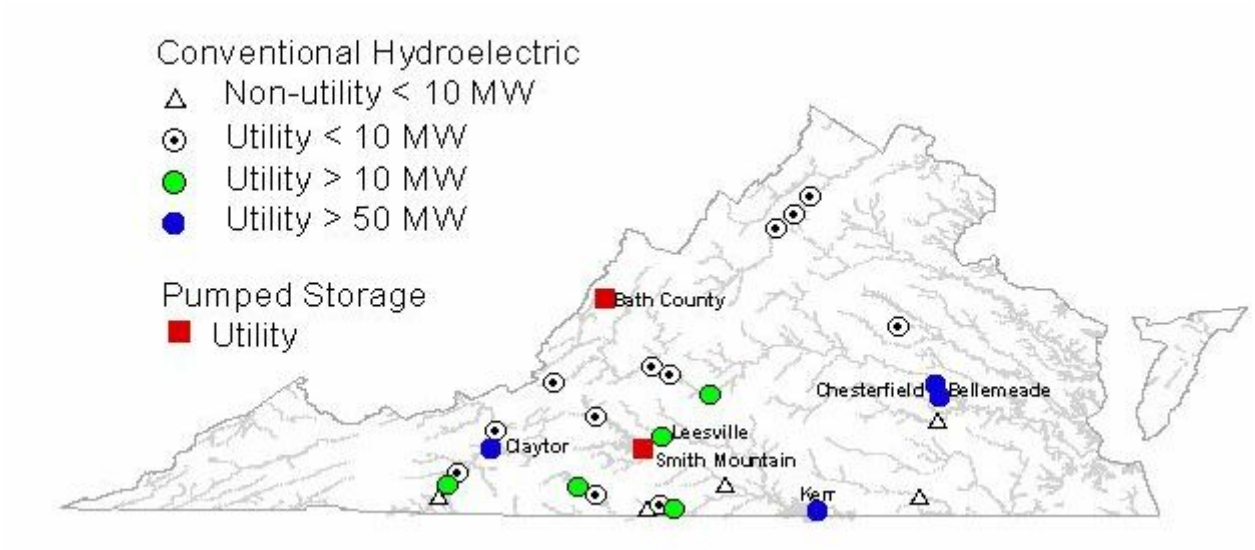
Commission on Energy and Environment: 2009 Proposed Legislation

- Follow-up Issues
- Proposed Legislative Recommendations

Hydropower Capacity; General Permit

- Increasing hydroelectric generation capacity
  - SB 1347 (Wagner, 2009) requires the Department of Environmental Quality to develop general permits for small renewable energy projects up to 100 megawatts.
  - The legislation requires that the permit-by-rule for wind is developed by January 1, 2011, and that the others, including a general permit for electricity generated from falling water, are developed no later than July 1, 2012.

Major Hydroelectric Plants



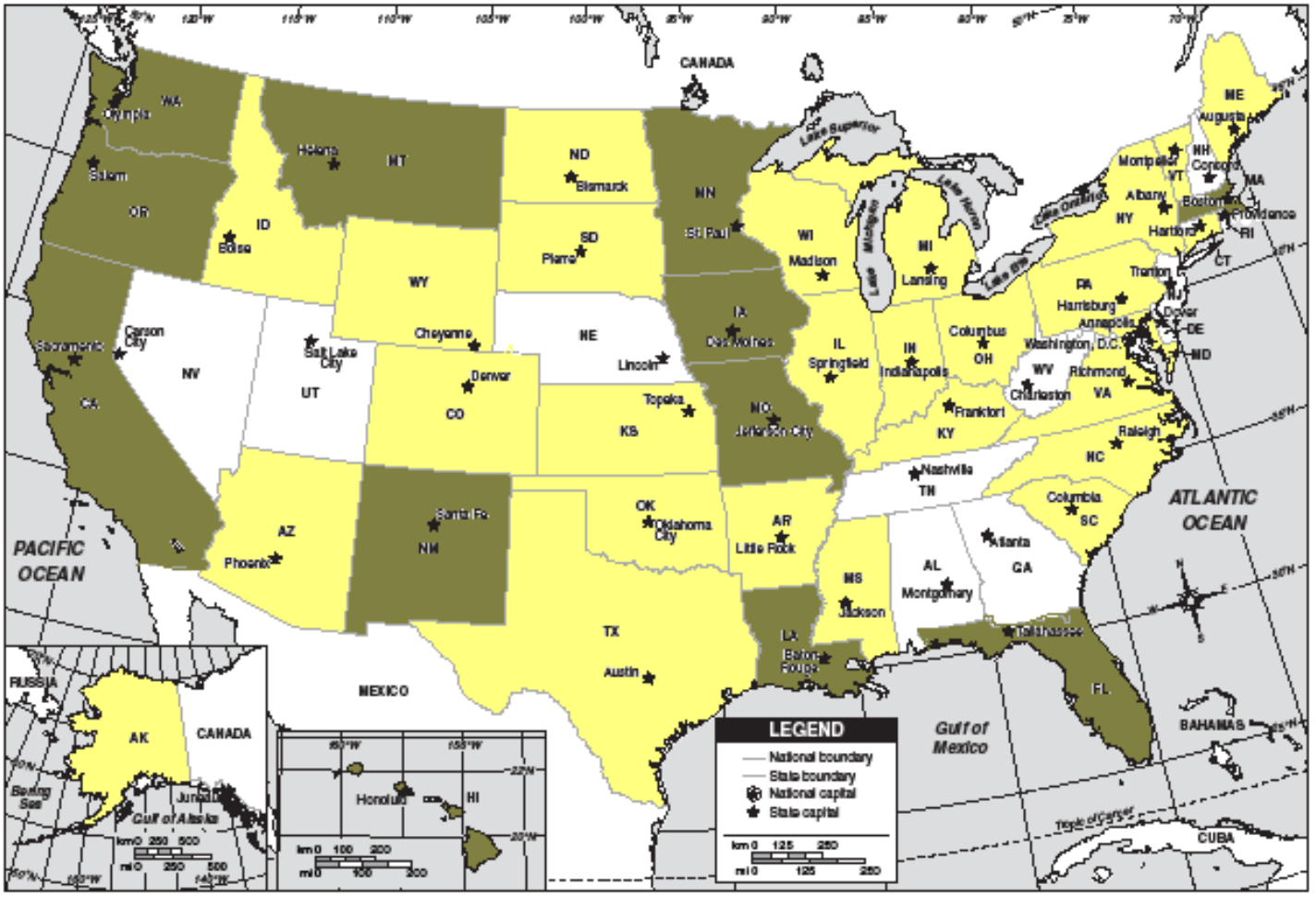
Distributed Wind Generation; Zoning

- Local regulation of land-based wind turbines
  - According to the Virginia Association for Counties, a number of counties have adopted ordinances for small wind energy systems and allow installation through either a conditional use permit or a special exception as an accessory use.
  - An increasing number of counties are considering ordinances as public interest grows and installation costs decline.
  - No standard or state-wide model ordinance covers the installation of wind turbines.

Renewable Fuel Standards (RFS) in the United States

- 38 states provide incentives promoting ethanol production and biofuel use.
- 12 states have introduced their own Renewable Fuels Standards (RFS).
  - California, Florida, Hawaii, Iowa, Louisiana, Massachusetts, Minnesota, Missouri, Montana, New Mexico, Oregon, Washington

RFS in the United States



Proposed Legislation

- The Commission on Energy and Environment; updates to the Climate Change Action Plan.
- Minimum biodiesel and green diesel content in state contracts for vehicle fuel.
- Clean Energy Manufacturing Incentive Grant Program.

Proposed Legislation: Energy Efficiency

- Require certain state buildings to meet LEED or Green Globes criteria.
- Explicitly authorize SCC to require the use of inclining block rate and dynamic rate structures.
- Remove certain rate recovery options for energy efficiency programs.
  - margin on costs (profit)
  - lost profit due to reduced sales

Hybrid and Plug-In Hybrid Electric Vehicles (PHEV)

- Hybrid Vehicles can be converted to PHEVs
  - Cost: Approximately $10,500 to convert a Prius

- Electricity required to charge PHEV varies depending on battery size.
  - PHEV Prius: 5 KWh Lithium-Ion Battery Pack (4.5 hours to charge)
  - Chevy Volt: 16 KWh Battery Pack (8 hours to charge)
  - Tesla: 35-65 KWh Battery Pack (8-12 hours to charge)

  Charging Capabilities divided into different levels:

  Level 1 – 120 Vac Charging (currently all PHEV use 120 Vac)

  Level 2 – 240 Vac Charging

  Level 3 – 600 Vdc Charging (currently used for forklifts and special purpose Industrial Utility Vehicles, i.e. airport baggage handling vehicles)

Hybrid and PHEVs (Continued)

- Recharging stations provide 120 and 240 Vac
- Estimated distance travelled on electric battery before using gasoline:
  - PHEV Prius: 35 miles
  - Volt: 40 miles
  - Mitsubishi eMiev: 100 miles
  - Nissan Leaf: 100 miles
  - PHV Ford Escape: 125 miles
  - Tesla: 244 miles

Proposed Legislation

- Fuel efficient driver education curriculum
- Mandatory Renewable Energy Portfolio Standard

Questions ??