

Hampton Roads Planning District Commission

State Energy Policy & Virginia Energy Plan

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May 21, 2008

Virginia Energy Policy

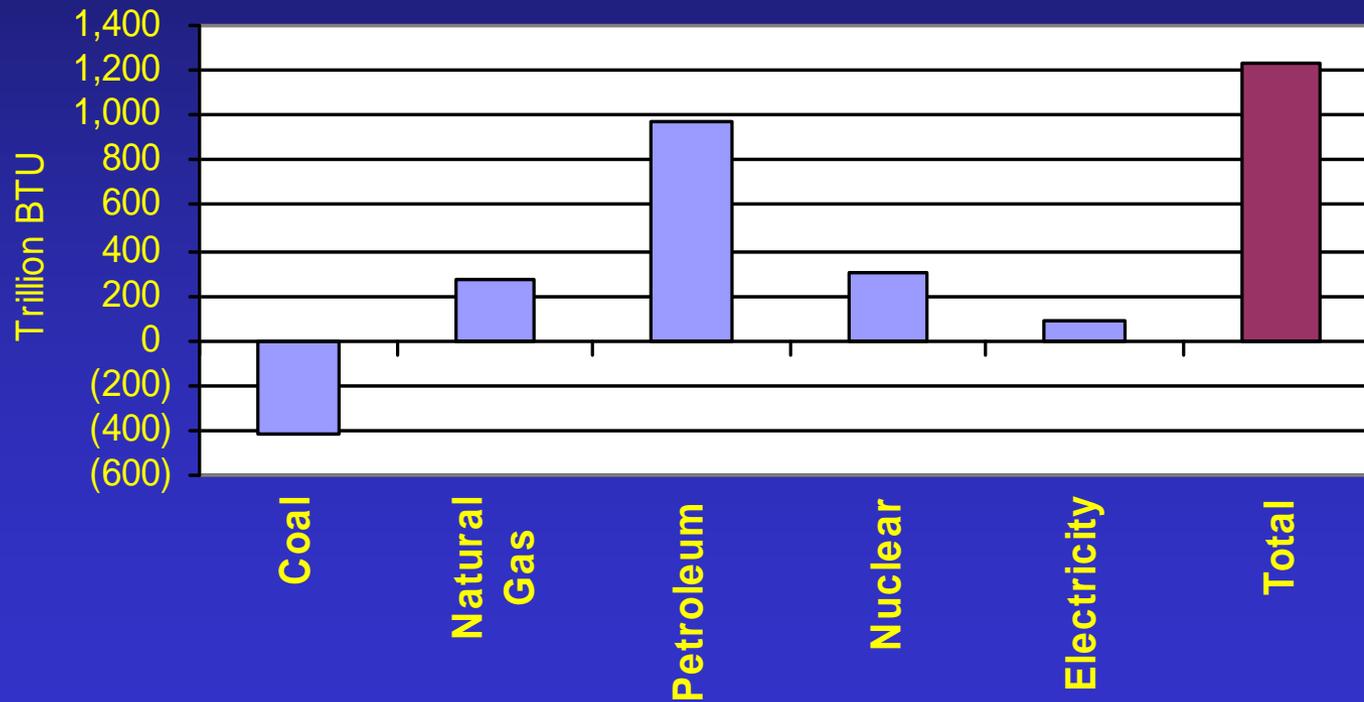
- **2006 State Energy Policy Legislation Policy & Objectives**
 - Ensure availability of reliable energy reasonable costs
 - Establish sufficient infrastructure
 - Use resources efficiently & facilitate conservation
 - Facilitate development of Virginia's low cost resources, including clean coal
 - Facilitate development of less polluting energy sources
 - Foster energy R&D
 - Develop facilities
 - No disproportionate impact to economically disadvantaged or minority communities and to minimize
 - Located to minimize impacts to pristine natural areas and near compatible development

Virginia Energy Plan

- **Increase energy independence**
 - 40% reduction in rate of energy growth
 - 20% increase in in-state energy production
- **Energy education**
- **Climate change**
 - 2000 GHG emission levels by 2025
- **R & D / economic development**
 - Alternate fuels, nuclear technologies, coastal energy, carbon capture & storage
- <http://www.dmme.virginia.gov>

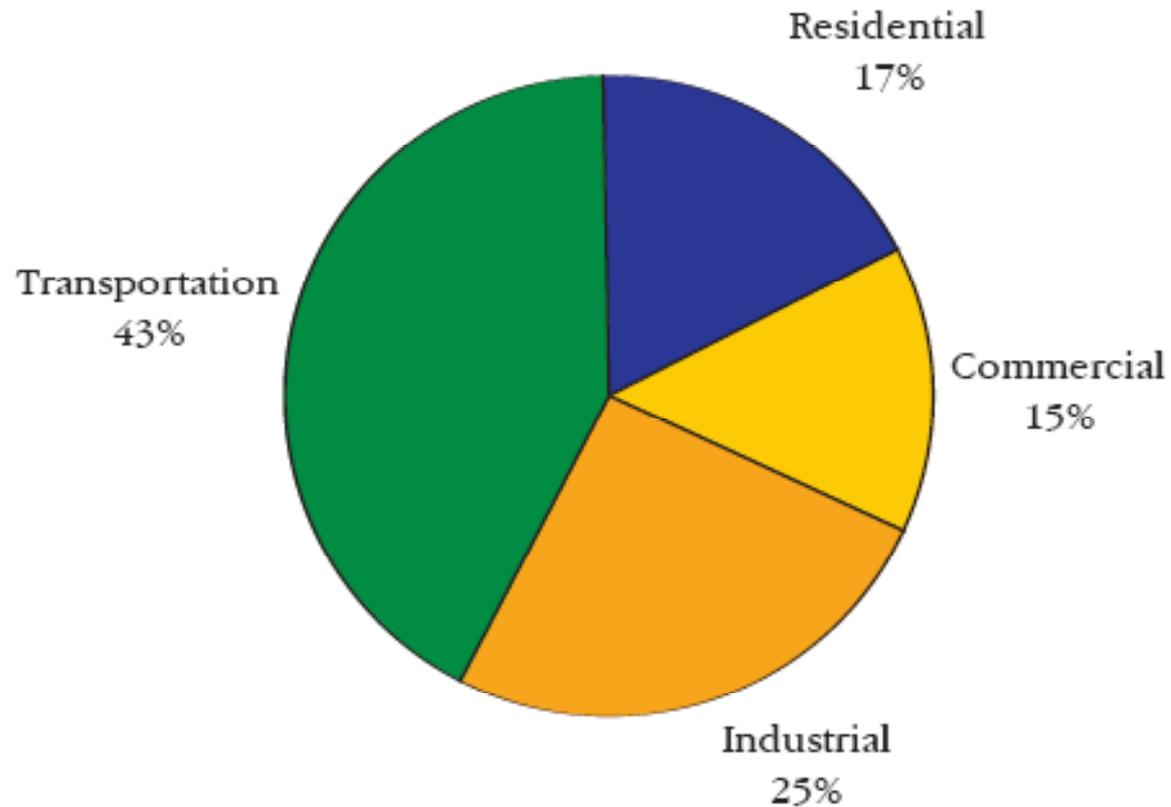
Virginia's Energy Resources

Virginia - Net Energy Importer



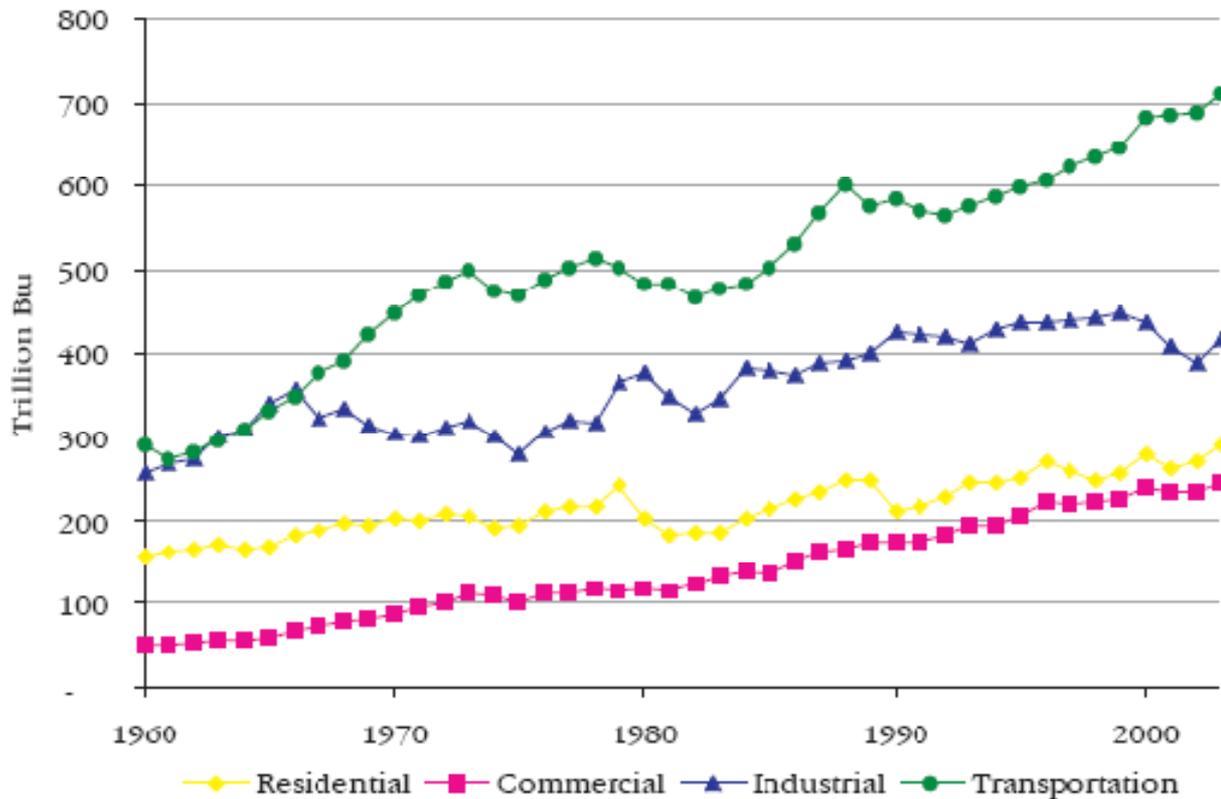
Energy Consumption – End Use

Figure 1-2 Energy Use in Virginia by Sector, 2003



Energy Consumption – Growth Rate

Figure 2-17 Virginia's Total Energy Consumption by Sector, 1960-2003



Efficiency and Conservation First

- **State Policies**

- Utility targets
- State actions
 - Building codes
 - Programs and technical support

- **Federal Policies**

- Long-term support
- Expand appliance efficiency standards
- Increase CAFE standards

Efficiency and Conservation First

- **Individuals**
 - Day-to-day and lifestyle choices
 - Use the *Virginia Energy Savers Handbook* and U.S. Dept. of Energy *Consumers Guide to Energy Efficiency and Renewable Energy*
- **Commercial and Industrial**
 - Management – Use Energy Star or ANSI/MSE 2000:2005 energy management protocols
 - Lighting, HVAC, transportation efficiency
 - Building recommissioning
 - Process improvements & combined heat and power

Efficiency and Conservation First

- **Transportation**
 - Reduce vehicle miles traveled
 - Increase fleet efficiencies
 - Alternate transportation fuels
- **Agricultural & Forestry USDA & NRCS recommended practices for energy**
 - Forest Products Industries of the Future recommendations
- **Higher Education**
 - Greening the College Campus recommendations

Efficiency and Conservation First

- **Government actions – Lead by example**
 - State Executive Order 48 (2007)
 - Virginia Energy Management Program
 - Energy Savings Performance Contracting
 - Energy purchasing – natural gas, fuel oils, electric demand response
 - Energy Manager Training & Certification
 - Building Commissioning / Recommissioning
 - Telework goal – 20 % eligible employees; once per week
 - LEED/Energy Star for new facilities, renovations, leases
 - Energy Star equipment purchases

Efficiency and Conservation First

- **Local Government Options**

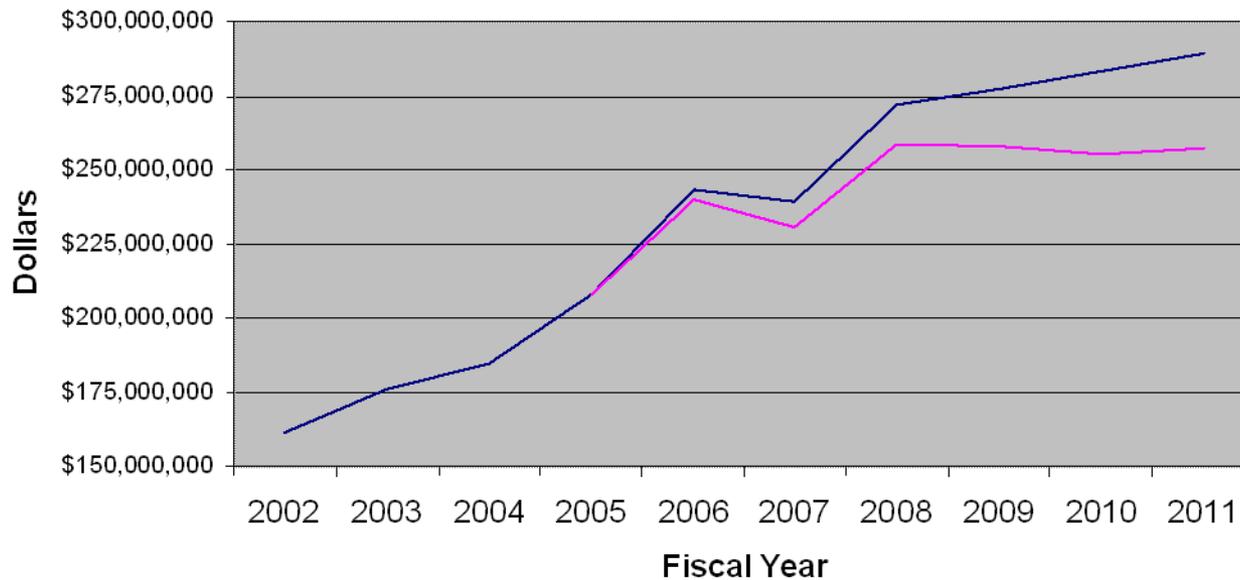
- Cool Cities, Cool Counties, VML Go Green Virginia
- LEED/Energy Star/Green Globe buildings – Property tax incentives, density increases, reduced fees & permit prioritization
- Account for energy in regulation of development
 - Linking transportation and land use
 - Impact fees, transfer of development rights, conservation easements
- Student transportation efficiency – public and private schools
- Waste-to-energy support
- Transportation – telework, fleet management, alternate fuels

State Contracts Available to Localities

- **Energy Savings Performance Contracting**
<http://dgs.virginia.gov/DivisionofEngineeringandBuildings/DirectorsOffice/DEBContracts/EnergyPerformanceContracting/tabid/393/Default.aspx>
- **Electrical Demand Response**
 - Energy Connect, George Barnes, 804-836-5400
 - <http://www.mme.state.va.us/DE/StateAgencyProgs/gasoilprocurement.shtml>
- **Natural Gas Supply**
 - Stand Energy (SWAM Vendor), Georges Mahama, 513-475-9200
 - <http://www.mme.state.va.us/DE/StateAgencyProgs/gasoilprocurement.shtml>
- **Fuel Oils**
 - James River Solutions (SWAM Vendor), Tracy Little, 804-358-9000 ext 312
 - <http://www.mme.state.va.us/DE/StateAgencyProgs/gasoilprocurement.shtml>
- **Contact: Tommy Thompson, Energy Manager, DMME**
thomas.thompson@dmme.virginia.gov 804-692-3230

State Progress & Projection

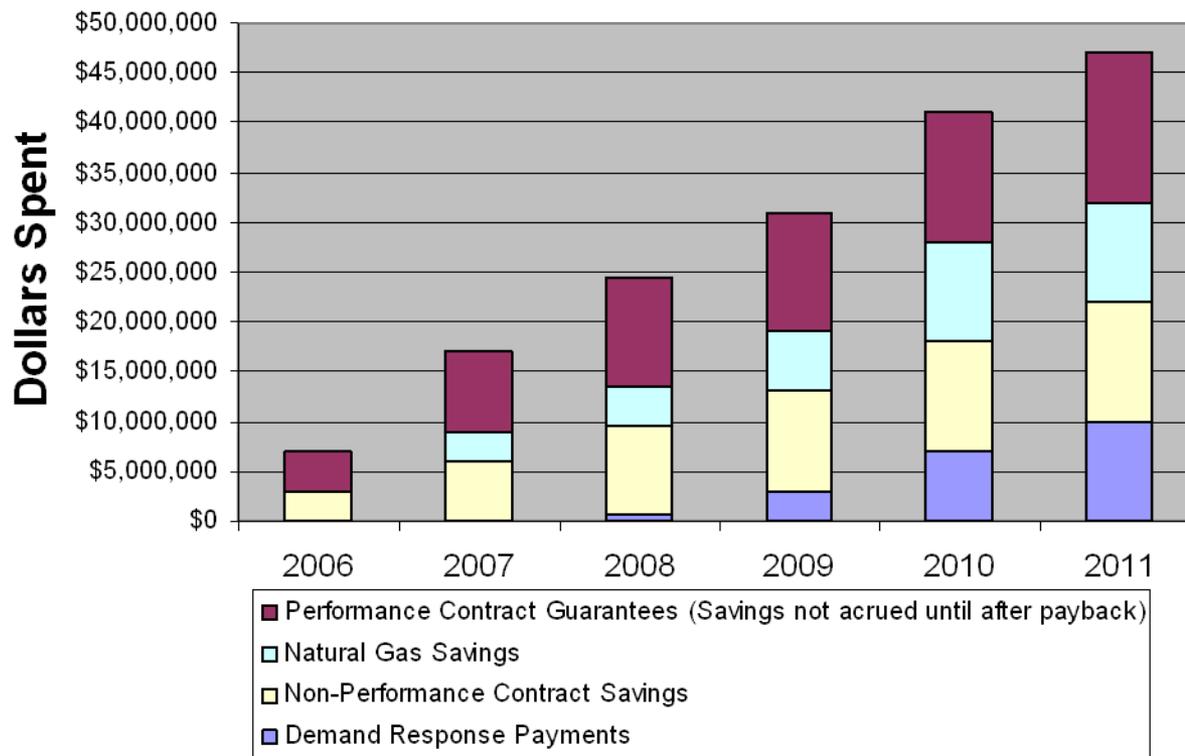
Total Facility Energy Costs by Agencies



— Annual Facility Energy Cost — Annual Cost Less Avoided

State Progress & Projection

Total Facility Energy Cost Avoided by Year



Energy Efficiency Results

- Electric utility efficiency pilots
- Renewable portfolio standard
- Natural gas rate decoupling & efficiency programs
- Energy Star sales tax holiday – expand to Water Sense products
- Virginia Energy Management Program expansion
- Many local examples
- CAFE increases and other federal actions

Energy Education

- **Expand and better coordinate**
- **Results**
 - Energy Conservation Awareness Week – First week in October
 - Electric energy efficiency consumer education
 - SB 596 (2008) SCC to develop; funding
 - Hydrogen education at middle schools (with NEED)
 - Solar-Wind rating system for localities

Energy Infrastructure & Supply

- **Electric Infrastructure**
 - Transparency of generation & transmission needs
 - SCC Natural resource agency pre-application coordination process
 - Increase renewable generation – RPS, other
- **Natural Gas Infrastructure**
 - Pipelines - third Hampton Roads crossing, additions to serve growing areas
- **Petroleum Infrastructure**
 - Petroleum terminal modifications for new alternate fuels
 - Liquid biofuel production from agricultural and waste products
- **Coal Production Infrastructure**
 - Coal roads
- **Hydrogen Infrastructure**
 - Support as per Hydrogen Blueprint
- **Energy Infrastructure Security**
 - Protect from natural and man-made disasters – maintenance, replace aging facilities, hardening
 - Maintain clear public-private communication – local & state

Energy Infrastructure & Supply Results

- Electric utility integrated resource planning
- HRX
- Expanded Yorktown refinery capacity
- Highland County wind project
- High voltage electric transmission line underground pilots
- Norfolk light rail
- DC Metro Dulles extension progress

Energy and the Environment

- Address climate change
- Minimize environmental footprint of energy development
- Efficiency and conservation – less land, water & air impact
- Biofuels
 - Winter crops, herbaceous materials, algae production can improve water quality
 - Incremental tax proceeds for agricultural best management practices
- Facilitate carbon capture & storage
- Partner with related programs
 - Clean Cities, Rebuild America, Cool Cities, Cool Counties, Climate Leaders, Virginia Environmental Excellence, Gas Star, other

Research & Development

- **Four priorities – strategic advantage**
 - Renewable liquid fuels
 - Coastal energy
 - Nuclear technology
 - Carbon capture & storage in unminable coal
- **Consistent energy R&D funding & coordinated governance**
- **Tie to economic development**
- **Results**
 - Virginia Coastal Energy Research Consortium
 - Commonwealth Technology Research Fund
 - Carbon sequestration phase II-b
 - Tobacco Commission energy R&D park funding
 - New business development

Climate Change

- Goal – 2000 by 2025 – 30% drop from business as usual projection
 - Energy efficiency, renewables \approx half way to goal
 - Economy-wide actions
- Climate Change Commission
- Mandatory reporting under The Climate Registry
 - Direct and indirect emissions
 - Central fleets
 - More protocols under development

Governor's Commission on Climate Change

- Executive Order 59 (2007)
- Action plan by December 15, 2008
 - Calculate size & contributors to carbon footprint
 - Effects of increased GHG emission on state
 - Needs to prepare for likely consequences
 - Actions in other states and regions
 - Actions needed in Virginia to meet goal
- 43 Members
 - Local – Arlington, Blacksburg, Fairfax, Hampton Roads Transit, Thomas Jefferson PDC, Greater Washington COG
 - Utilities, manufacturers, environmental interests, energy producers, scientists, economists, legislators, Governor's representatives
- <http://www.deq.virginia.gov/info/climatemembers.html>

Governor's Energy Policy Advisory Council

- **Executive Order 48 (2007)**
- **Duties**
 - Review implementation of Virginia Energy Plan
 - Issues analysis and policy advice
- **16 Members**
 - Local – Roanoke City Manager
 - Utilities, manufacturers, environmental interests, energy producers, military, legislators, Governor's representatives
- **Energy efficiency and renewable energy review**
 - Coordinate with Commission on Climate Change
- <http://www.dmme.virginia.gov>