

Energy Efficiency Policy Opportunities in Virginia



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November 14, 2008
Energy Summit

Why Pursue Energy Efficiency?

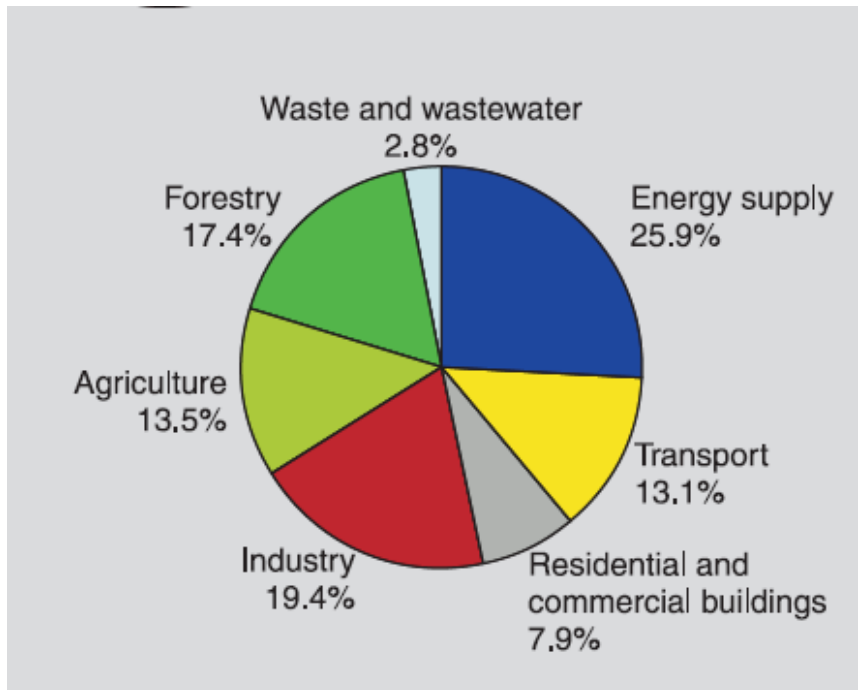
- Demand growing
 - Virginia energy demand projected to grow 1.4 % per year through 2025
 - Virginia has no statewide energy efficiency effort
 - Virginia consumes twice of much as areas with strong programs
 - Japan, parts of Europe, and some states (ie California)
- Virginia utilities investing \$12 Billion in new conventional electricity infrastructure to meet growing demand
- Results
 - Expect more rate increases
 - Global warming contributions
 - Energy price volatility
- Efficiency offers viable alternative to meet demand
 - Efficiency uses technology to reduce the electricity needed in our daily life
 - Programs push technology, design, and new standards
 - Efficiency Investments create local jobs, stimulate innovation economy
- Efficiency is 1/3 of the solution to achieve 80% GHG reduction by 2050
 - 1/3 renewables
 - 1/3 Sustainable Design (cradle-cradle products, Smart Growth, transit)

Demand Response

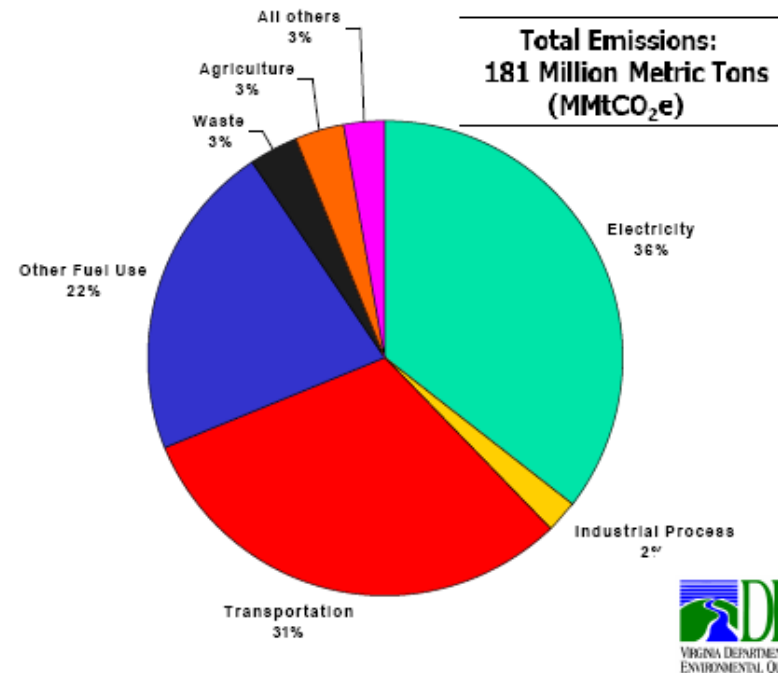
- Peak electrical demand
 - Demand follows predictable pattern
 - Higher during weekdays
 - Lower on weeknights and weekends
 - Peak occurs on very hot days due to A/C load
 - Average Consumption : 13,000 MW
 - Peak Load : 26,000 MW
- Building grid and power plants to meet a peak demand occurring only a small percent of time is very expensive
- “Leveling” peak demand
 - Shifts some demand loads to off-peak hours
 - Cycle loads to avoid simultaneous operation
 - Called Demand Response (DR)

Power Plant Contributions to GHG Emissions

2004 Global GHG Sources
(Source 2007 IPCC Report)



2005 Virginia GHG Sources



What are other states doing?

□ Statistics

- 22 states have a PBF to fund Energy Efficiency* (EE)
- 9 states have / considering electricity de-coupling
- 18 states have adopted / mandated a long term energy savings goal (EERS)* (source : ACEEE VA report)
- Four states achieving .5-1.7% projected demand reduction /yr
 - Saving more than 5000 GWh /yr
 - 3 are essentially meeting all projected demand with EE

□ What do their programs look like?

- \$5 - \$20/capita/year, net return well exceeds 2:1
- Utility or independently run, state has significant role
- Tailored to state economy, consistently incentivize efficient technology purchases, drive building efficiency, aggressively offer audits
- *(Source DSIRE database)

Investing : Efficiency vs. Traditional Energy

- Typical 585 MW coal plant (like Wise)
 - Cost : \$19 Billion over 40 years
 - \$1.8 Billion to build plant
 - Plus : Operating costs (\$250M /yr (fuel, labor, taxes) for 40 yrs (\$10 Billion) and interest costs over 40 yrs (\$7 Billion)
 - Jobs : 72 plant operators + 250 coal miners (Va?)
 - 5.4 million tons of CO₂ per year
 - Still need ~10 more plants to meet demand

- Energy Efficiency Scenario
 - Cost : \$2.8 Billion
 - \$70M/yr over 40 years on residential, commercial, industrial efficiency programs
 - Invested in-state, no interest paid to Wall Street...
 - Avoid 10+ new coal plant equivalents...
 - 6700 MW= 1.3% avg. savings *13,000 MW¹ * 40yrs
 - Create up to 10,000 new jobs
 - No pollution or GHG

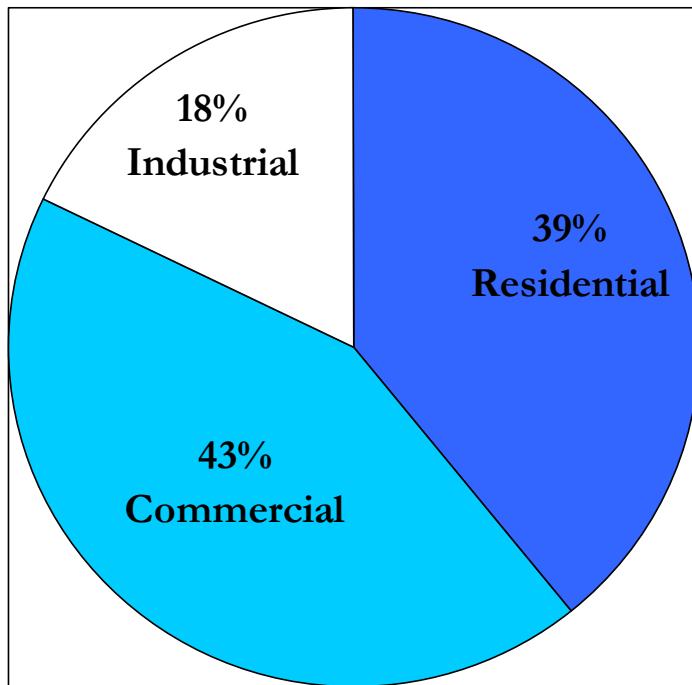
¹VA Avg demand

Policy Background

- Va has goal to reduce projected electricity by 10% (of 2006 levels) by 2022
 - Passed in 2007
- Problems
 - No planned energy efficiency programs or identified funding to meet goal
 - No enforcement
 - SCC plans awareness campaign ...
 - Overall still net increase of ~13% by 2022*

* assuming 1.5% increase per year

Where should Virginia energy efficiency policy focus?



- ❑ Commercial and residential sectors account for 82% of electricity use in VA
- ❑ Focus on these but extend to industrial sector too
- ❑ Use ACEEE Va study as guide

Virginia Policy Options (1/2)

Create / Fund Strong Utility Efficiency Program

- Increase 2022 EERS target from 10 to 19% (2006 levels)
- Peak reduction of 26% with 7% Demand Response
- Lead organization : SELC/Sierra Club Virginia Chapter
- SC Contact : Steve Bruckner

□ Support Industrial Energy Efficiency

- CHP encouragement
 - Simplify grid interconnection requirements
 - Adopt fair standby pricing
- Develop 1+ DoE Industrial Assessment Center (IAC)
- Cost share business EE investment
- Use of ESCO's
- Lead organization : Sierra Club VA Chapter
- SC Contact : Steve Bruckner

Virginia Policy Options (2/2)

- Weatherization Assistance Initiative
 - Lead Organization: Sierra Club
 - SC Contact : Dr. Richard Ball

- Adopt newest IECC building code
 - Lead Organization : Fairfax County
 - SC Contact : Roger Diedrich

- Statewide GHG Inventory
 - Lead Organization : VCN
 - SC Contact : Dr. Richard Ball

What can you do?

- Pick an issue, learn, become involved
 - (se SC Contacts for Issue Areas)

- Lobby your elected officials
 - VCN Legislative briefing Dec 6, Richmond
 - “Lobby Day” January 16, 2009
 - Develop relationship with / discuss with your legislators before/during/after

- Tell your friends