Dominion Virginia Power: Energy Efficiency & Demand Reductions
About Dominion: Diverse Generation Mix

2008 Electric Capacity by Fuel

- Coal: 13%
- Nuclear: 31%
- Natural Gas: 26%
- Oil: 12%
- Hydro/Other: 18%

2008 Electric Production by Fuel

- Coal: 46%
- Nuclear: 41%
- Natural Gas: 8%
- Oil: 1%
- Hydro/Other: 4%
100 Largest U.S. Power Producers
(Pounds CO$_2$ per MWh Output)

Source: Natural Resources Defense Council, 2008 Study
Demand is up Nationwide…

Source: Energy Information Administration, U.S. DOE
...And Here in Virginia

Terra-watt hours

Source: Energy Information Administration, US Dept of Energy
Our Must-Haves Grow

Energy Use

Here’s Where it Goes

Average Home

- Heating & Cooling: 45%
- Water Heater: 11%
- Appliances & Electronics: 22%
- Lighting: 7%
- Other: 15%

Almost half of a home’s energy use goes to heating and cooling
Dominion’s Integrated Strategy

- Increased number of demand-side management programs
- Environmentally friendly generation, including renewable, clean coal, natural gas, and nuclear
- Transmission and delivery system improvements, including “smart meters”
Dominion Rate Comparison

U.S. Average Residential Monthly Bill vs. Consumer Price Index vs. Dominion Virginia Power
1993 – 2009

- U.S. Average Residential Rates: 51%
- Consumer Price Index (Inflation): 48%
- Dominion Virginia Power Residential Rates: 24%

Sources:
- U.S. Average: Edison Electric Institute, Winter Rate, Residential, 1,000 kWh, Monthly
- Dominion Virginia Power: Edison Electric Institute, Winter Rate, Residential, 1,000 kWh, Monthly
Dominion’s Response:

- Implemented Energy Conservation Pilots in early 2008
- Filed for long-term programs in July 2009
- Filed first Virginia Integrated Resource Plan on September 1, 2009
  - Includes future Energy Efficiency and Peak-shaving programs beyond current filing
“Smart Grid” Technology: Intelligent Systems for the Grid

“Smart” technology: Using intelligent systems to manage delivery systems, from transmission lines to the home.

- Stimulus funding opportunities

46,500 meter demonstration in Charlottesville announced 6/09

“A new smart grid…will save us money, protect our power sources….and deliver clean, alternative forms of energy to every corner of the nation.”

President Obama, January 26, 2009
• 12 programs –
  – One peak-shaving program and 11 Energy Efficiency programs as defined by HB2506

• Programs include:
  – Rebates on CFLs
  – Voltage Conservation (AMI enabled)
  – Energy Star New Home Incentives
  – Air conditioner Control (peak-shaving)
  – Low income energy audits
  – Old refrigerators turn-in programs
  – Residential heat-pump “tune-up” & Upgrades
  – Commercial lighting & HVAC Upgrades
  – Commercial Distributed Generation & Curtailment Service

• If approved by SCC, the company plans to implement beginning in 2010
What are the Costs & Benefits?

For an increase of about $0.95/month for a residential customer averaging 1000 KWh’s of energy usage a month, the delaying of building new generation due to increased energy conservation and demand reductions equates to a savings of more than $1.2 Billion over a 15 year period!