Low Hanging Fruit: Energy Efficiency in the South

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Lifestyles in the South are Energy and Carbon Intensive

Energy Consumption for Electric Power Generation in the South, 2007-2030

Energy Consumption Shares in the U.S. and the South by End-Use Sectors, in 2007

<table>
<thead>
<tr>
<th></th>
<th>Coal</th>
<th>Renewables</th>
<th>Fuel Oil</th>
<th>Petroleum Coke</th>
<th>Natural Gas</th>
<th>Nuclear</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>51.3%</td>
<td>8.7%</td>
<td>1.2%</td>
<td>0.4%</td>
<td>17.3%</td>
<td>20.9%</td>
<td>0.3%</td>
</tr>
<tr>
<td>SOUTH</td>
<td>53.8%</td>
<td>2.9%</td>
<td>1.2%</td>
<td>0.7%</td>
<td>20.8%</td>
<td>20.5%</td>
<td>0.0%</td>
</tr>
</tbody>
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Energy Consumption for Electric Power in the South and the U.S.
The South is one of the Last Regions to Develop a Culture of Energy Efficiency

The South has the lowest rate of market penetration of Energy Star appliances.

Conserve or Drill?

Americans are somewhat divided by region on whether U.S. energy policy should favor conserving and regulating energy use or exploration, drilling and construction of new power plants, according to a January 2009 poll by Public Agenda, though conservation was supported by a large majority.

- Expanding exploration, mining and drilling, and the construction of new power plants
  - Northeast: 35%
  - Midwest: 30%
  - South: 45%
  - West: 31%
  - Nationwide Total: 37%

- More energy conservation and regulation on energy use and prices
  - Northeast: 57%
  - Midwest: 62%
  - South: 48%
  - West: 60%
  - Nationwide Total: 56%

Source: Yuliya Chernova (2009)
Per capita spending on utility energy efficiency programs in the Southeast is one-fifth the national average.
At the Same Time, the South is the “Saudi Arabia” of U.S. Energy Efficiency

• National studies
  • 5 separate studies; range from 13 to 22 years
• Regional studies
  • 4 separate studies; range from 10 to 22 years
• State studies
  • 11 separate studies; range from 5 to 20 years

Results Suggest a 12% “Maximum Achievable Potential” for Residential Electricity in the South in 2020
The “Maximum Achievable Potential” for Saving Electricity is Significant in All Three Sectors (R, C, and I)
But Numerous Barriers Hinder Clean Energy Technologies

Source: Committee on Climate Change Science and Technology Integration. 2009. Strategies for the Commercialization and Deployment of Greenhouse Gas Intensity-Reducing Technologies and Practices"
### Portfolio of Energy-Efficiency Policies

<table>
<thead>
<tr>
<th>Residential Buildings</th>
<th>Commercial Buildings</th>
<th>Industry</th>
</tr>
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<tbody>
<tr>
<td>Expanded Weatherization Assistance Program</td>
<td>HVAC Retrofit Incentives</td>
<td>Assessments of Plant Utility Upgrades</td>
</tr>
<tr>
<td>Retrofit Incentives and Equipment Standards</td>
<td>Equipment Standards with Efficient Use Incentives</td>
<td>Industrial Process Improvements</td>
</tr>
<tr>
<td>Appliance Incentives and Standards</td>
<td></td>
<td>Combined Heat and Power with Incentives &amp; R&amp;D</td>
</tr>
</tbody>
</table>

### Stronger Policies and Programs are Needed to Overcome Market Barriers

- Expanded Weatherization Assistance Program
- HVAC Retrofit Incentives
- Assessments of Plant Utility Upgrades
- Equipment Standards with Efficient Use Incentives
- Industrial Process Improvements
- Combined Heat and Power with Incentives & R&D
Energy Supply Curve Estimates 2.8 Quads of Cost-Effective Opportunities in the South (Covering R, C, I Sectors)

Draft: Subject to change
Electricity Supply Curve for the South Highlights Industrial Efficiency Opportunities

- Retail Price of Electricity - 8.7 cents/kWh
- Appliance Incentives and Standards
- Expanded Weatherization Assistance Program
- Retrofit Policy
- Retrofit Incentives and Equipment Standards

Levelized Cost of Electricity (cents/kWh)

- Commercial Buildings
- Residential Buildings
- Industry

Assessments of Plant Utility Upgrades
- Process Improvements
- Standards Policy
- Equipment Standards

Electricity Efficiency Potential in 2020 (TBtu)

Draft: Subject to change
Conclusions

A large potential of “NPV-positive” energy efficiency investments exists in the South.

Targeting energy efficiency as the “first fuel” is a “no regrets” strategy.

But, the commitment to energy efficiency has been more rhetorical than real – especially in the South.

Targeted policies are needed to overcome market barriers.