Larry Shirley, division director of the SEO. Questions, comments, and discussion among participants and Shirley constituted the latter part of the morning session.

In the afternoon, six general categories were presented by the facilitator for more focused discussion. At the request of some participants, a seventh category was added. People then participated in an exercise for developing possible solutions and recommendations for the issues. Further, the audience participated in an exercise to prioritize the issues. Finally, the audience broke into self-selected groups to discuss solutions and recommendations.

See electronic Appendix 1 for the facilitator agenda and details about the process devised and used by facilitators from the Small Business and Technology Development Center (SBTDC).

### SECTION 3. **Participant List**

SBTDC facilitators: Scott Daugherty and Julie Lanning

UNC-Chapel Hill reporters: Kathleen Gray (Institute for the Environment) and John Stephens (School of Government)

UNC-Chapel Hill MPA student note taker: Caroline Krisel

Perdue Transition Team representative: Justin Guillory

Attendees:

Ronnie Ansley	George Baldwin	Greg Behr
Roberta Bowman	Chris Brown	Brett Carter
Mark Conlon	Molly Diggins	Tim Gasper
John Hardin	Pricey Harrison	Shawn Heath
Bill Holman	Nelle Hotchkiss	Preston Howard
Steve Johnston	Ashley Jones	Steve Kalland
James Kantor	Maria Kingery	Pete MacDowell
Frank Marshall	Charlie Martin	Bill McAulay
James McLawhorn	Paul Meyer	Clay Norris
Elizabeth Ouzts	Robert Powell	Aaron Rittenhouse
Bob Rodriguez	Bill Rowe	Anne Tazewell
Paula Thomas	Eric Tillett	Tim Toben
Gene Upchurch	Ivan Urlaub	Sam Watson
Sherri Zann Rosenthal		

### SECTION 4. **Significant Issues, Opportunities, and Challenges Identified in Morning Sessions about Current Administration Efforts**

Shirley framed the energy discussion by emphasizing that energy efficiency is the least expensive new electricity source, when compared to other sources. (See the electronic supplementary material for Shirley's presentation.) Other highlights of his presentation are discussed below.

## North Carolina's Energy Situation

- North Carolina imports all its fossil fuels at a cost of approximately \$20 billion annually.
- State energy consumption is outpacing population growth, despite current efforts at efficiency and conservation.
- Lower-income people pay a higher percentage of their income for energy versus other income categories.
- North Carolina is vulnerable due to its reliance on Gulf of Mexico oil production. Oil production and pipeline disruptions in the Gulf of Mexico have a negative impact on North Carolina, as demonstrated by gasoline shortages due to damage from recent hurricanes. North Carolina depends on two Gulf of Mexico pipelines and has limited storage capacity.

## Multiplicity of Important Energy Stakeholders

The many players and layers of energy producers, distributors, consumers, regulators, and researchers make coordinated energy policies and programs difficult.

Key organizations include, among others, multiple federal agencies, multiple state agencies (such as the Department of Environment and Natural Resources, Construction Office, and Attorney General's Office), N.C. Energy Policy Council, N.C. Utilities Commission, university-based energy centers (N.C. State, N.C. Agricultural and Technical State University, and Appalachian State University), Advanced Energy, Biofuels Center of N.C., and energy providers (investor-owned and cooperatives).

## Energy Generation and Pollution

Increased energy use from coal and petroleum products results in increased air pollution, which has health and environmental impacts, such as rising asthma rates, increased number of poor air quality days, decreased visibility in mountain areas, and damage to mountain ecosystems from acid rain. Greenhouse gas emissions (from all sources) in North Carolina are projected to rise from 184 million metric tons (MMT) in 2000 to 269 MMT in 2020, a 46 percent increase. Most of these emissions come from vehicles and electricity generation.

Shirley then offered strategies for advancing state energy goals. (These items were not part of Shirley's PowerPoint materials; see the electronic supplementary material for details.)

1. **Accelerate state agencies' and universities' ability to "lead by example" by increasing energy service performance contracting limits.** As the economy improves, issue bonds and make targeted appropriations.
2. **Expand efficiency programs to fully incorporate community colleges, local government operations, and K-12 schools.** Session Law 2007-546 mandates 20 percent energy reduction for major facility renovations and 30 percent for new construction. Neither community colleges nor public schools (K-12) are included in this mandate.
3. **Improve the renewable energy and energy efficiency portfolio standard (REPS):**
  - a. Emphasize the most cost-effective options first, and consider expanding the amount and role of energy efficiency under the REPS.

- b. Assist utilities in finding a pathway for REPS implementation that enables them to make a profit with a reasonable rate of return.
- 4. **Revise the state building codes with a goal of at least 30 percent greater energy efficiency than current standards.**
- 5. **Take steps to make renewable energy sources a greater proportion of energy generation.**
  - a. Improve transmission and permitting for renewable energy. Significant opportunities exist in North Carolina for solar energy, landfill gas, wind, and biomass.
  - b. Increase the production of alternative fuels and related infrastructure. Cellulosic fuels and small, regionally based biodiesel facilities could have a significant economic development impact.
  - c. Accelerate motor vehicle use of alternative fuels, especially among state agencies and universities.
  - d. Find ways to make more private capital available for renewable energy sources and energy saving technologies (i.e., loans to homeowners and small businesses).
- 6. **Communities need to have a role in planning their energy future and tapping into energy efficiency and renewable technologies.** It is expected that future federal funding for community energy initiatives will be made available.

Participants asked a variety of questions and raised a wide range of views in response to Shirley's presentation. Discussion included how North Carolina is organized to address energy challenges (including the potential role of the governor's office), ways to finance energy efficiency initiatives, and economic development and educational opportunities. The following issues were raised.

## Leadership

- 1. Interest in learning from other states that are good models of executive leadership on energy issues.
- 2. Need better communication among all players.
- 3. Some participants suggested a need for an identified point person with a direct report to the governor or a collaborative steering committee to address energy priorities, while others cautioned against creating a new bureaucracy and suggested better coordination among existing organizations.
- 4. Several wanted more transparency in energy decision making and an independent data collection and management entity to enable better decision making.
- 5. Need for focused energy strategy.
- 6. Opportunity for governor's office to coordinate among state government's three distinct roles on energy issues: as a consumer (creating opportunities to lead by example); as a catalyst to stimulate markets; and as a regulator (which has unique judicial and legal context). The governor's office can influence how these roles are coordinated.
- 7. Need for state government to coordinate more effectively with local governments on building code compliance. Also need resources for more inspectors.

## Financing and Pricing

1. One key challenge for North Carolina: continuing our tradition of competitively priced electricity, which fundamentally drives our economy.
2. The \$100 million cap on energy service performance contracting was perceived to be too low by many participants.
3. Apparent difficulty in getting competitive rates for start-up loans for renewable technologies.
4. Need for improved residential metering to enable homeowners to measure their peak usage and help them shift energy use to off-peak times; others noted that such plans were being developed by the utilities.
5. Apparent difficulty in implementing efficiency programs in rental housing.

## Economic Development and Employment Opportunities

1. A number of participants wanted steps to develop North Carolina–based companies for renewable energy. Others noted that developing renewable technologies could enable North Carolina to become an exporter of energy instead of an importer.
2. Desire to promote programs most likely to hire employees of varied skill and educational levels.
3. Opportunity for community colleges to develop regional locations for training programs.
4. Expectation of significant increases in energy research funding from the federal level and interest in knowing whether North Carolina would be ready to respond effectively.

## Education

1. Several participants were interested in education and advocacy for efficiency and renewable technologies and noted the importance of educating younger generations.
2. Some thought the focus should be on K–12 programs on energy efficiency.
3. Need to educate residential consumers about affordable solar options, including solar thermal.

See the electronic supplementary material for a summary of Shirley’s responses to specific questions raised during the morning discussion.

## SECTION 5. Key Issues and Solutions/Recommendations

### Key Issue No. 1: Leadership and Structure of Energy Related Activities

**Issue/Need.** Need for a state energy strategy with specific achievable objectives.

#### Potential Solution

Create a comprehensive state energy plan.

- Would like to see the governor passionately push for a plan that is aggressive but realistic enough to be achievable.
- Plan must outline specific objectives that are challenging, measurable, and achievable.
- Convey a forward-looking, regional (sub-state and multi-state) energy plan.
- Plan created collaboratively, not “top down.”
- Policy makers tasked with collaborating must be balanced, accountable, and credible.

There was broad interest in having a person or strengthened group to assure implementation of energy-related policies and programs. Some participants suggested a “point person for energy” clearly designated by the governor. There was lack of agreement on whether to have a person, an altered N.C. Energy Policy Council, or some other structure for clear accountability.

**Issue/Need.** Lack of an unbiased government energy information resource with the capacity to answer key policy and consumer questions. The N.C. Utilities Commission covers only part of the information needed.

**Potential Solution**

Provide more support/resources to the SEO or move SEO to an independent location. Also look to universities as a resource.

## **Key Issue No. 2: Regulatory and Code-Related Issues**

The primary focus is revising the state building code so that new materials and standards to promote energy efficiency and renewable energy production are supported.

**Issue/Need.** Change state building code requirements for energy performance.

**Potential Solution**

Set 30 percent improvement over American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) standards for major renovations.

**Issue/Need.** Local permitting and inspection difficulties.

**Potential Solution**

Create a streamlined wind power permitting system. Engage state and local jurisdictions in reaching a new balance between speed, information required, regulatory power, and enforcement systems for small- and large-scale electricity transmission and for biofuels production and distribution facilities.

## **Key Issue No. 3: The Green Economy and Economic Development**

Supporting renewable energy markets has been a key area of gubernatorial leadership in other states (such as Pennsylvania and Tennessee). In North Carolina, creative leadership could go a long way toward stimulating North Carolina-based energy production. Any discussion of incentives would need to incorporate transportation fuels and large-scale electric generation needs and should address workforce training.

**Issue/Need.** Training is needed to prepare workers to address technical and operational issues associated with high-performance buildings and as renewable technologies come online.

Training will need to be flexible and responsive, as the industry is growing quickly and will have different needs in the near future. Some of the renewable sources require defined skill sets (e.g., biofuels), and these would be good starting points for training programs.

#### **Potential Solutions**

- Support the community college system to develop regional worker training programs.
- Cooperative Extension and other public university units could also play a role.
- Compile a list of training and other resources already available through the UNC system campuses.

**Issue/Need.** Incentives are needed to stimulate the development of renewable technology companies based in North Carolina. A key benefit of doing so is to position the state to export rather than import energy. (Incentives are also discussed below under Key Issue No. 7: Transportation.)

#### **Potential Solutions**

Loan guarantees, tax credits (including matching of federal credits for renewable energy manufacturing), competitive credit rates and preferential purchasing of energy produced in North Carolina. Participants suggested that companies that are expanding or transitioning into renewable products should be eligible for incentives. Existing incentive programs need to be reviewed to ensure that they are not encouraging export of North Carolina's renewable energy products.

### **Key Issue No. 4: Energy Policies and Utilities**

A central concern was to maintain a balance between *forward thinking* and *practical solutions*. In particular, supporting the continued use of natural gas, petroleum, and coal fuels (the practical need for large percentages of the overall energy supply for decades to come) while also supporting research, demonstration projects, incentives, and regulations to push forward on reducing greenhouse gas emissions and growing renewable/less polluting energy sources (*forward thinking*).

**Issue/Need.** Conflict between (1) utilities' incentives to generate and sell more electricity and natural gas and (2) goals to conserve and have more efficient use of current consumer use of electricity.

#### **Potential Solution**

Create a system where profits for electric utilities are de-coupled from sales of power. Specifically, one approach is to encourage creation of a "third party entity" dedicated to energy efficiency. The goal would be to create a competitive energy efficiency market.

**Issue/Need.** Little or no regional planning and regional generation and distribution of electric power. There are limits on current state regulatory structures for issuing permits for new power generation plants. The need is to reduce risk and spread the distribution of new energy plants to a wider area, including interstate service areas.

**Potential Solution**

The governor could meet with counterparts in neighboring states to design regional planning areas. The governor could also work with electric utilities in North Carolina to structure more intrastate regional cooperation.

**Key Issue No. 5: New Technologies and Financing for Energy Efficiency and Renewable Energy**

Consistent with the themes above, participants were concerned about the appropriate focus on research and development, stronger funding mechanisms for retrofitting housing, biofuel use in transportation, and wider energy service contracting to draw capital to make various technologies more mainstream and affordable for low-income renters and home owners and various kinds of small businesses.

**Issue/Need.** Fair and effective financing mechanisms to encourage energy efficiency (EE) and renewable energy (RE).

**Potential Solution**

The governor and legislature have an opportunity to strengthen and expand public–private partnerships and the state could help leverage federal government moneys (e.g., tax incentives and grants for research and demonstration projects). The state could also underwrite some proportion of the costs of weatherization and other EE/RE projects. Finally, the state could provide loan guarantees.

**Issue/Need.** Better use of North Carolina’s capacity for biofuels production.

**Potential Solution**

Develop a state government–backed loan guarantee to lessen financing cost for construction of North Carolina–based production facilities.

**Key Issue No. 6: Consumer Education and Outreach**

The dimensions of this issue include a plethora of inconsistent information aimed at different groups of consumers; the lack of a strategic, coordinated way to inform and change behavior; and what approaches on energy education are truly effective. Education at the K–12 level through adulthood was addressed. The suggested content included addressing use of off-peak energy periods, compelling stories of energy efficiency benefits, and promotion of “smart grid” technology.

**Issue/Need.** The lack of centralized, comparable, unbiased data about fuel sources, energy generation, and pollution/other side effects. Need some kind of plan for education and marketing that produces a clear understanding of the financial and environmental “price tag” of consumer energy.

**Potential Solution**

Overall, education needs to be a key part of the governor’s energy strategy (as presented in Key Issue No. 1: Leadership and Structure of Energy Related Activities). Second, for housing, transportation, and other discrete energy use systems, there should be standardized information,

such as total life cycle costs in labeling, for better consumer understanding. Finally, evidence-based information is needed, formatted in a way that is understandable for consumers making daily decisions on energy use.

**Issue/Need.** Lack of transparent information on electric costs for current use, proposed generation, and utility energy efficiency programs.

**Potential Solution**

Provide greater transparency and information to guide ratepayers on their energy use. On utilities bills, disclose the resource mix (i.e., kinds of fuels) and different rates at times of day (as applicable). Directly inform affected ratepayers of anticipated new power plant costs and effects on rates.

## Key Issue No. 7: Transportation

This topic reached in several directions: how to revise permitting processes for biofuels production; creation of state government incentives for alternative fuel production; recognizing companies that use alternative fuels; prioritizing the grid for smart fuel to help electric hybrids; tax incentives for alternative fuel vehicles; better promotion of biodiesel for diesel cars; and preferred treatment for bicycles.

**Issue/Need.** Lack of incentives and funding to support broad-based use of alternative fuels (e.g., biofuels, natural gas).

**Potential Solutions**

Tax credits for purchase of fuels (or electric vehicles) and other mechanisms, as noted above in Key Issue No. 3: The Green Economy and Economic Development.

- Enhanced funding mechanisms could be sought: for instance, expanded funding for the “Clean Fuel Advanced Technology Program” or potential funding from the Department of Homeland Security.
- A statewide grant program to support development of alternative fuel infrastructure could be created.
- State government could model policies that support use of alternative fuels (such as designating parking and travel lanes for alternative fuel vehicles, enabling employees to work from home, and adding to existing networks of bike trails and lanes).
- Educate consumers on the benefits of biodiesel through a public education campaign.

**Issue/Need.** There are inadequate rail and transit options among major North Carolina cities (e.g., lack of high-speed rail between Charlotte and Raleigh), and our cities need to be redesigned for transit. There is also a need to integrate transportation and regional and county planning to address the ways that various modes of transit connect to one another.

**Potential Solutions**

- Gubernatorial leadership to promote urban and interurban transit.
- Encouraging development of a “smart grid” to facilitate plug-in hybrids would be beneficial.

- Infrastructure development set as a budget priority to stimulate planning to support future rail options. Transit bonds with a dedicated funding source would be beneficial.
- Establish new transit corridors (using eminent domain as needed).
- Multimodal transit legislation could address connectivity barriers.

### **Electronic Supplementary Material**

- Appendix 1: Facilitator agenda provided by the Small Business and Technology Development Center (SBTDC)
- Agency transition reports and other documents provided for session