Towards a Sustainable Economy: State of Delaware

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A Mid-Atlantic State
Delaware Profile

• Population: 885,122
• GDP (2010): $62.7 billion
• GDP average annual growth rate percent (1997 – 2004): 3.0%
  – -1.8% in 2009
• Unemployment in 2011: 8.5%
• Industry Clusters:
  – Government
  – Education
  – Banking
  – Chemical and pharmaceutical
  – Healthcare
  – Automotive manufacturing
  – Agriculture
• Political subdivisions:
  – 3 counties
  – 57 incorporated cities and towns (Wilmington, Dover and Newark)
A Commitment to Jobs and Sustainability

• Governor Jack A. Markell
• Elected 2008
• Environmental platform
• Strong jobs emphasis
• Utilize environmental regulations to promote job growth and prosperity
A Framework for Prosperity and Sustainability

- **Green savings**
  - Increasing prosperity by reducing operating costs through reducing energy use and waste

- **Green opportunities**
  - Creating jobs in new markets spurred by new investment and the range of career opportunities in new industries

- **Green talent**
  - Preparing a world-class workforce trained to participate in this emerging sector

- **Green places**
  - Creating places that protect and enhance the natural and built environment that attract jobs
REALIZING GREEN SAVINGS
Laws to Increase Green Savings

  - Reduce energy consumption in the state by 15% by 2015
- Senate Bill 234 (2010)
  - Created recycling program requiring comprehensive residential and commercial recycling programs by municipalities and waste haulers
Government’s Cleaner and Greener Operations

• Executive Order Number 18
  – Reduce energy use by 30% by 2015
  – Receive 30% of electrical generation from renewable sources (already achieved)
  – Build to LEED Silver Standard
  – Divert 75% of waste from landfills
  – Reduce gas consumption and vehicle emissions by 25%
  – Environmentally responsible procurement
Helping Others to Use Energy More Efficiently

Energy Efficiency Audits and Audit-based rebates

EnergyStar Appliance Rebate program

Rebates for CFL and LED purchases

Performance contracting

Loans to businesses for large energy efficiency retrofits

Administered by the state’s “Sustainable Energy Utility”
“Green for Green” Program

• State-run program
• Offering rebates for homes built to national third-party green building standards
  – Energy efficiency
  – Water conservation
  – Indoor air quality
  – Building materials
• Available only in designated growth areas
• Helped more third-party certified homes to be built in Delaware than any other state, per capita
Small Business Energy and Facilities Revolving Loan Fund

$1 million RLF to help jump start businesses specializing in energy efficiency
SEIZING GREEN OPPORTUNITIES
Laws to Create Green Opportunities

- **Senate Bill 49 and House Bill 70**: Prohibits deed restrictions for renewable energy installations
- **Senate Bill 153**: Establishes that V2G power from electric vehicles to the grid qualified for net metering
- **Senate Bill 106**: Requires renewable energy after energy efficiency, but before new fossil fuel generation
- **Senate Bill 119**: Increases the state’s RPS to 25% by 2025 and increased “solar carveout”
  - SREC procurement program
- **Senate Bill 266**: Makes renewable energy rebates performance based and requires energy efficiency audit for participation
- **Senate Bill 267**: Expanded net metering policy (aggregate meters, community-owned systems, 3rd party owners, fuel cells)
- **Integrated Resource Planning regulations**: Climate and health considerations in energy planning
- **Senate Bill 40 (pending passage)**: Establishes manufacturing tax credit
Seizing Competitive Advantages

Offshore Wind
Alternative Fuel Vehicles
Sustainable Chemistry
The First in Offshore Wind

- First contract for offshore wind between developer and utility
- Delaware Public Service Commission first to approve an offshore wind farm and contract (450MW)
- First project to finish federal leasing process under new regulations
- University of Delaware first to offer graduate program in offshore wind
Electric Vehicles and Vehicle-to-Grid

2,500 New Manufacturing Jobs

Intellectual Capital

Fisker

Auto Port Inc.

[Image of Fisker car]

[Image of Fisker logo]

[Image of five people standing in front of a car]

[Image of the Great Seal of the State of Delaware]
Fuel Cell Vehicles

• Dupont
  – Gold standard polymer membrane

• Supply Chain
  – Bloom Energy
  – IonPower
  – W.L. Gore
  – Air Liquide

• University of Delaware
  – Center for Fuel Cell Research
Delaware’s Chemical Sector

Legacy of transformational discoveries
One of the top chemical engineering schools in US
Highest per capita concentration of patents and Ph.D.s in US
• Efficient, safe processes and materials
• Finding design and process inspiration in nature
• Research consortium
• Collaborative grant-seeking
• State-supported initiative
CULTIVATING GREEN TALENT
**Wind Turbine Operators**

*University of Delaware* trains graduate students as wind turbine operators, using its coastal turbine which also powers its southern Delaware campus.
Applied Energy Education Center

• Associate’s degree for energy managers and technicians

• Certifications
  • Renewable energy, energy management, energy assessment and cost analysis, green building design and construction, hybrid and electric transportation

• Workshops for technicians, managers, residents
CREATING GREEN PLACES
Cleaner Energy Generation

• Shut down coal-fired electrical generating unit
  – Consent agreement included generating company’s commitment to develop job training programs in partnership with Delaware colleges for clean energy jobs including the company’s planned offshore wind park, electric vehicle infrastructure and solar technology.

• Fuel-switching from coal to natural gas
DNREC/NVF Land Deal

- Purchased 119 acres of shuttered fiber company and its accompanying multi-use buildings
- Partnering with private developers to create recreational area and mixed-use development
- Environmental clean up
- Preservation of 1920’s-era buildings
- Recreation
- Economic Development
Environmental Clean Up
Historic Preservation
Land Preservation and Economic Development
Towards a New Sustainable Prosperity

• Reducing energy consumption
  – Limiting CO₂ emissions and reducing GHG
  – Creating savings that are returned to the local economy

• Promoting renewable energy
  – Lowering carbon footprint
  – Attracting financial investment, creating new markets and new job opportunities

• Preparing the workforce for new opportunities

• Improving our environment to attract investment, talent