



American Council for an Energy-Efficient Economy

ACEEE's State Clean Energy Resource Project

**The Role of Energy Efficiency and Demand Response in
Meeting the State's Electricity Needs**

R. Neal Elliott, Ph.D., P.E.

Associate Director for Research

American Council for an Energy-Efficient Economy

The American Council for an Energy-Efficient Economy (ACEEE)

Nonprofit 501(c)(3) dedicated to advancing energy efficiency through research and dissemination.

35 staff in Washington, D.C., Illinois, Delaware, Michigan, and Wisconsin

Focus on End-Use Efficiency in Industry, Buildings, Utilities, Transportation, & National Policy

Offer Conferences and Publications

Funding:

- Foundation and Federal grants (50%)
- Specific Contract work (20%)
- Conferences and Publications (25%)

Project Overview

ACEEE's State Project funded by Energy Foundation, U.S. EPA, & U.S. DOE to:

- Prepare annual State Policy Scorecard
- Prepare 4 state energy efficiency assessments per year
- Assist states with ongoing energy policy implementation
- Co-Funded by in-state foundations

Overall Project Goals:

- Build foundation for public education on energy efficiency
- Provide key facts with respect to EE opportunities
- Inform policymakers on best policy practices

Project Approach

State-specific data collection

Stakeholder outreach:

- State Government
- Utilities and Co-ops
- Industrial consumers
- Public interest groups
- Low-income advocates

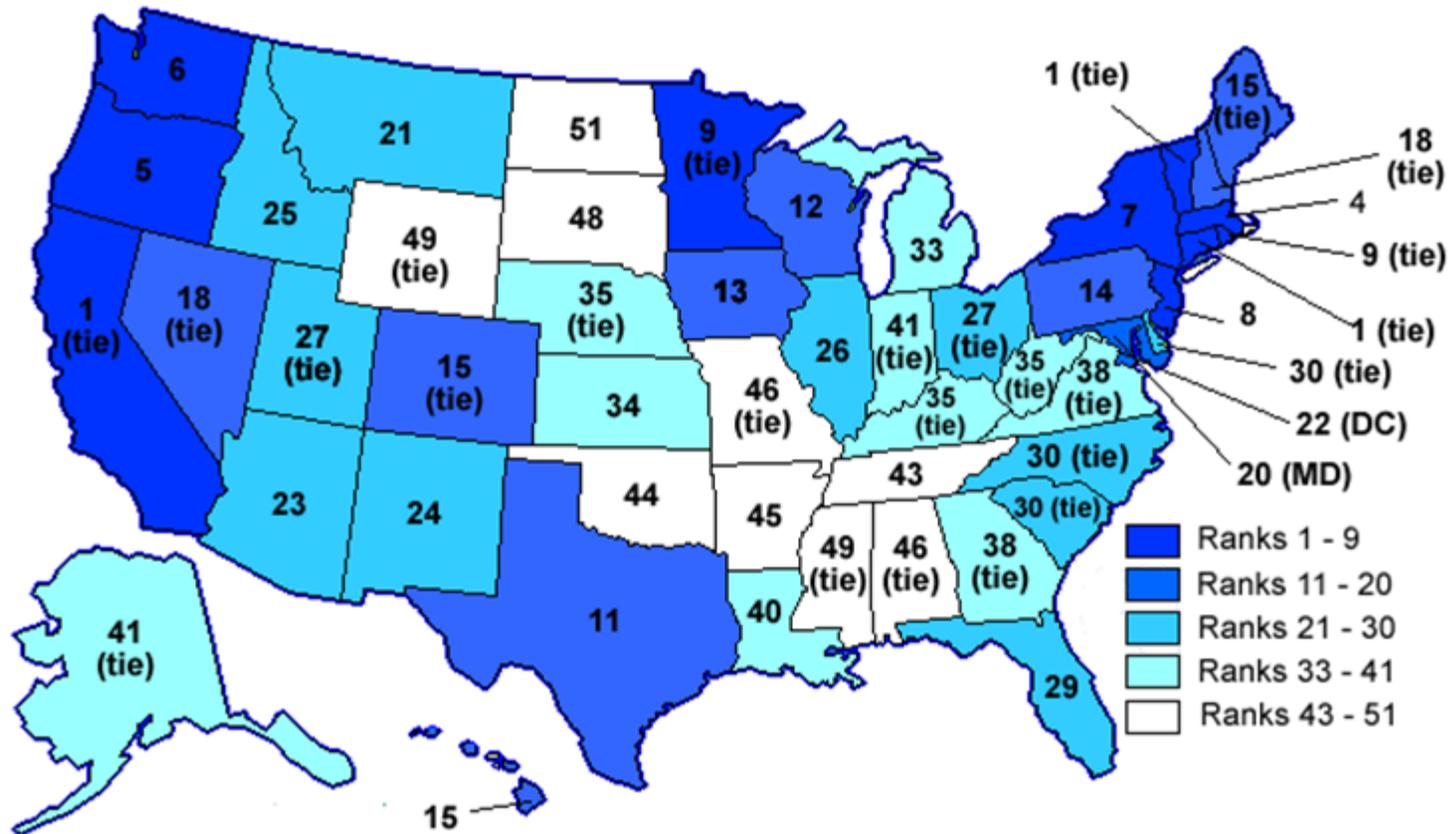
Analysis and report preparation

Report release

Policy Implementation Assistance

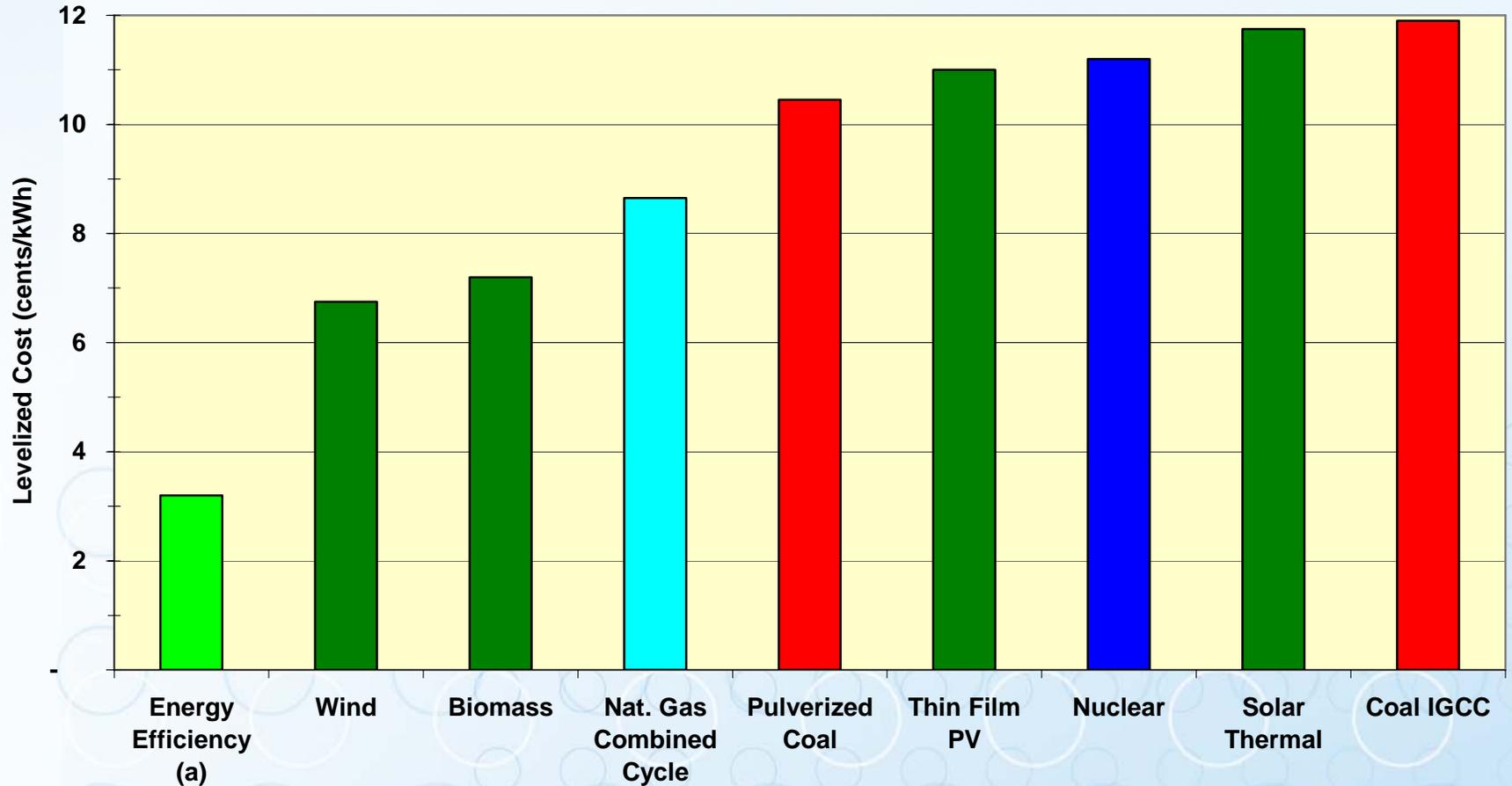
Which States?

2006 ACEEE State EE Scorecard



Why Energy Efficiency? The 1st Fuel

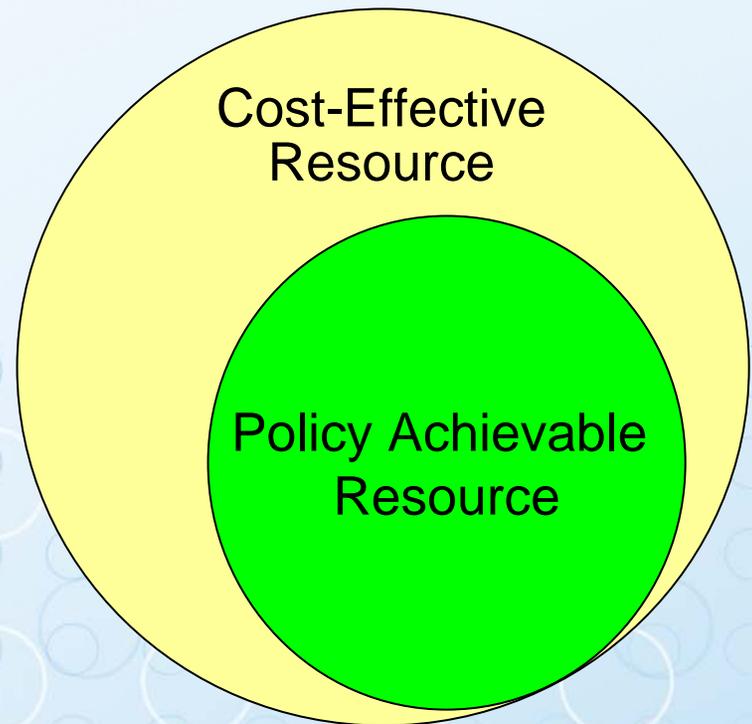
Average Cost of New Electric Resources



Levels of Energy Efficiency Potential We Analyzed

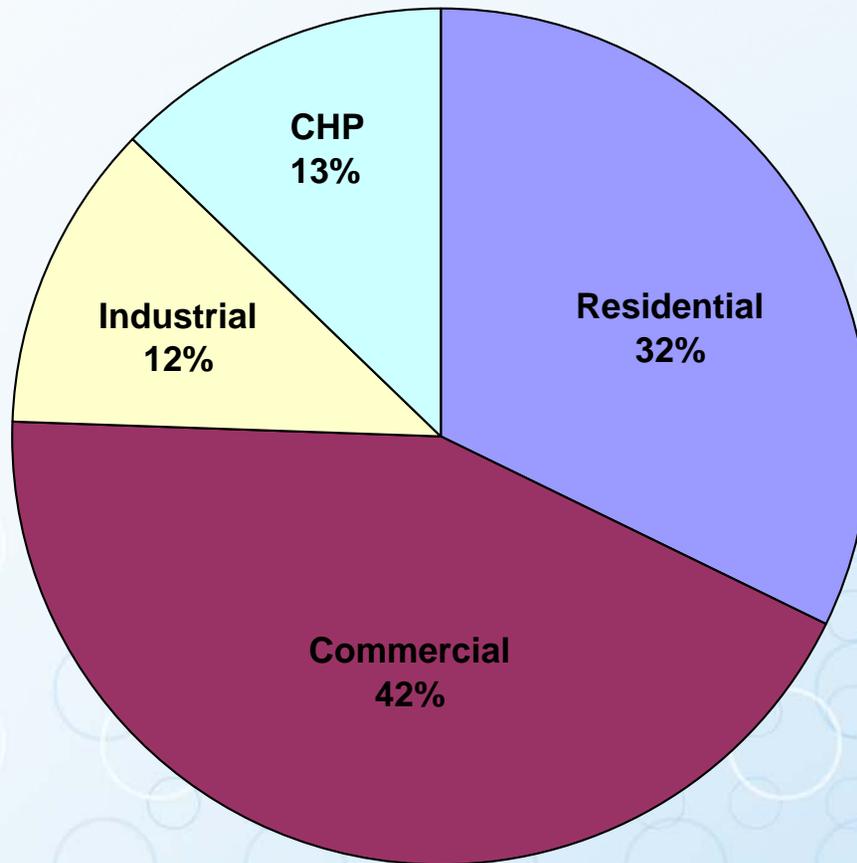
For example:
Energy Efficiency Resource Potential in 2025 for VA without considering Carbon costs

- Cost Effective Resource = ~44,000 GWh (31%)
- Policy Analysis = ~28,00 GWh (19%)



Virginia Cost-Effective Energy Efficiency Resource Potential

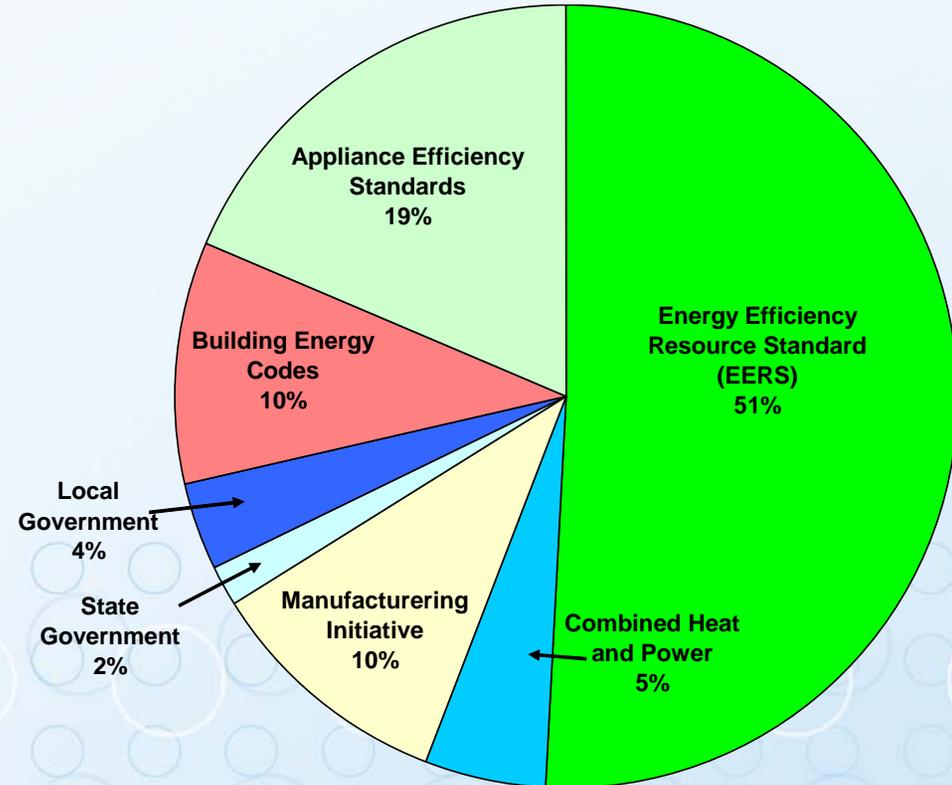
(44,000 GWh or 31% of Projected Electricity Use in 2025)



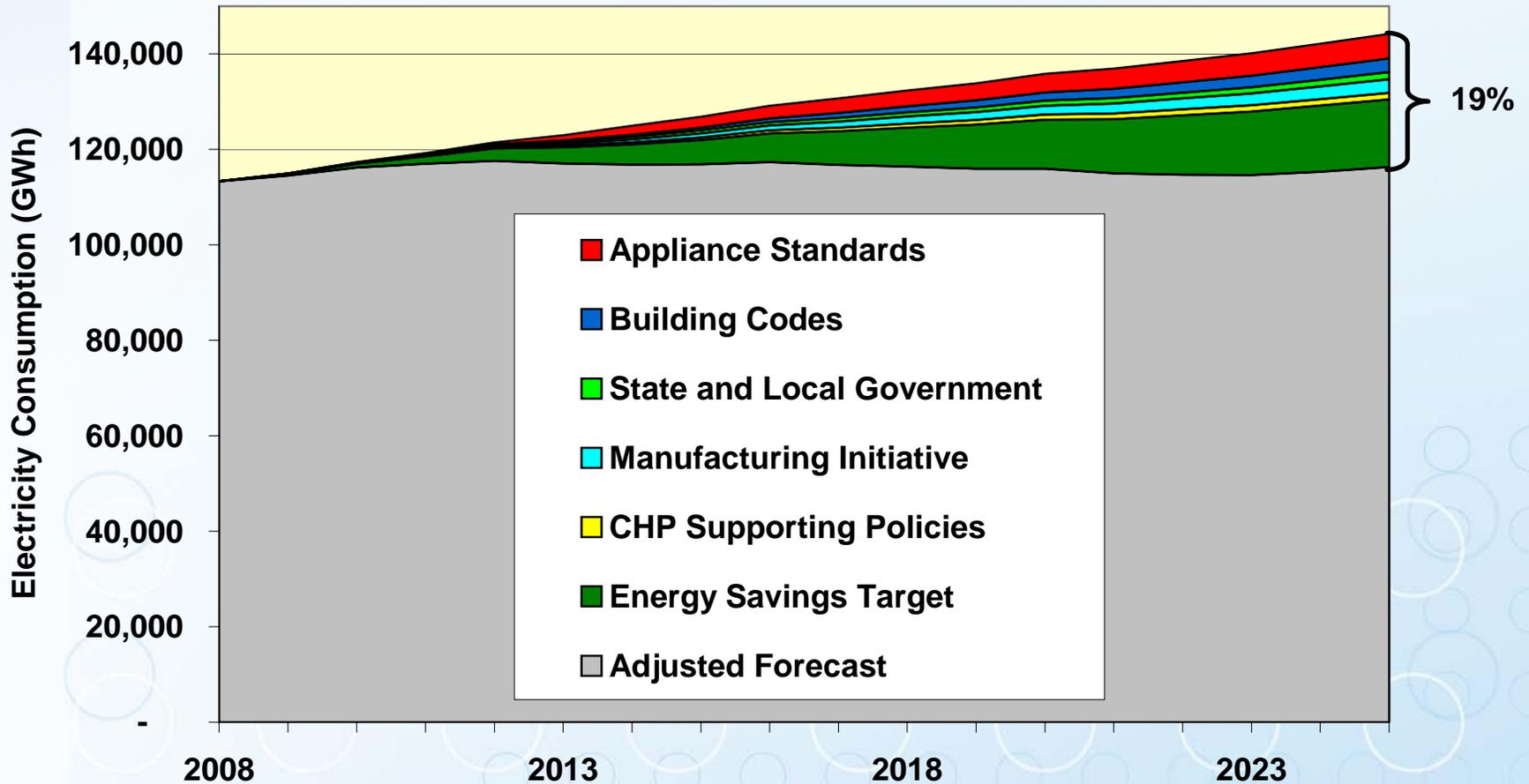
Suite of 11 Policies Analyzed for VA

Policies include:

- EERS
- Mfg Initiative
- CHP
- Codes & Standards
- Gov. Facilities
- Public Education
- RD&D
- Demand Response

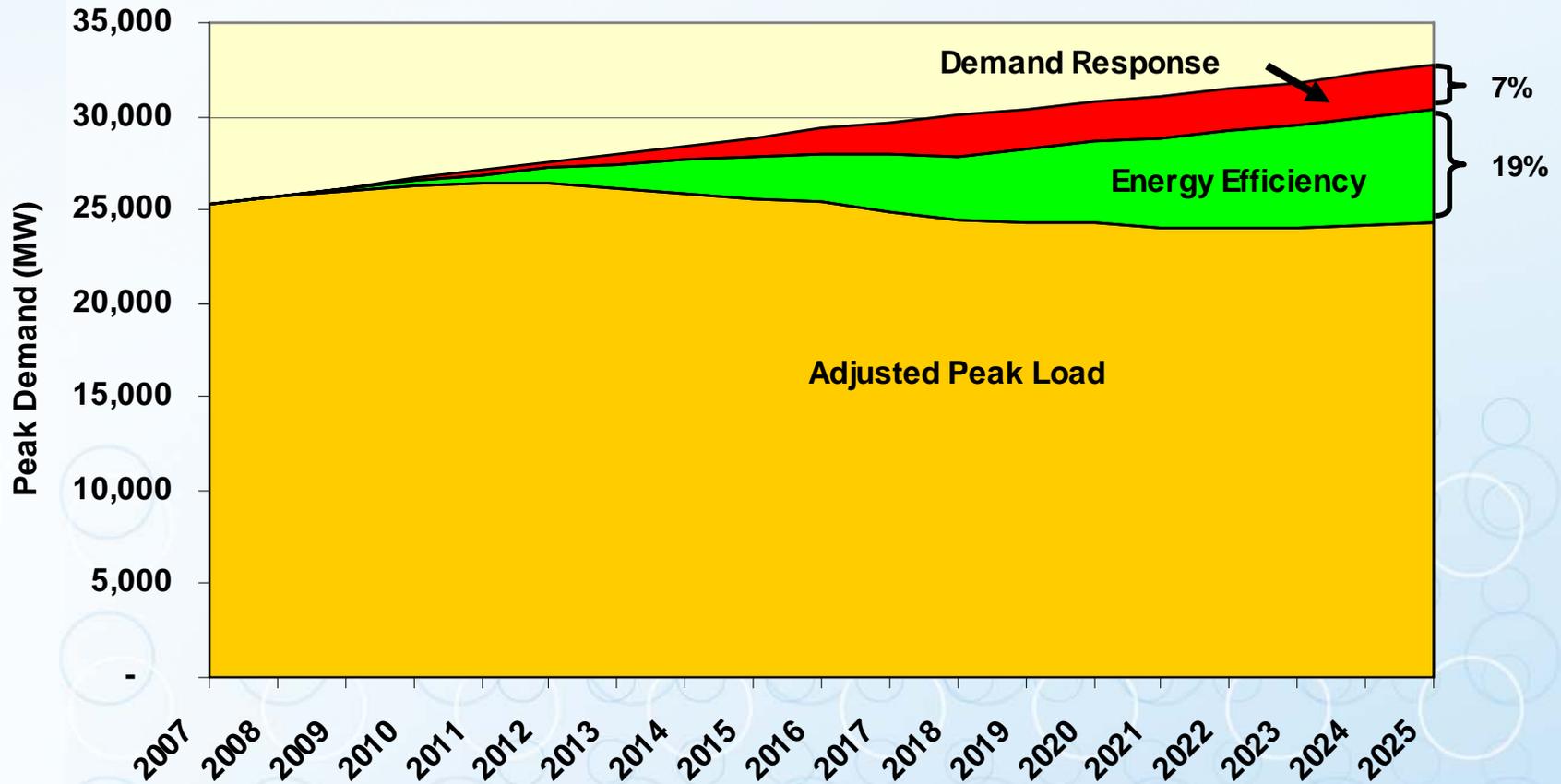


Impact of Efficiency Policies on Electricity Needs in Virginia



Impact of Efficiency and Demand Response on Peak Demand

2025 peak reduction = ~8400 MW (26%)



Impacts of State Clean Energy Studies in Other States

- Basis for Gov. Crist's energy plan in Florida
- Supported expanded EEIP and CHP policies in TX
- Key contributor to passing of *EmPower Maryland* legislation
- Gov. Kaine intends to us a foundation for Year of Energy

Program Models – Opportunities and Challenges

Approaches:

- NGO/QGI Administered– e.g., Efficiency Vermont & Energy Trust of Oregon
- Government Administered – NYSERDA
- Utility Administered
- Outsourced delivery – CPUC & Texas

Challenges:

- Project “ramp” rate
- Workforce/infrastructure shortages

Implementation Issues

- Role of Codes & Standards – national and state
- Interaction between EERS and RPS
- New Construction vs. Built Environment
- Need to treat Manufacturing & Ag/Rural Differently from Commercial & Residential
- Treatment of CHP with respect to avoided fuel/emissions
- Role of federal activities:
 - Tax credits
 - Federal Energy Legislation
 - National Climate Change Legislation
 - Expanded EE program budgets

Role of Energy Efficiency in Climate Change

- Quickest, least cost carbon reduction strategy – can meet $\sim\frac{1}{2}$ in the nearterm
- Enables other strategies by providing time and containing costs
- Estimation of avoided electric emissions difficult in PJM context – DE net electric importer
- Interaction with Federal Legislation

Conclusions

- There are plenty of energy efficiency
- Investing in efficiency will:
 - Reduce consumer electric bills
 - Insure stable & reliable electric system
 - Promote new jobs & economic growth
 - Make important contributions to addressing global warming
- Many of the opportunities require state-level efforts – one size does **not** fit all

Contact Information

R. Neal Elliott, Ph.D., P.E.

Associate Director for Research

ACEEE

529 14th Street, NW, Suite 600

Washington, D.C. 20045

202-507-4009

rne Elliott@aceee.org

For more information visit: www.aceee.org