

# Fracking, Energy and Mining

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Virginia Association of Counties

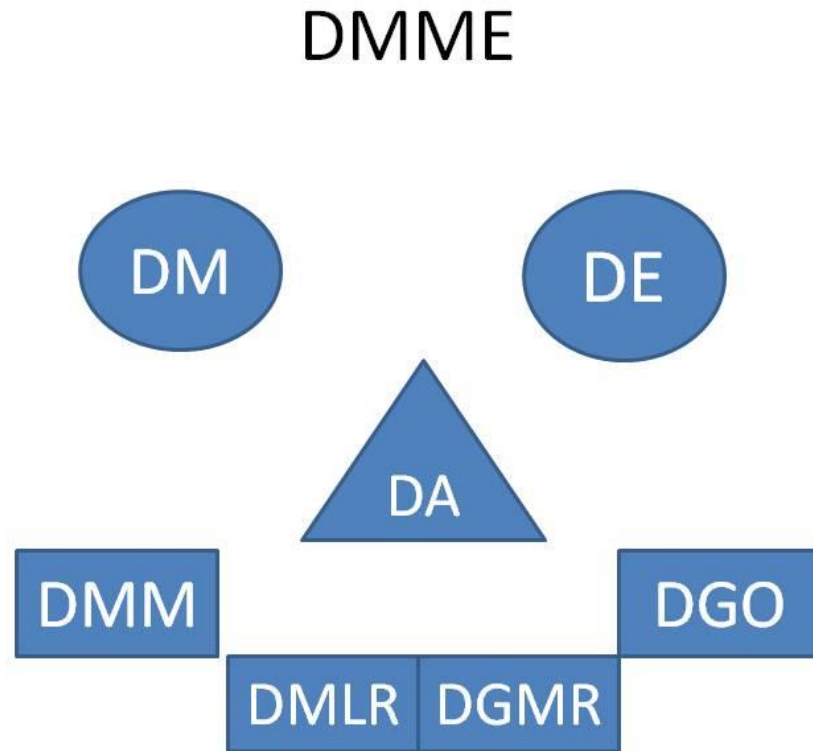
November 14, 2016



# ROADMAP

- ▶ DMME Overview
- ▶ Update on Gas and Oil Regulations
- ▶ DMME Offerings to Local Government
  - Division of Geology and Mineral Resources
  - Division of Energy

# ORGANIZATIONAL CHART



DA = Administration  
DE = Energy  
DGMR = Geology  
DGO = Gas & Oil  
DM = Mine Safety  
DMM = Mineral Mining  
DMLR = Mined Land  
Reclamation

# DMME's MISSION

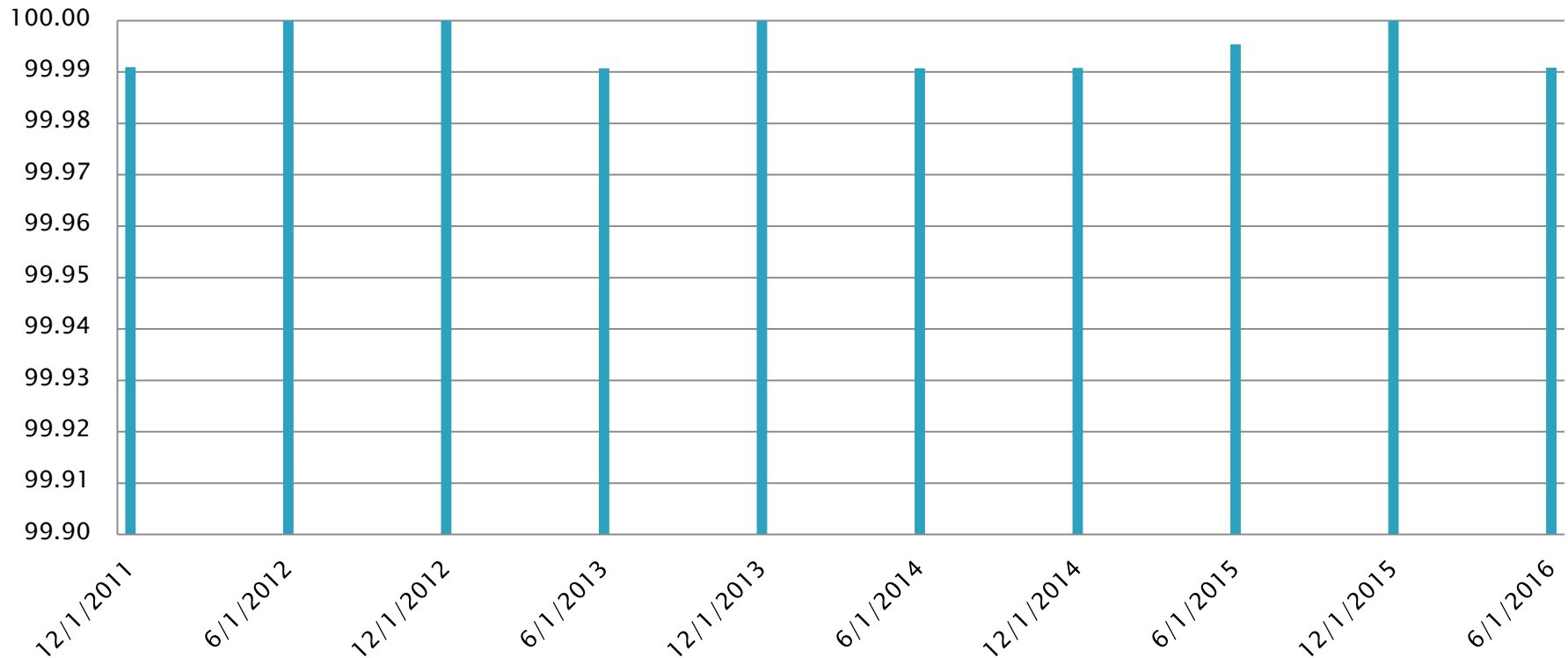
We enhance the development and conservation of energy and mineral resources in a safe and environmentally sound manner to support a more productive economy.

# DMME STRATEGIC PLAN

- ▶ Goal 1:
  - Provide for safe and environmentally sound mineral and energy resource production.
- ▶ Goal 2:
  - Encourage economic development through our customers' wise management of Virginia's resources.
- ▶ Goal 3:
  - Enable DMME personnel to perform at their full potential.

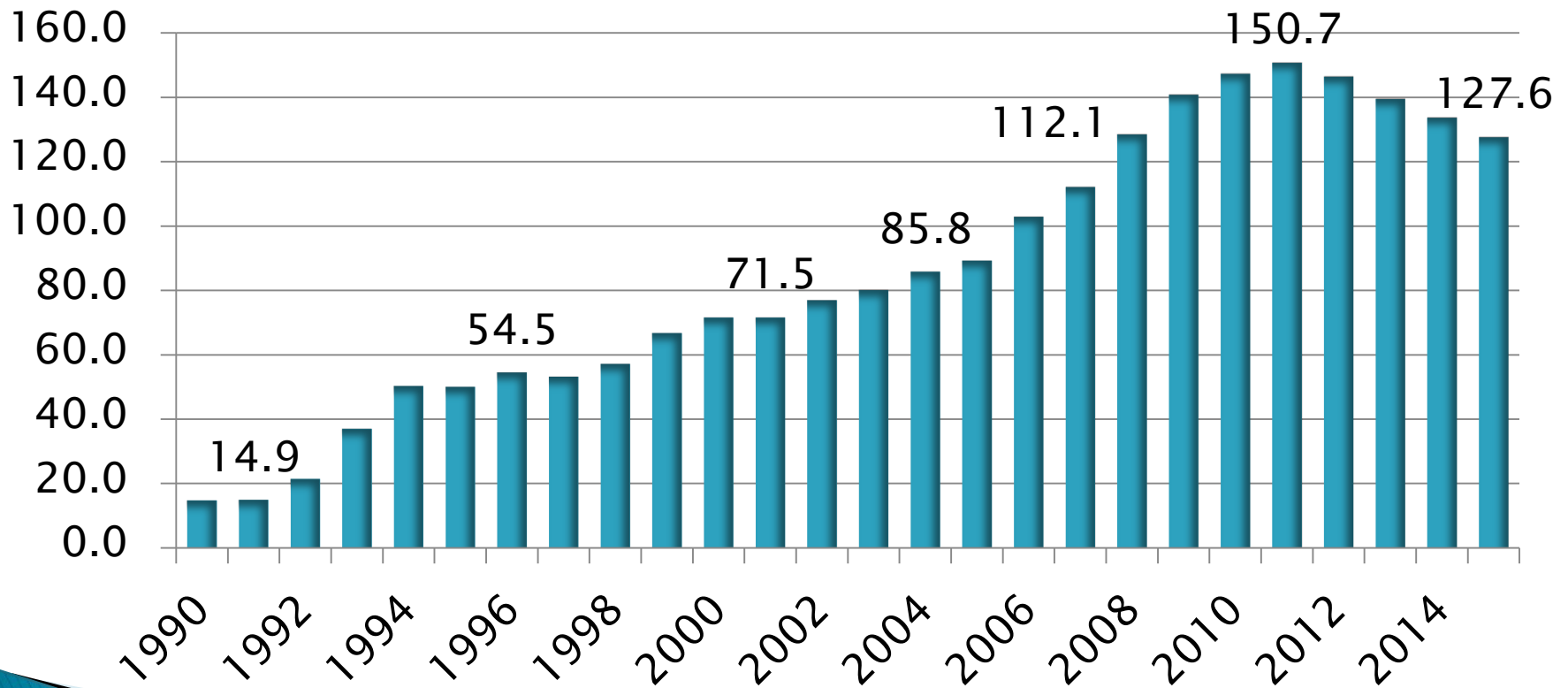
# DMME PERFORMANCE MEASURES

Percentage of sites with no adverse off-site environmental damage



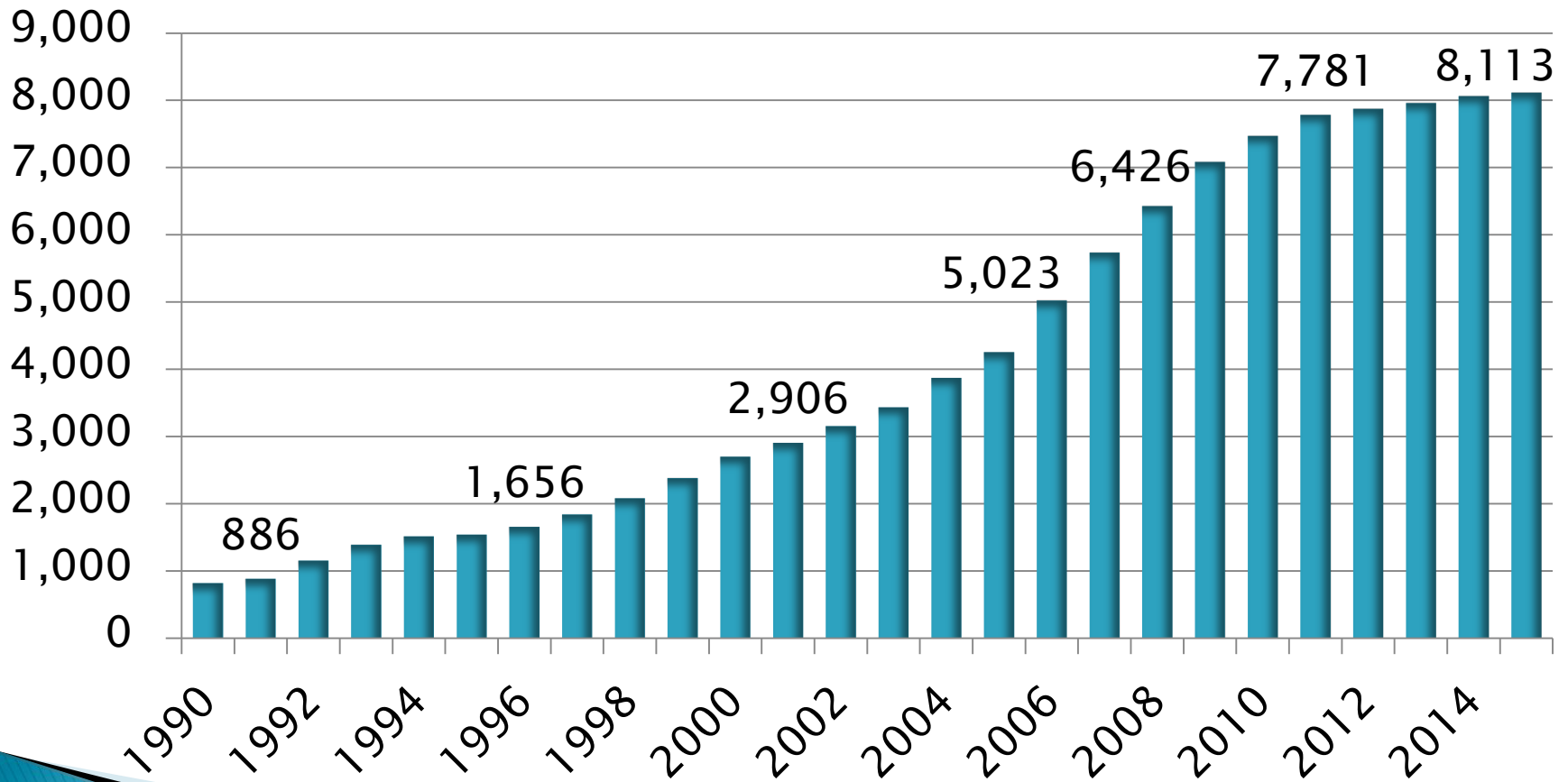
# 2015 Gas Production in Virginia

## Annual Gas Production Trend (Bcf)



# 2015 Producing Gas Wells in Virginia

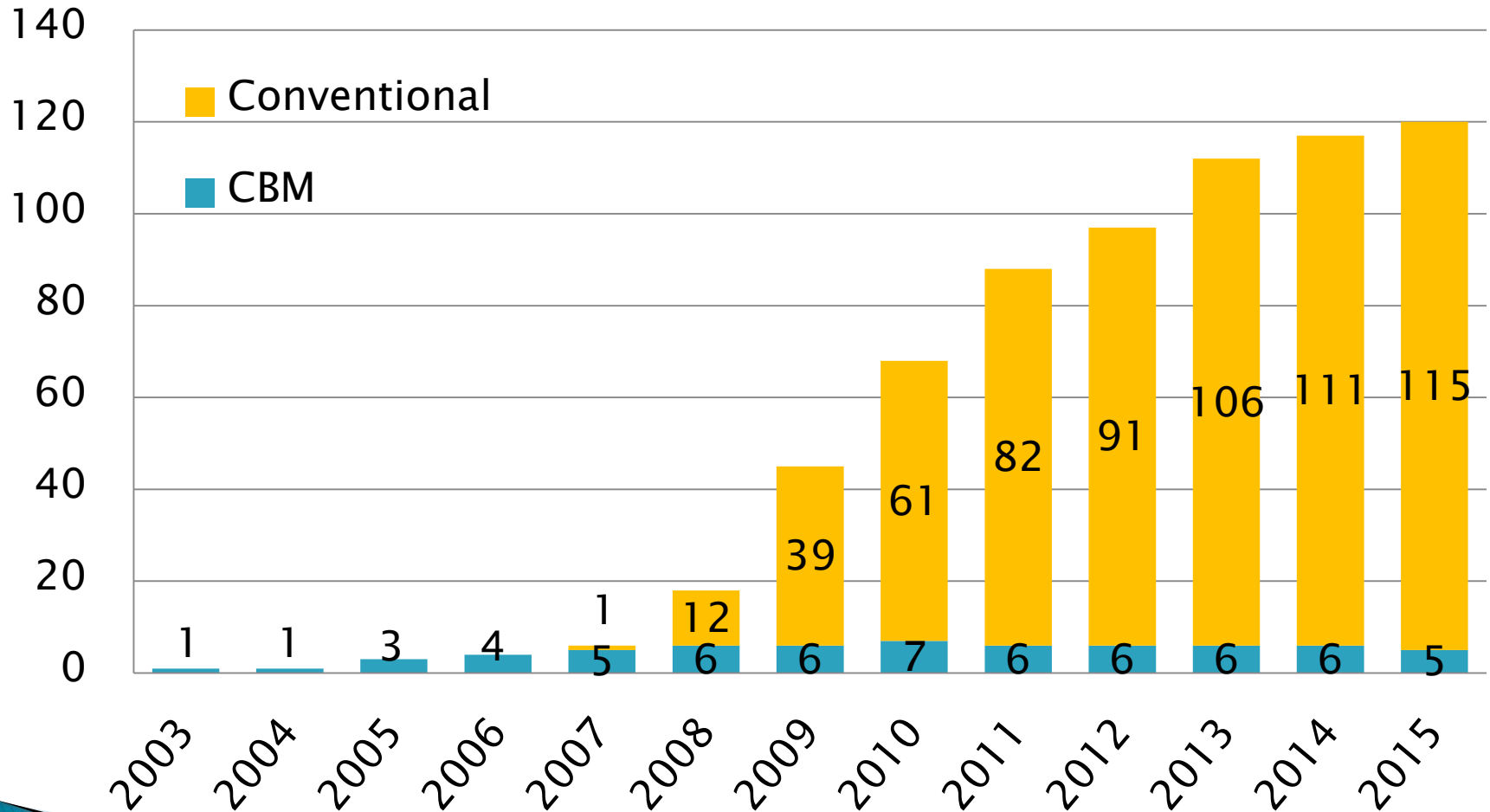
## Producing Wells





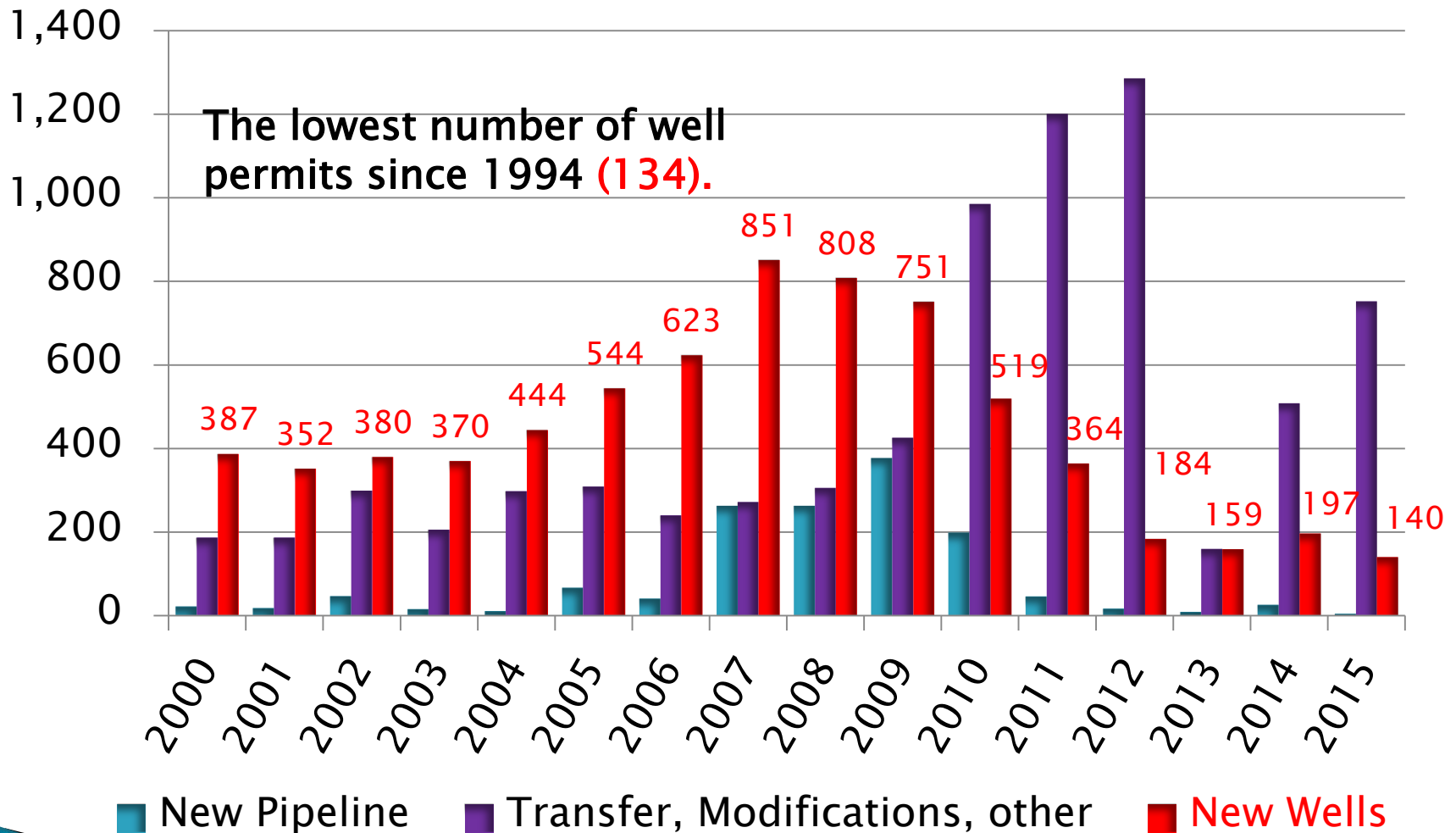
# Trend of Horizontal Wells

## Number of Producing Wells



# TREND OF PERMITTING ACTIVITIES

## BY APPLICATION TYPE



# Natural Gas Price Trend – Short Term Projections

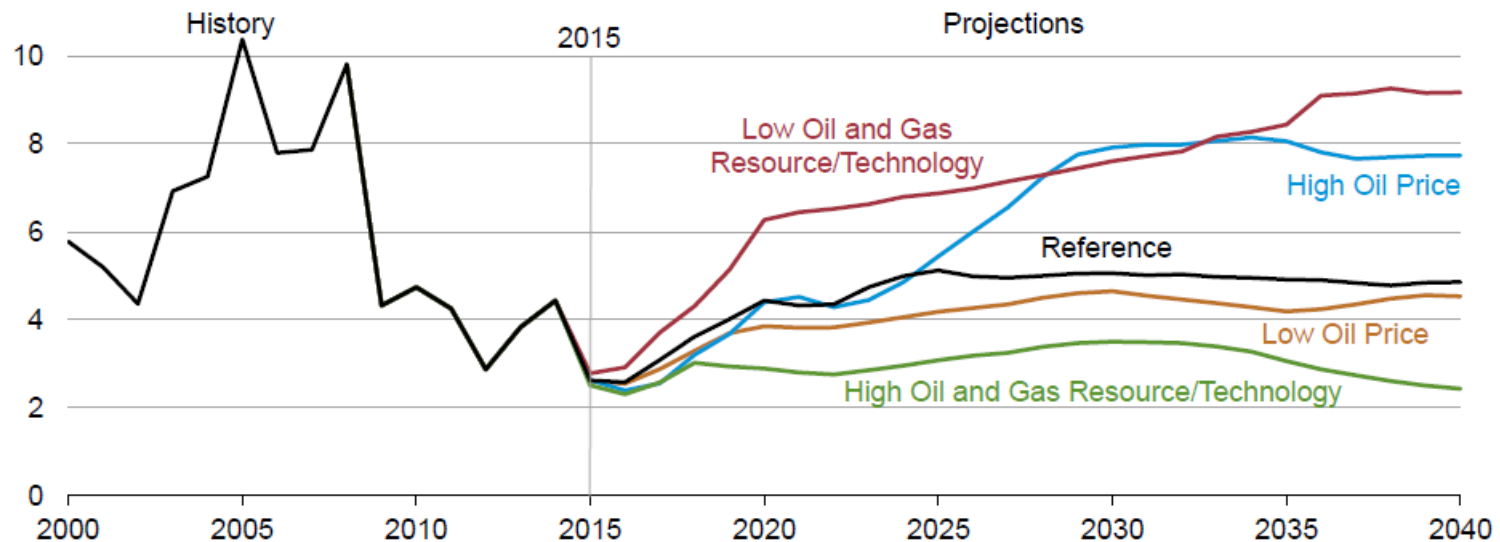


Source: EIA, Short-Term Energy Outlook September 2016

# Natural Gas Price Trend – Long Term Projections

Future domestic natural gas prices depend on both domestic resource availability and world energy prices

average Henry Hub spot prices for natural gas  
2015 dollars per million Btu



Source: EIA, Annual Energy Outlook 2016

# REGULATORY UPDATE

- ▶ A comprehensive re-write of the regulations began in 2007 and was completed in 2013.
- ▶ In the fall of 2013, DMME initiated a new regulatory action to review its requirements for drilling.
  - Chemical disclosure requirements
  - Review of selected industry best practices
  - Review to determine if additional requirements are necessary for different regions of the Commonwealth

# PUBLIC/STAKEHOLDER INVOLVEMENT

- ▶ DMME formed a Regulatory Advisory Panel (RAP) to offer recommendations in selected areas.
- ▶ Wide variety of stakeholders involved.
  - DEQ
  - DGIF
  - Local government
  - Environmental community
  - Gas Industry

# RAP MEETINGS

- ▶ Six meetings were held between June 2014 and January 2015
- ▶ Public meetings across the Commonwealth
  - Three in Richmond
  - Two in Southwest Virginia (Abingdon, Lebanon)
  - One in King George County (Dahlgren)

# RECOMMENDATIONS

- ▶ The RAP offered 14 recommendations addressing the following areas:
  - Chemical disclosure
  - Groundwater protection
  - Well integrity
  - Drilling in different regions of the Commonwealth



# HIGHLIGHTS

- ▶ All 14 recommendations have been incorporated.
- ▶ Additionally, the proposed regulations codified an existing Memorandum of Agreement between DMME and DEQ related to potential future activity in Tidewater.

# PROPOSED STAGE

- ▶ DMME held three hearings to accept public comment.
  - Richmond
  - Lebanon
  - Dahlgren
- ▶ DMME received over 1,000 comments during the comment period.

# FINAL STAGE

- ▶ Final regulation has been approved by the Governor's Office.
- ▶ Will be published in the Virginia Register of Regulations on November 28.
- ▶ Will become effective after a 30 day final adoption period.

# DMME ON SOCIAL MEDIA



**ON FACEBOOK**

**[WWW.FACEBOOK.COM/VADMME](http://WWW.FACEBOOK.COM/VADMME)**



**ON TWITTER**

**[WWW.TWITTER.COM/DMMEVA](http://WWW.TWITTER.COM/DMMEVA)**





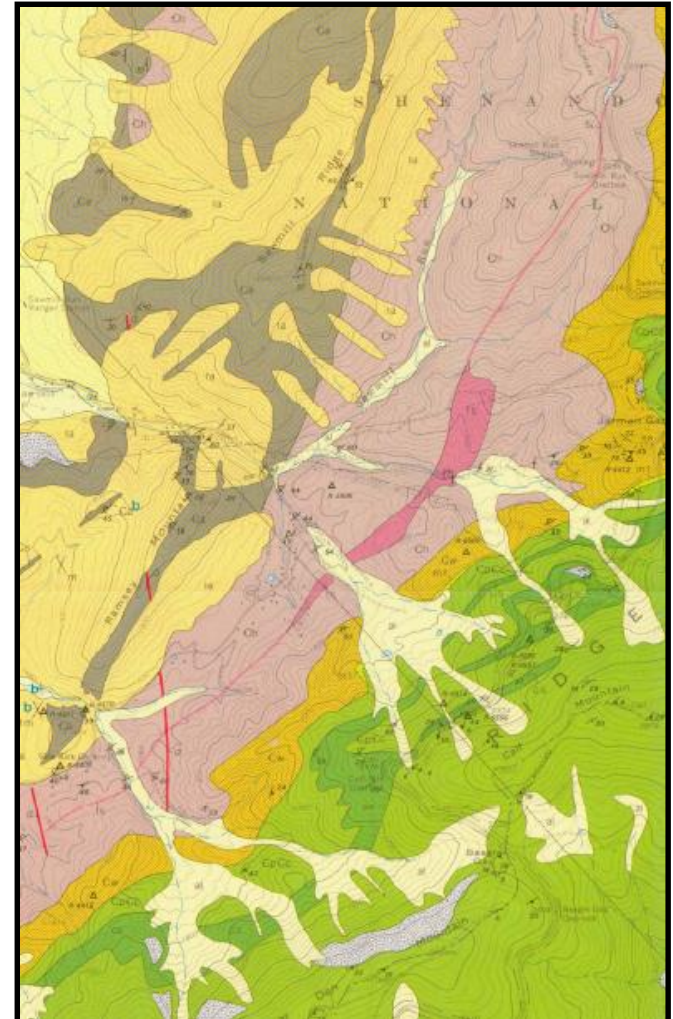
# Local Government Services

# Division of Geology & Mineral Resources

- ▶ Based in Charlottesville
- ▶ State Geologic Survey
  - Economic Geology Section
  - Geologic Mapping Section

# DGMR – Geologic Mapping Section

- ▶ Shows the locations of features such as rock strata, mineral deposits, faults, and landslides
- ▶ Maps are made by geologists using direct observations, remote sensing, and well data
- ▶ An important tool in land-use planning





# Benefits of Geologic Maps

- ▶ Groundwater management
  - Resource identification
  - Wellhead protection
- ▶ Minerals development
  - Planning for future needs
  - Tax assessment
- ▶ Natural hazard mitigation
  - Landslides
  - Earthquakes
  - Sinkholes





## DGMR Staff Contact List

David Spears                      State Geologist                      434-951-6350  
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# DMME Division of Energy

# Division of Energy

- Based in Richmond
- Consists of two sections:
  - State Energy Program (SEP)
  - Virginia Energy Management Program (VEMP)
- SEP and VEMP activities are supported by:
  - Department of Energy
  - State General Funds
  - *Energize Virginia* Revolving Loan Funds
  - Administrative surcharges on State Energy Contracts


# DE's Responsibilities

- ▶ Coordinating Virginia's energy programs
- ▶ Ensuring Virginia's commitment to the development of renewable and indigenous energy sources
- ▶ The efficient use of traditional energy resources.



# *Virginia Energy Management Program (VEMP)*

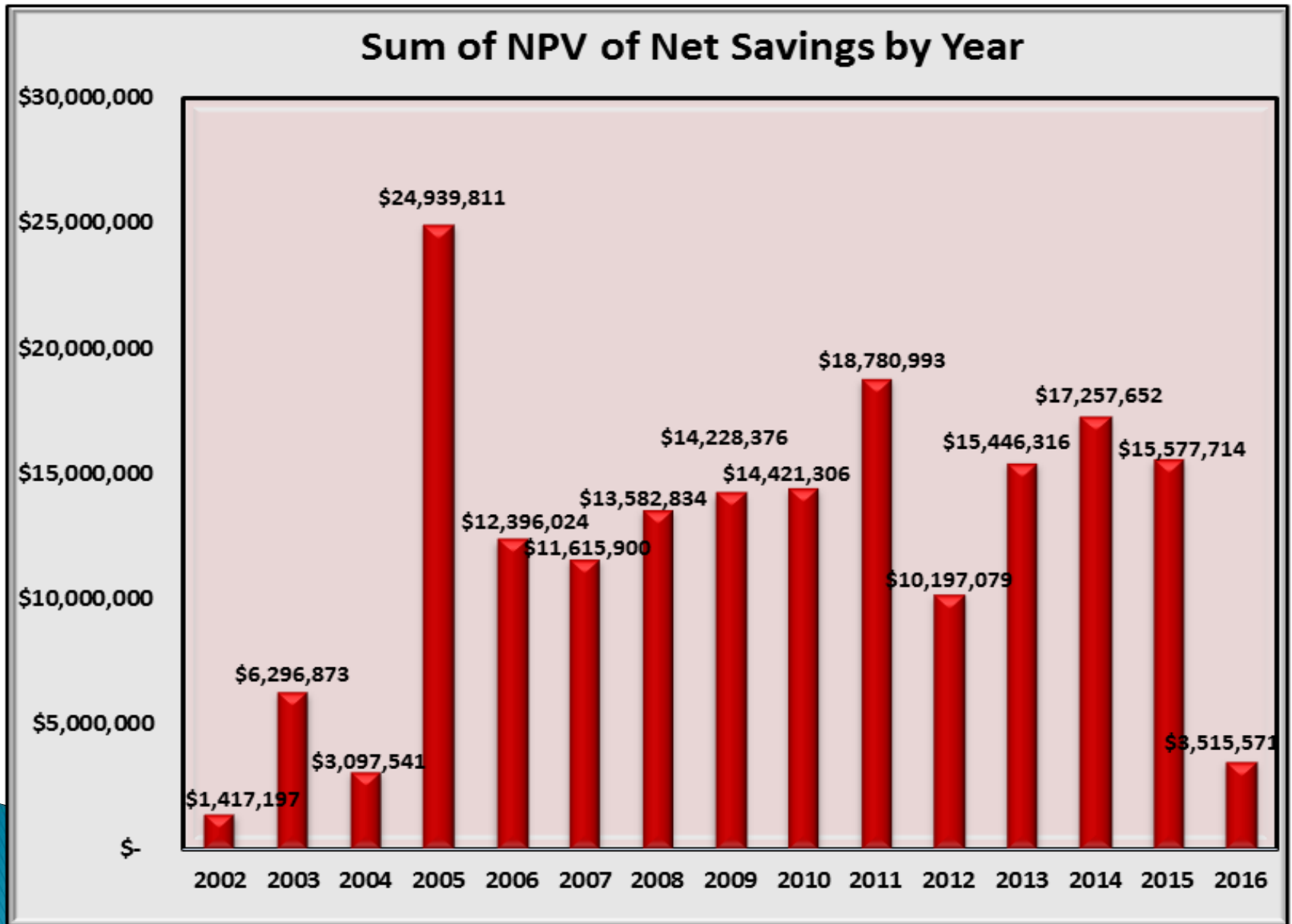
**The Virginia Energy Management Program features four activity areas:**

- **Energy Performance Contracting (EPC)**
  - **Demand Response Program**
  - **State Energy Fuel Procurement Contracts**
  - **Emergency Preparedness/Energy Assurance**
- 

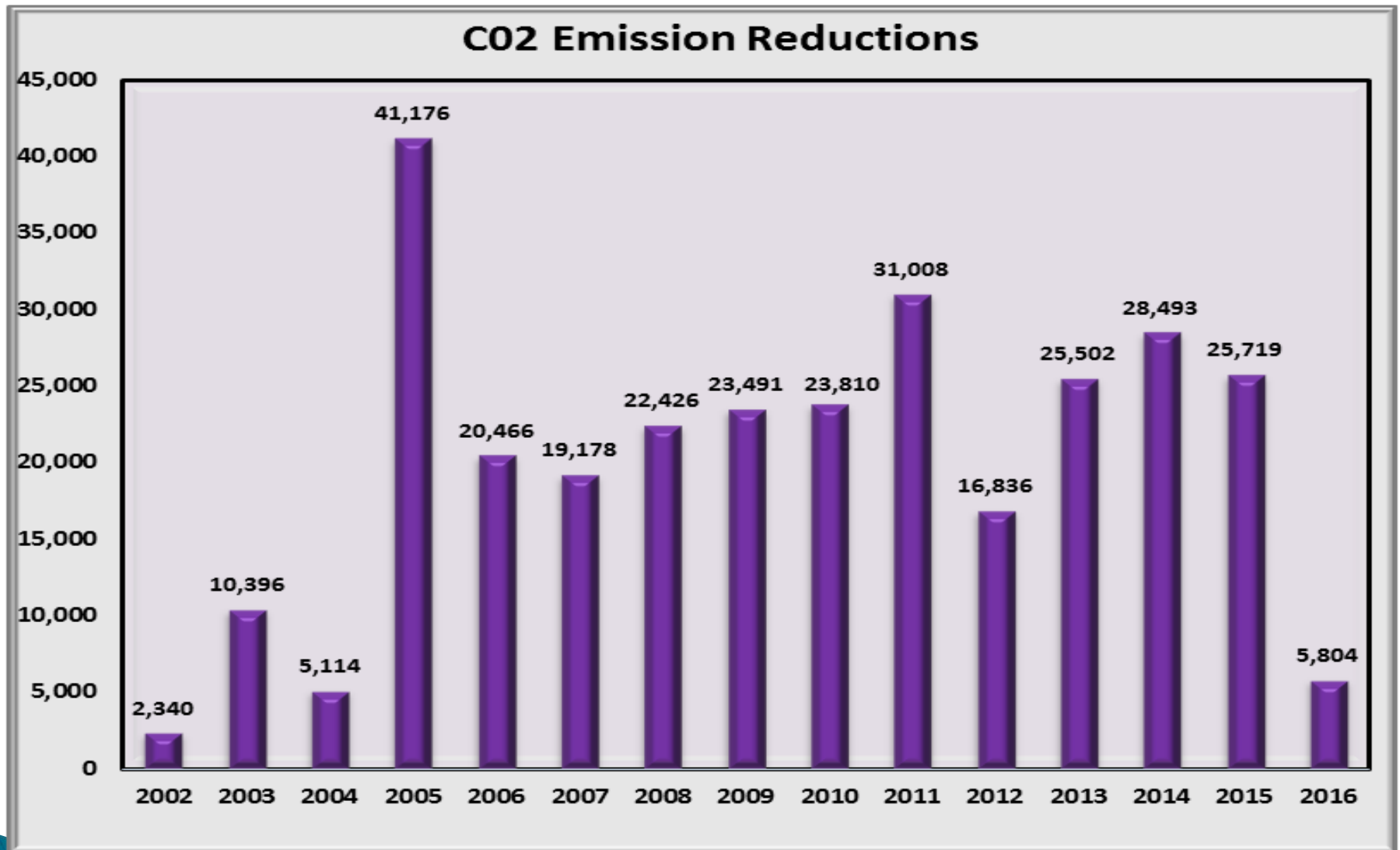
## *VEMP – Energy Performance Contracting (EPC or PC)*

- EPC is a budget-neutral, cost-effective tool that permits public bodies to make energy efficiency upgrades without increasing their budgets. **The cost of the project is paid for through savings resulting from reduced energy consumption and operational costs .**
- **The financial and operational risks of investing in these energy improvements are assumed by the Energy Services Companies (ESCOs). If the actual cost savings end up being less than what the ESCO projected, then the ESCO must pay the facility owner the difference.**

# VEMP – Energy Performance Contracting



# VEMP – Energy Performance Contracting



CO<sub>2</sub> emissions have been reduced by over 300,000 tons in the 14 years this program has been in place.

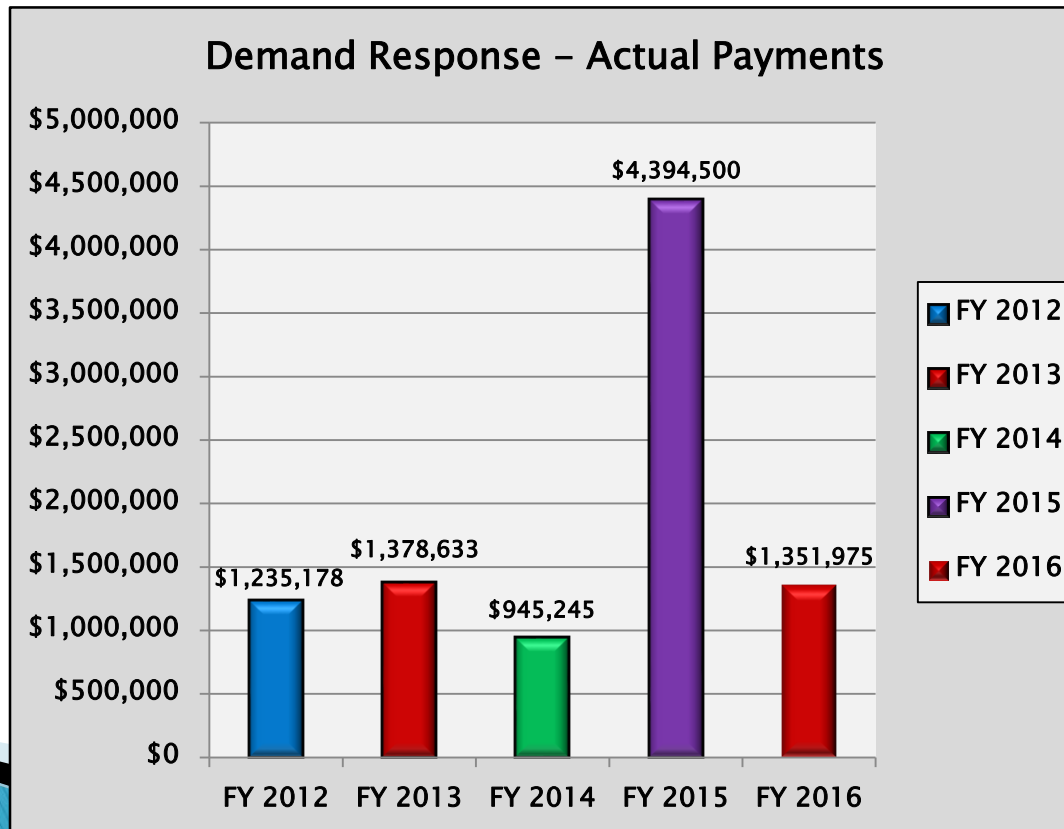


## ***Demand Response Program***

- This Program allows government entities to contract with PJM to curtail their electrical use for short periods of time during times of peak demand on the electric grid.
- The transmission system operator (PJM Interconnection in Virginia) pays participants for both their commitment to curtail and their **actual** curtailment. Payments are made whether the participant is actually asked to curtail or not. If curtailment **IS** made, additional payments are added, based on hours and current rates.

# ***Demand Response Program***

- There are currently over 120 participants in the Program, including state agencies and local government entities.
- DMME manages the DR contract on behalf of DGS' Division of Purchases and Supply.



# *Virginia State Energy Program (SEP)*

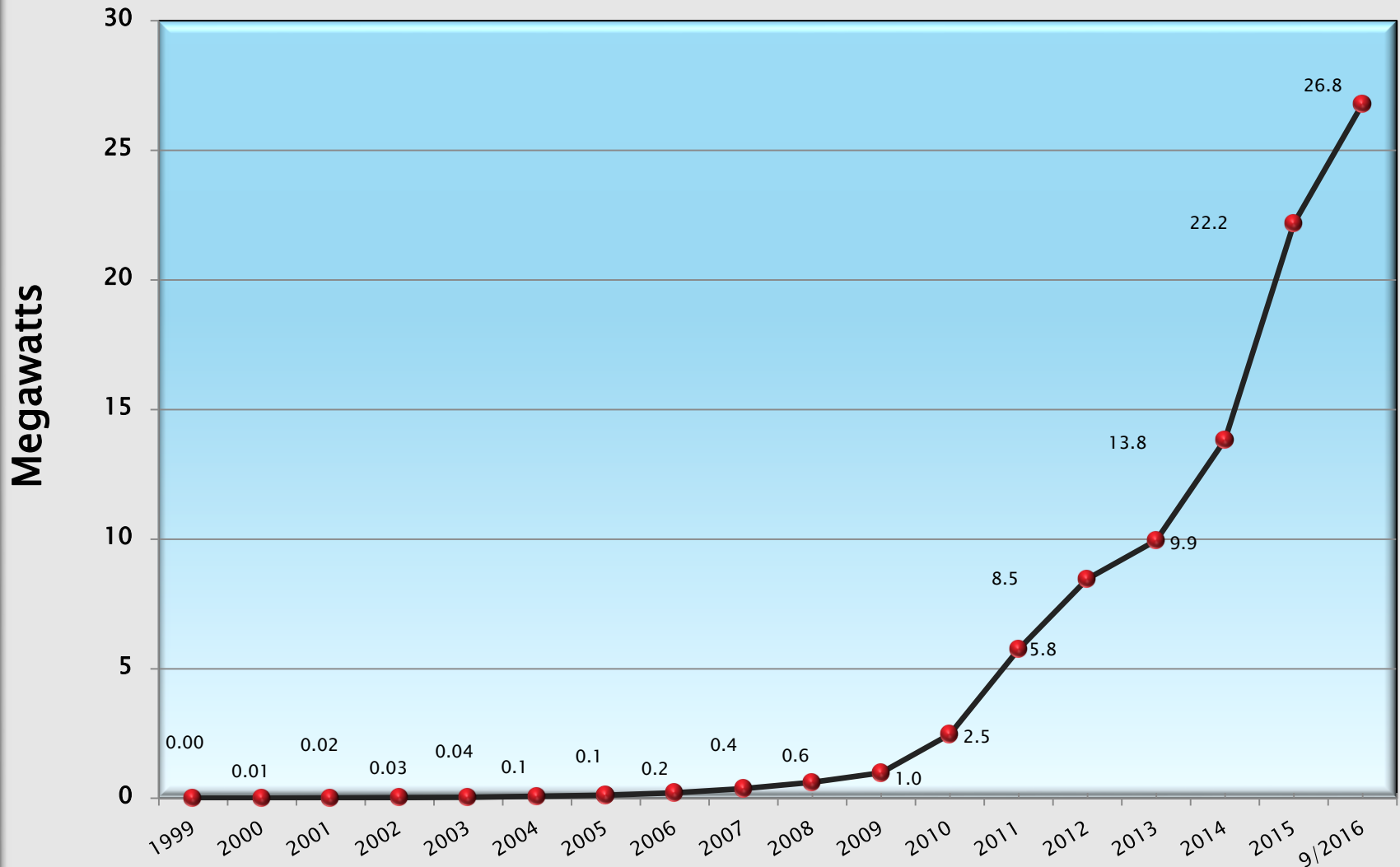
- The **State Energy Program (SEP)** formula grant comes from the Department of Energy.
- **Primary SEP-funded Activities Include:**
  - Virginia Center for Wind Energy, at James Madison University
  - Virginia Clean Cities alternative fuels/vehicles projects
  - Virginia Energy Plan (VEP) implementation
  - Financing mechanisms development
  - Energy education and sponsorships
- **DE Serves as Staff to:**
  - Virginia Offshore Wind Development Authority (VOWDA)
  - Virginia Solar Energy Development Authority (VSEDA)
  - Governor's Executive Committee on Energy Efficiency (GEC)
  - Virginia Energy Council (VEC)

# Renewable Energy Activities

- Support onshore and offshore wind
- Technical support to econ. development agencies
- Rural/Agricultural solar development
- Solar for state facilities
- Training for building code officials
- Consulting agency for *Permit by Rule* application submittals

# Solar Growth in Virginia

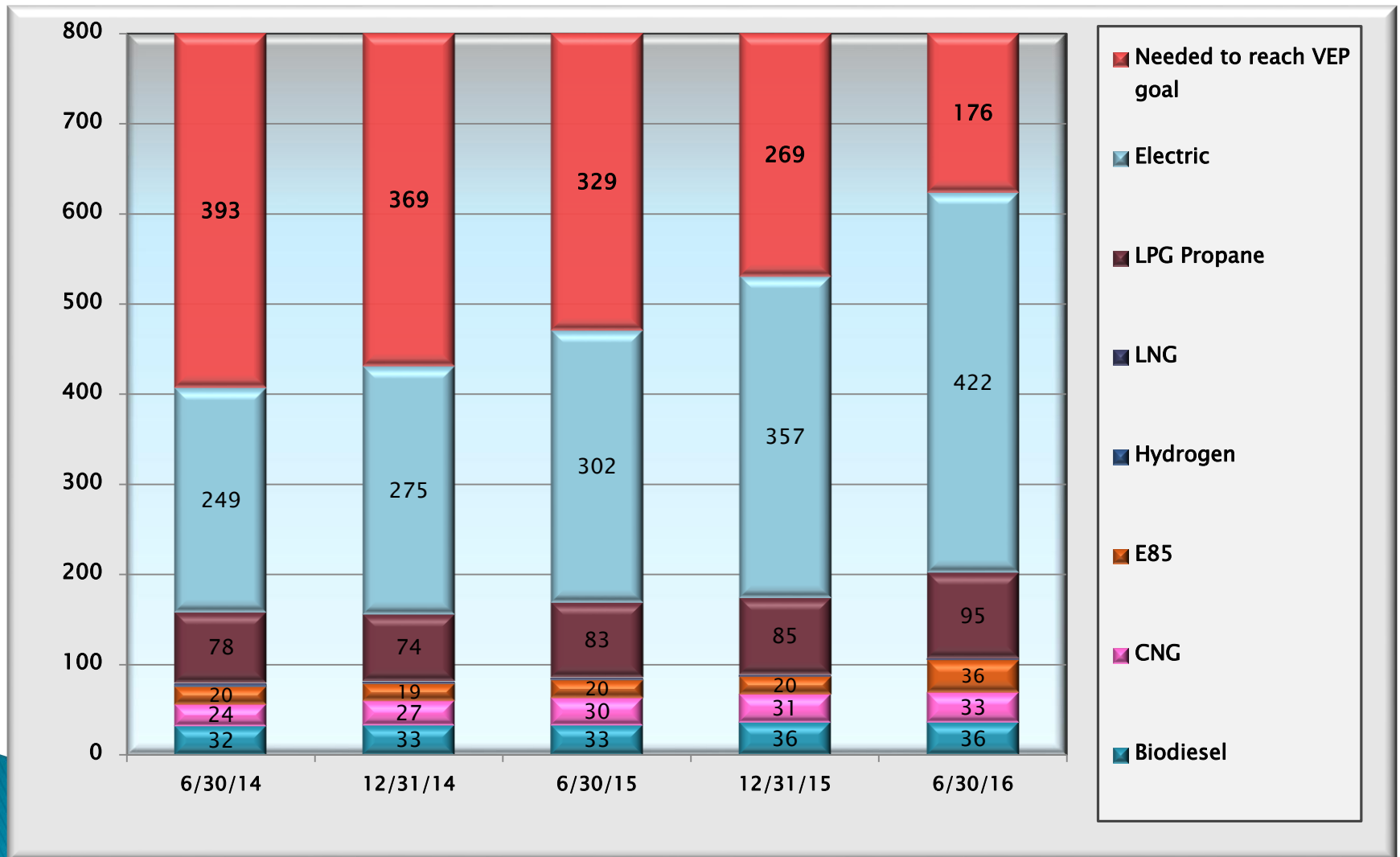
Net Metering



# Virginia's Alternative Fuels Fleet Program

- Program initiated by unanimous legislation in 2011.
- DE administers the Alternative Fuels Fleet Program with Virginia Clean Cities
- DE offers grants to state and local fleets in non-attainment areas for the incremental cost of the purchase or conversion of vehicles to alternative fuels, such as propane and compressed natural gas.

# Virginia's Alternative Fuel Program



# *Virginia State Energy Programs Financing Programs*



## *Current Financing Programs:*

- Commonwealth Energy Fund – *Barbara Simcoe*
- Virginia Alternative Fuel Vehicle Conversion Fund – *Robin Jones*
- Energy Performance Contracting – *Charlie Barksdale*
- Loan Loss Reserves for Home Performance Programs (repurposed) – *Lynne Astroth*
- VirginiaSAVES Green Community Program (GCP) – *Chris McDonald*

## *Coming soon:*

- Re-Home Virginia – *Al Christopher*
- Commercial Property Assessments for Clean Energy (PACE)



# *Virginia SEP New Financing Programs*

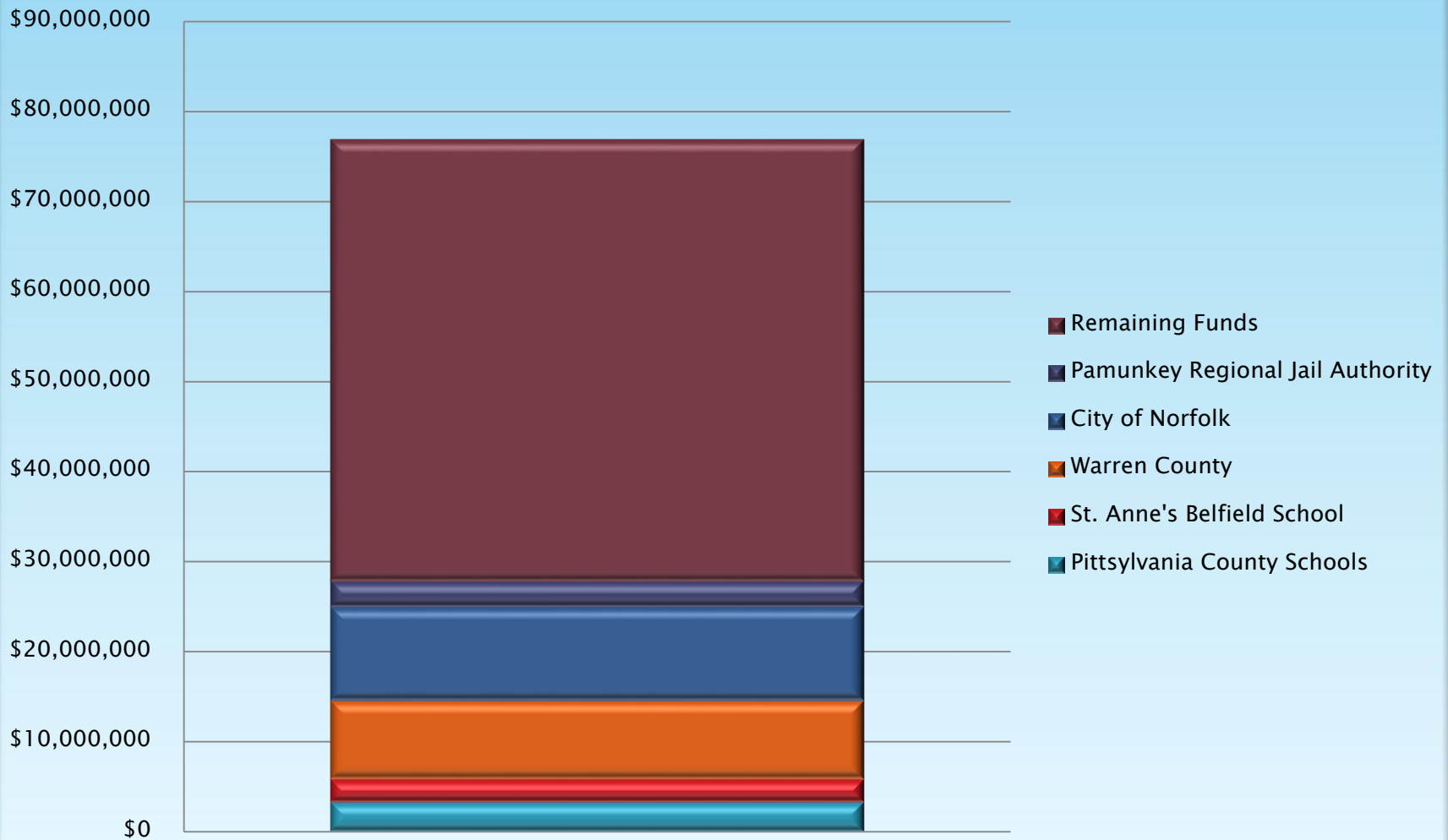
## *Virginia SAVES Green Community Program (GCP)*

- Executive Order 36 created the Green Community Program (GCP) using Qualified Energy Conservation Bonds (QECCB).
- GCP works with third-parties to provide financing for energy efficiency, renewable energy and alternative fueling projects, and other qualified conservation purposes across the Commonwealth.
- Loans range from \$500,000 to \$5 million and are available to private commercial and industrial, non-profit institutional and local government borrowers.
- DMME has initially capitalized the GCP with \$20 million in QECCBs allocated under the Executive Order, with the ability to provide more QECCB allocations as needed.



# VIRGINIA SAVES

## QECB/VirginiaSAVES Funding



# *Virginia SEP New Financing Programs*

## Commercial PACE

- Localities can set up Property Assessed Clean Energy (PACE) programs, and to determine eligible energy improvements and loan conditions.
- DMME has developed and posted uniform statewide financial underwriting guidelines for these loans.
- PACE loans offer property owners low-cost and long-term financing for upfront costs of energy efficiency, water, and clean energy improvements.
- Loans are repaid through assessments included on a participating building's property tax bill.

# DE Staff Contact List

## *VEMP Program*

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## *State Energy Program*

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# Thank You!

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<http://dmme.virginia.gov>

<http://dmme.virginia.gov/DGO/RegulatoryAction.shtml>