Public Input Sessions
March 2-5, 2009
DELWARE ENERGY PLAN
2009-2014
Delaware’s 5 Year Energy Plan

- Governor’s Energy Advisory Council is required by 29 Del. Code Chapter 80 to revise the plan every 5 years.

- Members represent:

  Cabinet Committee on Energy, Public Service Commission, Public Advocate, Weatherization Assistance Program Policy Advisory Council, 9 members representing: electricity transmission; electricity distribution; electricity generation; agriculture and/or agribusiness; municipal utilities; renewable energy; innovative energy technology; transportation fuels and environmental interests, DNREC, DDA, DelDOT and DEDO.
Energy Plan Guiding Principles

- Increasing energy end-use efficiency and conservation
- Reducing the environmental impacts (footprint) of energy used and generated in Delaware
- Reducing energy used for transportation
- Maximizing clean energy economic development opportunities
- Maintaining and improving the reliability and security of Delaware’s energy systems
- Minimizing energy-related costs and impacts on Delaware citizens
Delaware’s Energy Challenges and Issues

- *Increasing Energy Demand*
- *Increased and Variable Energy Cost*
- *Environmental Issues & Climate Change*
Survey Responses: Issues with more than 50% of their Rankings as “Most Important”

- Localized Heating and Electricity Generation (64%)
- Energy Efficiency (59%)
- Environmental Impact of Electricity Generation (55%)
- Residential Energy Cost (54%)
- Electricity Generation (52%)
- Transportation-related Energy Use (51%)
Delaware Energy Use by Sector, 2005

- industrial: 35%
- transportation: 23%
- commercial: 19%
- residential: 23%
2006 Per Capita Energy Use

Delaware 353 million BTU
Pennsylvania 317 million BTU
New Jersey 301 million BTU
Maryland 259 million BTU
Massachusetts 230 million BTU
New York 204 million BTU
Rhode Island 204 million BTU

Source: U.S. Energy Information Administration
Potential Annual Savings

2006: Delawareans spent $3.6 billion on energy

Matching PA (11% use reduction) = $400 million saved
Matching NJ (17% reduction) = $600 million saved
Matching MD (27% reduction) = $940 million saved
Matching NY or RI (42% reduction) = $1.5 billion saved
Vehicle Miles Travelled in Delaware

- 1990: 6.5 Billion VMT
- 2005: 9.5 Billion VMT
- 2020: 12.8 Billion VMT
2005 Vehicle Miles Traveled per Person

<table>
<thead>
<tr>
<th>State</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>11,312</td>
</tr>
<tr>
<td>New York</td>
<td>7,139</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>7,781</td>
</tr>
<tr>
<td>New Jersey</td>
<td>8,527</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>8,736</td>
</tr>
<tr>
<td>Maryland</td>
<td>10,105</td>
</tr>
<tr>
<td>Montana</td>
<td>11,889</td>
</tr>
</tbody>
</table>

## 2006 Renewable Net Generation

<table>
<thead>
<tr>
<th>State</th>
<th>MWH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>&lt;.5 thousand</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>5,322 thousand</td>
</tr>
<tr>
<td>New Jersey</td>
<td>952 thousand</td>
</tr>
<tr>
<td>Maryland</td>
<td>2,734 thousand</td>
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<tr>
<td>New York</td>
<td>29,951 thousand</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>155 thousand</td>
</tr>
</tbody>
</table>

*Source: U.S. Energy Information Administration*
Primary Energy Consumption by Source & Sector, 2006

- Petroleum: 39.8% (Transportation: 28.3%)
- Natural Gas: 22.4% (Industrial: 21.6%)
- Coal: 22.6% (Residential & Commercial: 10.3%)
- Renewable Energy: 6.8% (Electric Power: 39.7%)
- Nuclear Electric Power: 8.2%

Percent of Source: Percent of Sector
2005 Emissions of CO2 Equivalents, Delaware

- Point: 13,328,535 tons
- Area: 4,821,962 tons
- On-road: 4,298,494 tons
- Off-road: 719,091 tons

Source: DNREC Air Quality Management Section, emissions in tons
Global cost curve of GHG abatement opportunities beyond business as usual

- ~27 Gton CO$_2$e below 40 EUR/ton (-46% vs. BAU)
- ~7 Gton of negative and zero cost opportunities
- Fragmentation of opportunities

Recommendations to Reduce Energy Use through Energy Efficiency and Conservation

- General Recommendation
- Building Codes for Energy Efficiency
- Residential Energy Use Reduction
- State Government Energy Use Reduction
- Industrial Energy Use Reduction
- Energy Education & Outreach
- Recommendations under the purview of the Sustainable Energy Utility
Recommendations to Reduce Transportation Energy Use

- Reducing Vehicle Miles Travelled
- Increasing Vehicle Efficiency/Reducing Energy Use per Mile
- Reducing the Impact of Land Use on Energy Use
Reducing the Environmental Footprint of Delaware’s Energy Use Recommendations

- The Need to Address Climate Change
- Increasing Renewable Energy Use
- Improving Existing Energy Facilities
Clean Energy Economic Development Recommendations

- General Recommendations
- Technology Specific Recommendations
- Emerging Technology Pilot Projects
Transmission & Distribution System Recommendations

General Recommendations

Energy Planning Governance Recommendation

General Recommendation
Next Steps

Comments can be submitted until March 12, 2009

Comments can be submitted electronically to: DNREC_EnergyPlan@state.de.us

Council will vote on the final report on March 26, 2009