

# 2006 Virginia Energy Policy Legislation and the Virginia Energy Plan

Virginia Coal and Energy Commission  
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Stephen A. Walz

Department of Mines, Minerals and Energy

804-692-3211

[Stephen.Walz@dmme.virginia.gov](mailto:Stephen.Walz@dmme.virginia.gov)



# Virginia Energy Policy

- **Genesis of the Energy Policy Legislation**
  - Study of Future of Manufacturing in Virginia
  - Gas supply limitations and costs increases
    - Reported largest industrial gas user east of Mississippi
    - Eastern Virginia near the end of supply pipelines
    - Heavy reliance on the Gulf of Mexico
    - Mid-Atlantic cost differential
    - High costs harms manufacturing
  - Need for broad response – more than natural gas

# Virginia Energy Policy – SB 262

- **Major components of SB 262**
  - State energy policy statements & objectives
  - Virginia Energy Plan
  - Energy conservation
    - Income tax deductions – Efficient equipment & fuel cells
    - Renewable electricity production & PV/solar/wind grants
  - Landfill/synthetic/waste gas state & local tax exemption
  - OCS – Resource study, Atlantic planning area, natural gas exploration beyond 50 miles, study in Minerals Management Service EIS

# Virginia Energy Policy – SB 262

- **Major Components of SB 262**
  - Dominion Virginia Power electric fuel factor annual recovery
  - R&D framework – federal grants
    - VCCER Clean Coal
    - ODU Coastal Energy Research Consortium
  - Coordinated SCC/natural resources permit process study
  - State building energy efficiency
  - Wind/solar site rating

# Virginia Energy Policy – SB 262

- **12 Virginia Energy Objectives**
  - Reliable energy supplies at reasonable cost
  - Rates of energy consumption in relation to economic growth
  - Sufficient infrastructure for reliability
  - Use energy resources more efficiently
  - Facilitate conservation
  - Optimize intrastate & interstate supply and delivery
  - Increase use of less polluting energy sources

# Virginia Energy Policy – SB 262

- **Virginia Energy Objectives (continued)**
  - Research greenhouse gas sequestration
  - Remove impediments to use of low-cost, indigenous energy resources & ensure viability of energy producers
  - No disproportionate adverse impact to economically disadvantaged or minority communities
  - Foster economically developable alternate sources at market prices to diversify energy portfolio
  - Increase use of biofuels

# Virginia Energy Policy – SB 262

- **12 Virginia Energy Policy Statements**
  - Support R&D and promote renewable energy use
  - Ensure supply & conservation support economic growth
  - Promote R&D of clean coal technologies
  - Promote cost-effective conservation
  - Ensure affordable natural gas
    - Transmission & distribution, CBM, methane hydrates, landfill gas, LNG
  - Promote electricity through non-greenhouse gas technologies

# Virginia Energy Policy – SB 262

- **Virginia Energy Policy Statements (continued)**
  - Facilitate new/expanded petroleum refining
  - Promote alternate fuel/efficient motor vehicles
  - Reduce petroleum demand by developing infrastructure for synthetic and hydrogen-based fuels
  - Promote ethanol and biodiesel from agriculture
  - Avoid disproportionate adverse impact on economically disadvantaged communities
  - Energy generation & distribution systems to minimize impacts to pristine natural areas & significant onshore natural resources

# Virginia Energy Plan

- DMME to develop
- DEQ, SCC, VCCER assistance
- 10 year plan, updated every 5 years
- Coordinate with
  - Commission on Electric Utility Restructuring
  - Coal & Energy Commission
  - Also: Joint Commission on Technology and Science & Manufacturing Development Commission
- Due by June 30, 2007

# Virginia Energy Plan

- **Stakeholder Input**
  - Public Listening Sessions
  - Advisory group
  - Agency input
    - DEQ, SCC, VCCER
    - Other agencies and institutions
  - CIT & VRTAC
  - Review other plans
  - One-on-one interviews
  - Web comments

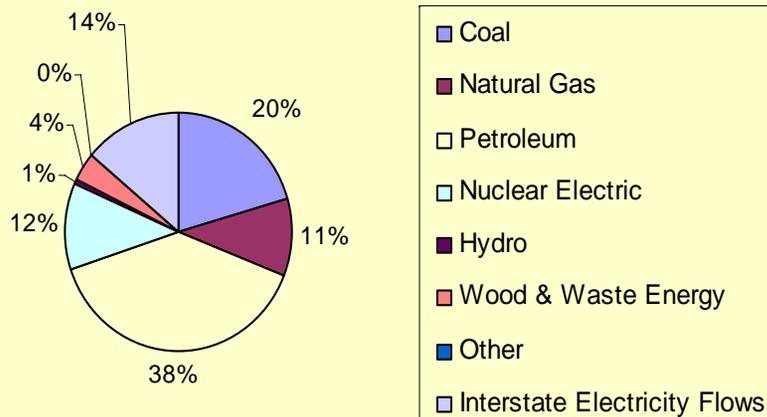
<http://www.dmme.virginia.gov/VaEnergyPlan>

# Virginia Energy Plan

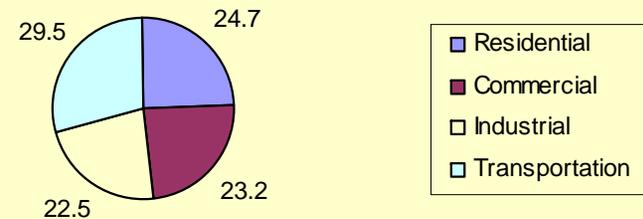
- **Plan Outline**
  - I. Introduction
  - II. Virginia Energy Sources & Consumption
  - III. Energy Conservation & Efficiency
  - IV. Virginia/Regional Energy Infrastructure
  - V. Energy and Environment
  - VI. Energy Research & Development
  - VII. Conclusions & Recommendations

# Virginia Energy Plan

Virginia Energy Consumption Trillion BTUs - 2004



Virginia Energy Use by Sector  
% Total - 2002

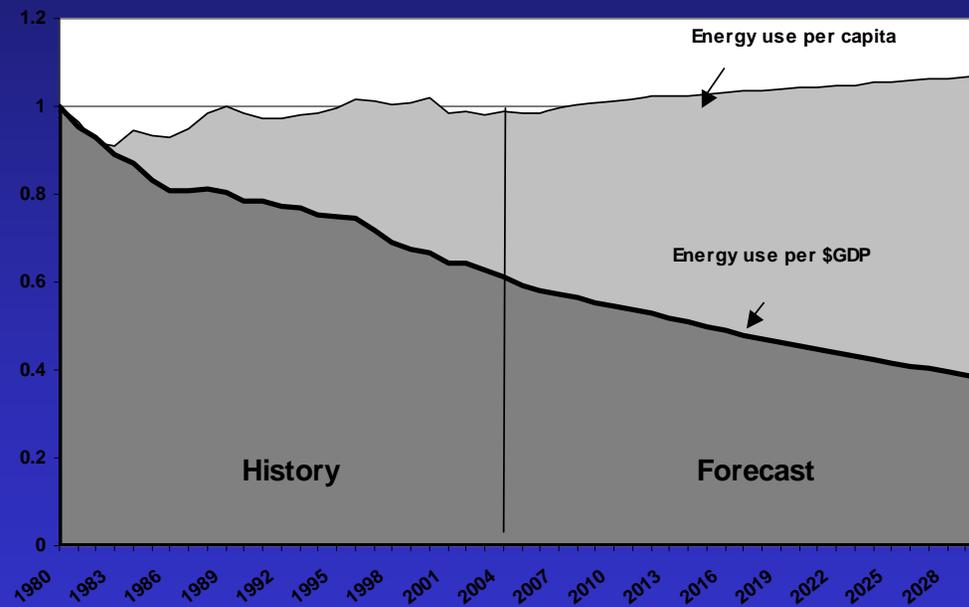


Source: US DOE EIA - Energy Consumption  
Estimates by Source, 1960-2001, Virginia



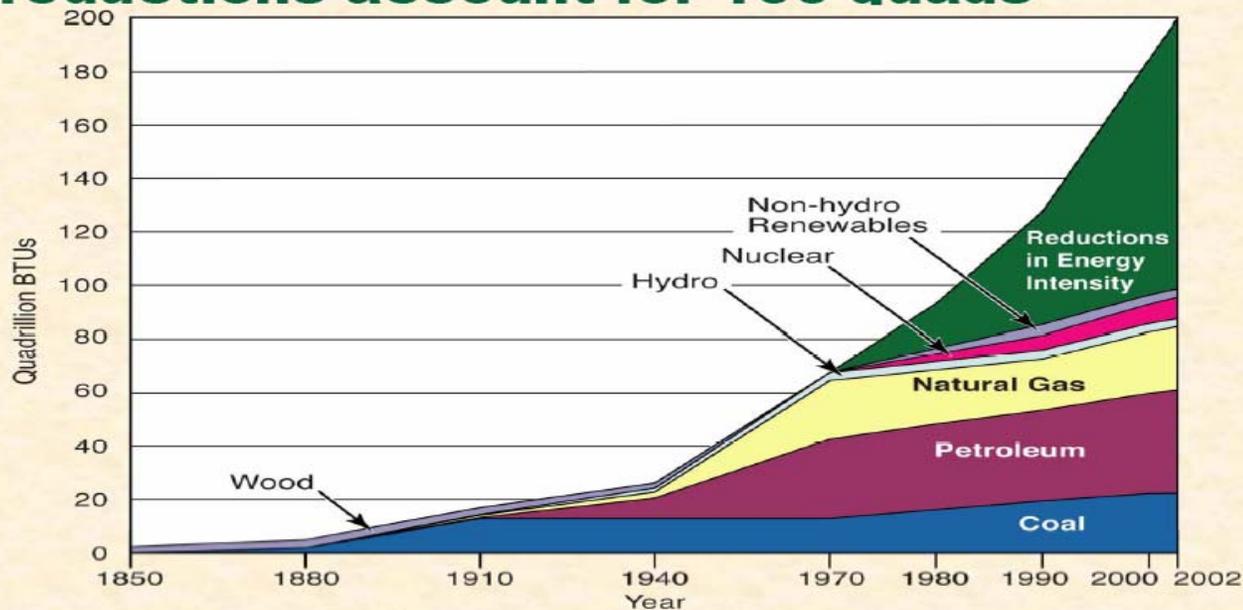
# Virginia Energy Plan

National Energy Use Per Capita and Per Dollar of GDP  
(Index: 1980=1)



# Virginia Energy Plan

**New physical supply has grown by 25 quads since 1973, energy intensity reductions account for 100 quads**



Source: Marilyn Brown (2006)

OAK RIDGE NATIONAL LABORATORY  
U. S. DEPARTMENT OF ENERGY

LIT-BATTELLE

**DM** Virginia  
Department of  
**ME** Mines Minerals  
and Energy

# Virginia Energy Plan Issues

- **Energy Resources and Consumption**

- Sources of energy/consumption patterns/fuel diversity
- Land use
- Transportation
- Traditional or new technologies for supply growth
- Economic development opportunities
- Training needs
- Utility regulation & rates
- Offshore energy
- Renewable portfolio standard/net metering use
- State purchases of alternate electricity supplies
- Agricultural benefits of biofuels

# Virginia Energy Plan Issues

- **Energy Conservation and Efficiency**
  - Government, utility & private roles
  - Facilities and fleets
  - Consumer education
  - Incentives & funding
  - Building standards/green buildings
  - Demand response or reduce consumption
  - New technologies
  - Telecommuting
  - Expand solar equipment local tax exemption (eg. LEED)

# Virginia Energy Plan Issues

- **Energy Infrastructure**

- Adequacy of existing infrastructure
- Future infrastructure needs
  - Long-term planning needs – state & regional
  - New infrastructure/usual and typical extensions
- Financing needs & risk mitigation
- Principles for review of infrastructure projects
- Disproportionate adverse (positive) impact on economically disadvantaged & minority communities
- Coordinated SCC-natural resource agency review
- Security
- Role of conservation to offset need
- Regional infrastructure

# Virginia Energy Plan Issues

- **Energy & Environment**
  - Environmental impacts of production
  - Environmental impacts of use
  - Reliability needs
  - Carbon & other emissions
  - Energy & biodiversity
  - Land conservation easements
  - Synergies – energy efficiency/alternate energy supplies & environmental benefits

# Virginia Energy Plan Issues

- **Research, Development and Deployment**
  - Inventory – University/National labs/Private company

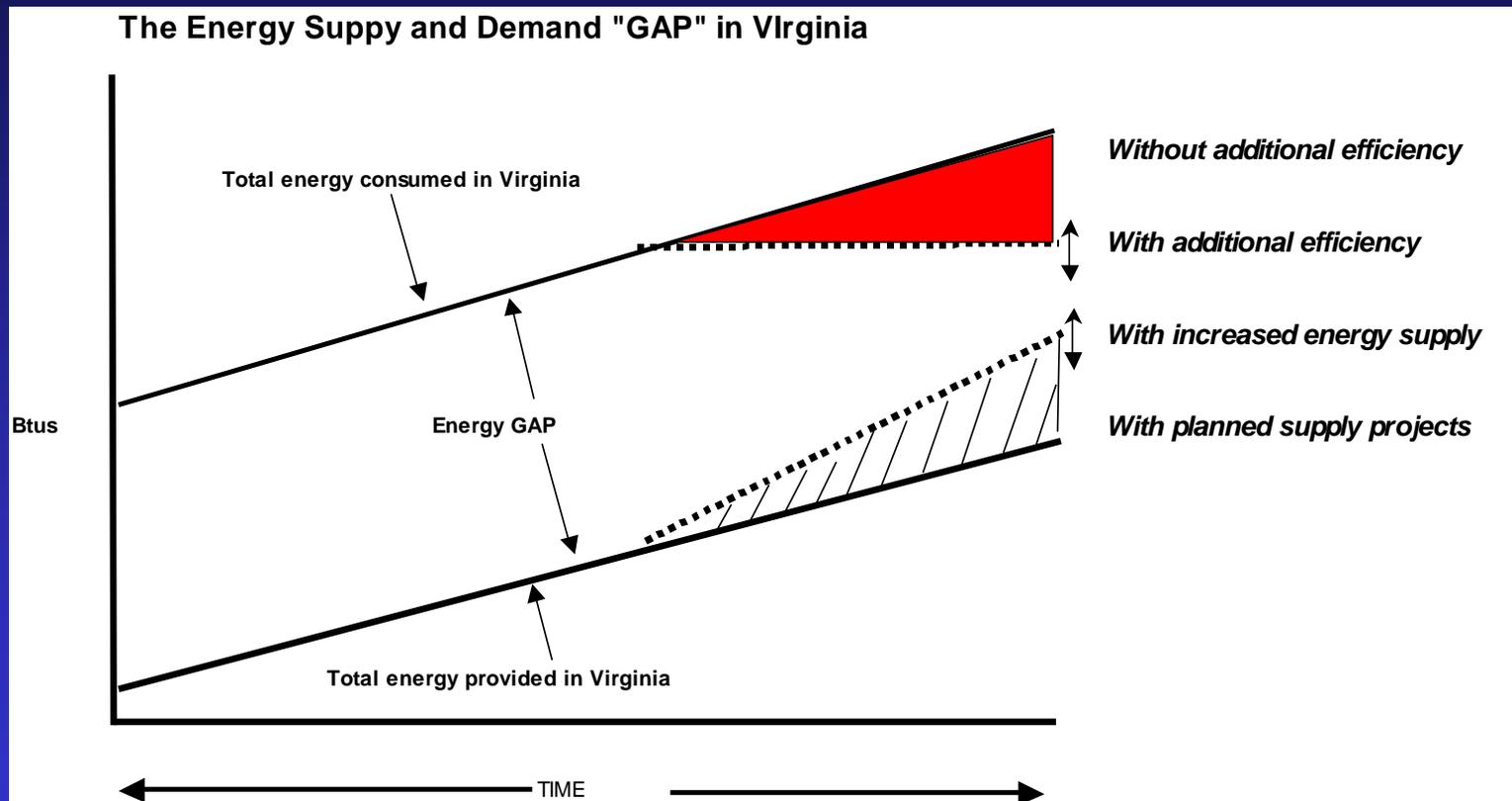
Energy R&D at Virginia Universities and Colleges													
	Energy Generation/Sources									Energy Use/Impact		Energy Policy	
	Coal, Oil, Gas	Nuclear	Fuel Cells/ H2	Alternative Fuels	Other Renewables					Energy Storage	Efficiency/Conservation	Buildings/Environment	Energy Policy/Economics
				Alternative Fuels: Waste- or Bio-derived	Geothermal	Hydroelectric	Solar/Photovoltaics	Wind	Coastal (Wind/Tidal/Current/Wave)				
College of William and Mary		•					•			•			•
George Mason University													•
Hampton University	•												
James Madison University			•	•				•	•		•	•	•
Norfolk State University							•		•				
Old Dominion University	•			•			•	•	•		•	•	
University of Virginia	•	•	•	•			•			•	•	•	•
VCU			•	•			•			•	•	•	
Virginia Military Institute													•
Virginia Tech	•	•	•	•	•	•	•	•	•	•	•	•	•
Virginia State University				•									



# Virginia Energy Plan Issues

- **Research, Development and Deployment**
  - Strengths & weaknesses
  - Financial needs
  - Public-private cooperative RD&D
  - Governance of state RD&D efforts
  - Target for growth

# Virginia Energy Plan



# Virginia Energy Plan

- Provide low-cost energy supplies
- Increase energy conservation and efficiency
- Provide adequate energy infrastructure
- Minimize energy's effect on the environment
- Expand energy RD&D
- Support Virginia's mining, agricultural, & industrial base
- Develop alternate energy sources
- Provide Virginia's future energy workforce