

Institute for Emerging Issues

North Carolina's Energy Futures

Anita Brown-Graham
September 2007

NC STATE UNIVERSITY

research

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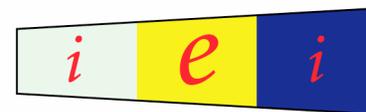
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Presentation Outline

- NC's Energy Challenges
- Opportunities for NC in the new "Energy Economy"
- Institute for Emerging Issues' Energy Program of Work

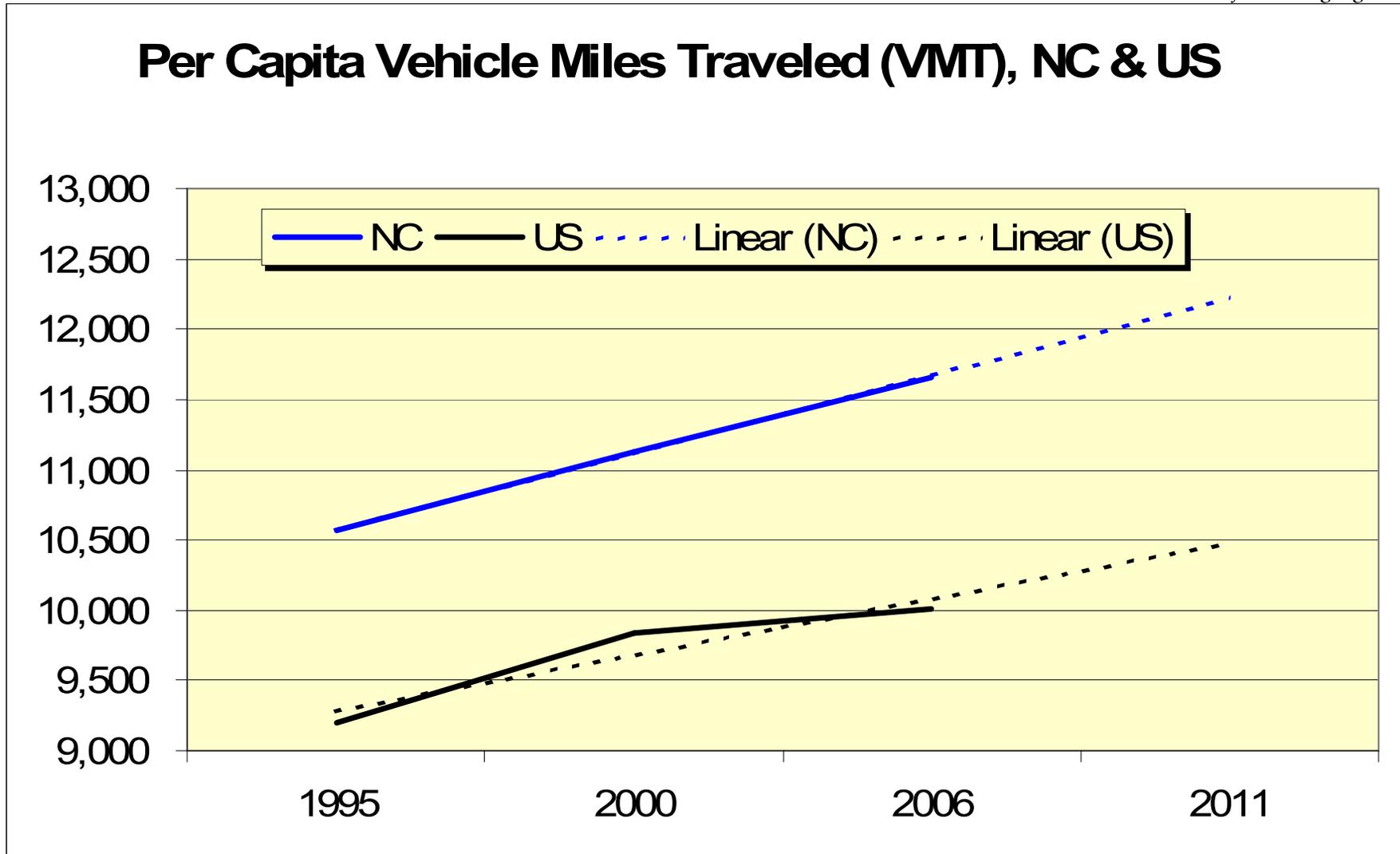


NC's Overall Energy Trends

- Strong Reliance on Fossil Fuels
 - Petroleum 36%
 - Coal 31%
 - Nuclear 17%
 - Natural gas 9%
 - Renewable 7%
- Growing State Energy Demand
 - 35% increase in NC by 2020 vs. 19% for United States

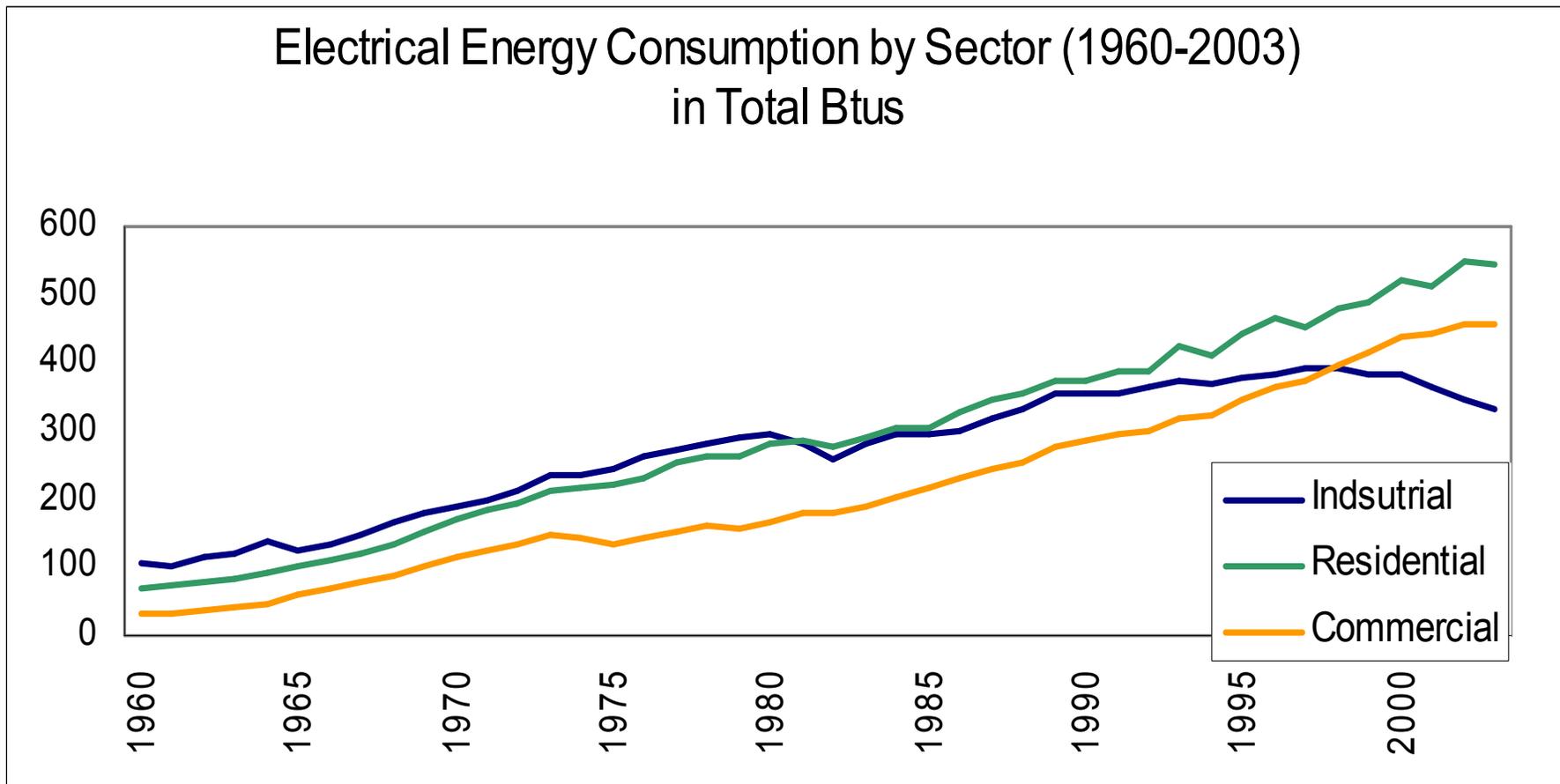
NC Transportation Trends

Per Capita Vehicle Miles Traveled (VMT), NC & US

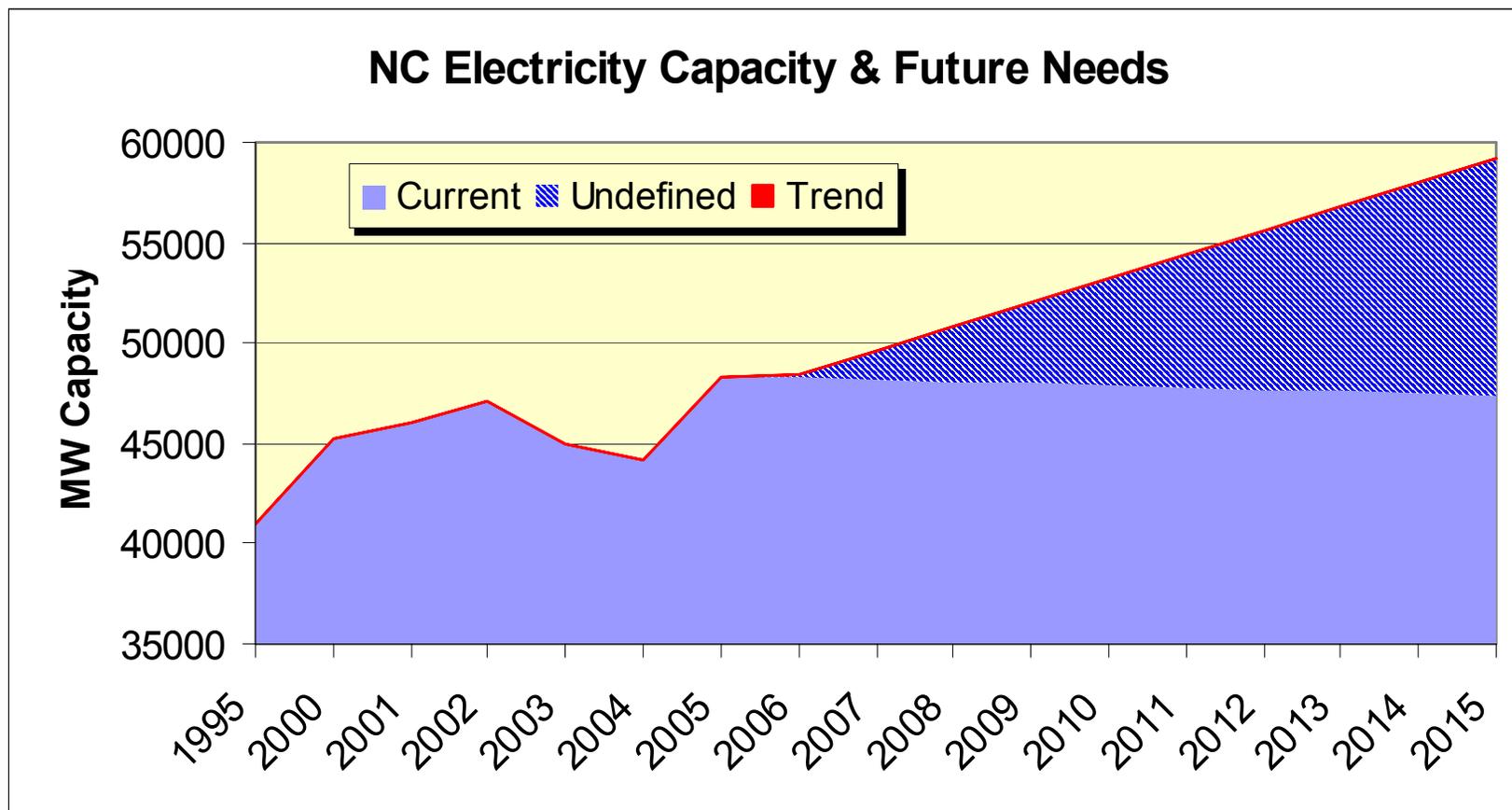


NC Historical Energy Trends

The state's energy trends are upward for two sectors.



Projected Peak Load Demand



Source: Appalachian State University Energy Center



NC's "New Energy Economy"

What do these trends mean for the state?

- Higher energy prices
- *But* also opportunities
 - "New Energy Economy" emerging around efficiency and renewable energy sources will create new industries, companies and jobs as it has in other states



Opportunities for NC

- Efficiency Measures (examples)

- Metering: real-time view of energy consumption (Prius as example)

- New building codes

- Economic development opportunities

- ✓ Product research/ design

- ✓ Manufacture new products

- ✓ Skilled workers to make/ install

- ✓ Building products research/ development

- ✓ Manufacture new products

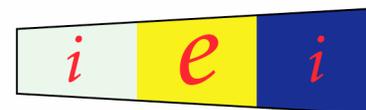
- ✓ Skilled workers to make/ install

- ✓ Trained inspectors



Opportunities for NC

- Renewable Energy Sources (example)
 - Biofuels
(capturing the whole value chain within NC)
- Economic development opportunities
 - ✓ Product research
 - ✓ Production of inputs (agriculture)
 - ✓ Manufacturing (decentralized around state?)
 - ✓ Skilled workers to make fuels
 - ✓ Distribution network



IEI's Program of Work on Energy

- Builds upon work already underway:
 - State Energy Plan
 - Legislative Commission on Global Climate Change/Climate Change Action Plan Advisory Group
 - Biofuels Industry Strategic Plan
 - NC's Investor-Owned Utilities and their Efficiency Efforts
- Focuses on development of NC's energy policy priorities to secure development of the "new energy economy"



IEI's Program of Work on Energy

- Energy Leadership Retreat (April 2007)
- Stakeholder Meetings (ongoing)
- Working Groups (Fall 2007)
 - Energy for Transportation
 - Energy for Business, Government and Consumers
 - Emerging Energy Markets
- Kick Off Event (Fall 2007)



IEI's Program of Work on Energy

- Energy Calculator (Data Driven Endeavor)
 - Helps identify tradeoffs among future and likely policy scenarios
- Annual Emerging Issues Forum February 11-12, 2008
 - Signature event to convene and discuss energy challenges and opportunities



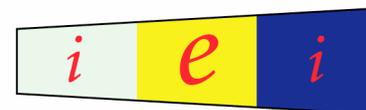
2008 Emerging Issues Forum – *Day One Invited Speakers*

- Framing the Topic for NC through a National/
International Perspective
Tom Friedman, NY Times
- National Policy Perspective
Amory Lovins, Rocky Mountain Institute
- National Business Perspective
Jeff Immelt, CEO, General Electric



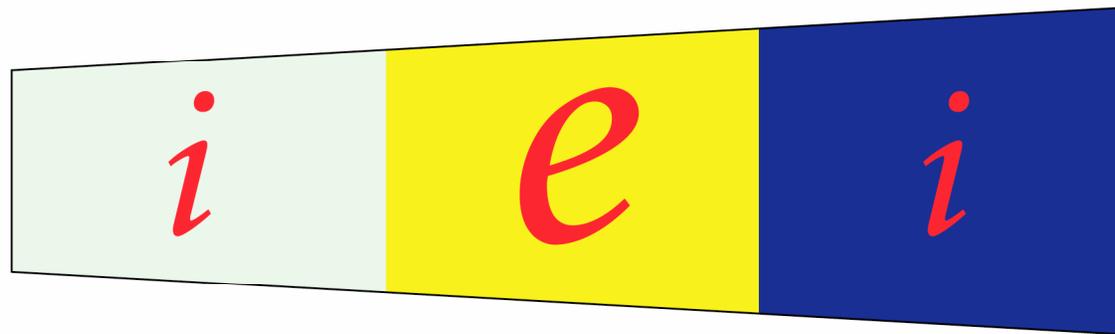
2008 Emerging Issues Forum – *Day One Invited Speakers*

- Future of the Electric Utility Business Model
Bob McGhee, Progress Energy; and Jim Rogers, Duke Energy
- Panel on NC Energy Technology
Chuck Swoboda, Cree; and Thomas Nagy, Novozymes
- International Innovations – Europe/Brazil/China
- Environmental Consequences
Rajendra Pachauri, International Panel on Climate Change



2008 Emerging Issues Forum *Day Two Invited/Potential Speakers*

- Other State Successes
*Florida Governor Charlie Crist
and/or California Governor Arnold Schwarzenegger*
- Local Strategies
*Mayor Richard Daley, City of Chicago
Mayor Tom Potter, City of Portland*
- Breakout Sessions
- NC Challenges and Opportunities Panel



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