

**COMMONWEALTH OF VIRGINIA
CO₂ TRADING REGULATION**

REGULATORY ADVISORY PANEL MEETING MINUTES

**SECOND FLOOR CONFERENCE ROOM
629 EAST MAIN STREET, RICHMOND, VIRGINIA
AUGUST 3, 2017**

Members Present:

Malcolm Woolf, Advanced Energy Economy	Scott Carver, Doswell/LS Power
Scott Weaver, AEP	Walton Shepherd, NRDC
Michael Van Brunt, Covanta	Laura Rose, ODEC
Lenny Dupuis, Dominion	Larry Carlson, Tenaska
John Morrill, VACO	Rhea Hale, WestRock

Members Absent:

Donald Ratliff, Alpha Natural Resources	Will Poleway, Birchwood
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Department of Environmental Quality:

David K. Paylor, Director	Michael G. Dowd, Air Division
Ann M. Regn, Office of Public Information	Tom Ballou, Air Division
Karen Sabasteanski, Regulatory Affairs	Angela Conroy, Air Division

Presenters/Other Participants:

Molly Ward, Secretary of Natural Resources	Franz Litz, Litz Energy Strategies
Kate Zyla, Georgetown Climate Center	L. Preston Bryant, VCU Center for Consensus Building

The meeting began at approximately 9:40.

Meeting Purpose: This regulatory advisory panel (RAP) has been established to advise and assist the Commonwealth in the development of a regulation that (i) ensures that Virginia is trading-ready to allow for the use of market-based mechanisms and the trading of carbon dioxide (CO₂) allowances through a multi-state trading program, and (ii) establishes abatement mechanisms that provide for a corresponding level of stringency to CO₂ limits imposed in other states with such limits. The purpose of this meeting is for DEQ to coordinate and facilitate discussions of this group in an effort to find common ground and elements that could be included in the regulation.

Welcome and Introductions: Mr. Paylor introduced Secretary of Natural Resources Molly Ward, who welcomed the group and introduced L. Preston Bryant, VCU Center for Consensus Building, who will be assisting with the process. Mr. Paylor made a number of introductory remarks. Executive Directive 11 (ED 11) is clear on certain components of a carbon trading regulation, and these components are the framework on which the

regulation will be based. The Governor has instructed DEQ to develop a regulation that is based on an established multistate trading program, and at this time, that program is the Regional Greenhouse Gas Initiative (RGGI). There will be different opinions on how to go forward with the rule, and we will consider all viewpoints with respect to the trading program framework. He outlined the primary elements to be considered: (i) the basis for allocations, (ii) consignment auctions, (iii) set-asides, and (iv) other elements such as stringency of the emissions cap and program design elements.

Ms. Regn welcomed the group. Members introduced themselves individually. Ms. Regn then provided general guidelines for discussions, and reviewed Freedom of Information Act (FOIA) requirements (see Attachment A).

Presentation, RGGI and RGGI Model Rule: Mr. Dowd introduced Mr. Litz and Ms. Zyla, who are consulting with the department on the details of how RGGI works. Mr. Litz gave an overview of RGGI, including how it was established and how it functions (see Attachment B).

Presentation, Virginia Emissions Data: Mr. Ballou provided a presentation on Virginia's power sector profile and trends (see Attachment C).

Work Plan/Group Discussion: Based on discussion, it was determined that the group's concerns centered on 7 specific topics: (i) basis for allocations, (ii) auction approach, (iii) set asides, (iv) offsets, (v) sources other than fossil fuels, (vi) stringency of the cap, and (vii) other issues such as leakage. The group then prioritized these issues, choosing to discuss allocations first. No consensus was reached on any specific issue, although some needs for additional information to be provided by DEQ and the consultants were identified. It has been proposed that some detailed technical issues can be handled via webinar, which will be made publically available, and a schedule announced when organized.

Next Steps/Future Meetings: Ms. Regn wrapped up the meeting. Future meetings are scheduled for August 31 and September 6, 2017.

The meeting adjourned at approximately 2:55 p.m.

Attachments
REG\DEV\17-RP01-MINUTES

RAP GUIDELINES

Purpose:

The primary function of the advisory panel is to develop recommendation for DEQ consideration through the collaborative approach or regulatory negotiation and consensus. You may be asked to demonstrate your strength of feeling for or against a particular idea, and may be asked to help set priorities during the course of the process.

The membership of any Regulatory Advisory Panel or RAP is at the discretion of the DEQ Director and the recommended membership must receive prior Director's approval.

Appointments for membership are person specific. Multiple applications from a single company, organization, group or other entity count as one for purposes of making the decision. For consistency and continuity of deliberations, it is preferred that the same person participates.

The creation of a RAP is the creation of a public body. RAP meetings are open to the public, and are subject to the provisions of the Virginia Freedom of Information Act. Meeting notes are taken and posted on the Virginia Regulatory Townhall website (www.townhall.virginia.gov/). Meetings may be audio by the agency, RAP members, or members of the public as long as the use of the recording equipment does not physically interfere with the meeting.

FOIA Requirements:

Public Body and Meetings: The creation of a Regulatory Advisory Panel (RAP) is the creation of a public body. All meetings of the group are public meetings. In accordance with our Public Participation Guidelines, notice of the meetings of the RAP shall be posted on the Virginia Regulatory Town Hall website at least seven working days prior to the date of the meeting. This notice will also be included on the DEQ's web page. Posting of the meetings will be handled by the Regulation Writer assigned.

Meeting Minutes: The Freedom of Information Act requires that minutes of each Regulatory Advisory Panel meeting be prepared. In order to meet this requirement, a summary of the meeting shall be prepared and provided to the Regulatory Affairs Director for posting to the Townhall. If the minutes must be approved by the RAP, a draft of the minutes must be posted within 10 days after the meeting with a final posted within 3 days of approval. If the minutes do not need to be approved by the RAP, the final must be posted within 10 days after the meeting. The minutes must include, but are not limited to, (i) the date, time and location of the meeting, (ii) discussion on matters proposed, deliberated or decided, and (iii) a record of any votes taken. Minutes of RAP meetings do not have to be officially approved by the membership unless such approval is required by RAP consensus. Posting of the meetings will be handled by the agency.

E-mail and Meetings: The VA Supreme Court has held that e-mails may constitute a "meeting" under FOIA if there is simultaneous e-mail communication between three or more members of a public body. Therefore, members of an advisory group should avoid "reply to all" as a general rule and should use the DEQ staff contact in order to disseminate information to the group.



GUIDELINES FOR DISCUSSIONS

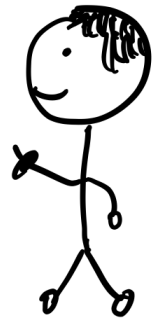
Good results depend on everyone sharing their thoughts. A consensus can often be reached by group discussion that considers all viewpoints.

This is a cooperative process, not a competition and is usually a learning process for everyone involved.

1. Listen actively with an open mind.
2. Speak from your own experience instead of generalizing.
3. Be respectful and focus on the issue or the idea, not the speaker. Personal attacks are not tolerated.
4. Be concise and speak only once on a particular issue. Weigh in with new or different information to share *after* everyone else has had an opportunity to speak.
5. Simply note your agreement with what someone else has said if you feel that it is important to do so; it is not necessary to *repeat* it.
6. Present options or alternatives at the same time you present the problems you see.
7. Be courteous and speak one at a time; interruptions and side conversations are distracting and disrespectful to the speaker. "Caucus" or private conversations may take place during breaks or at lunch, not during the work of the group. No sidebars please!
8. Come prepared.
9. Turn off all devices.
10. Stay positive; a negative attitude hinders the group's ability to reach agreement.

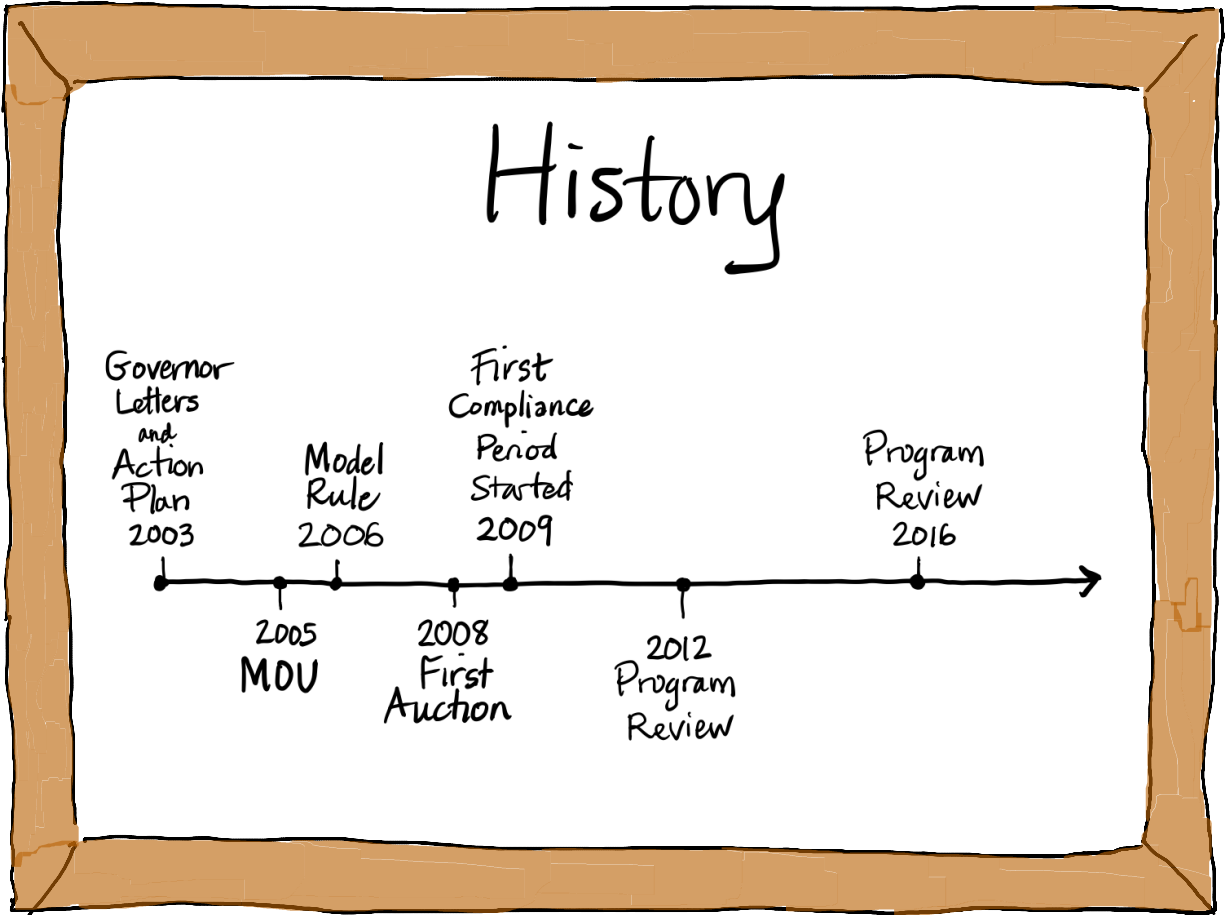


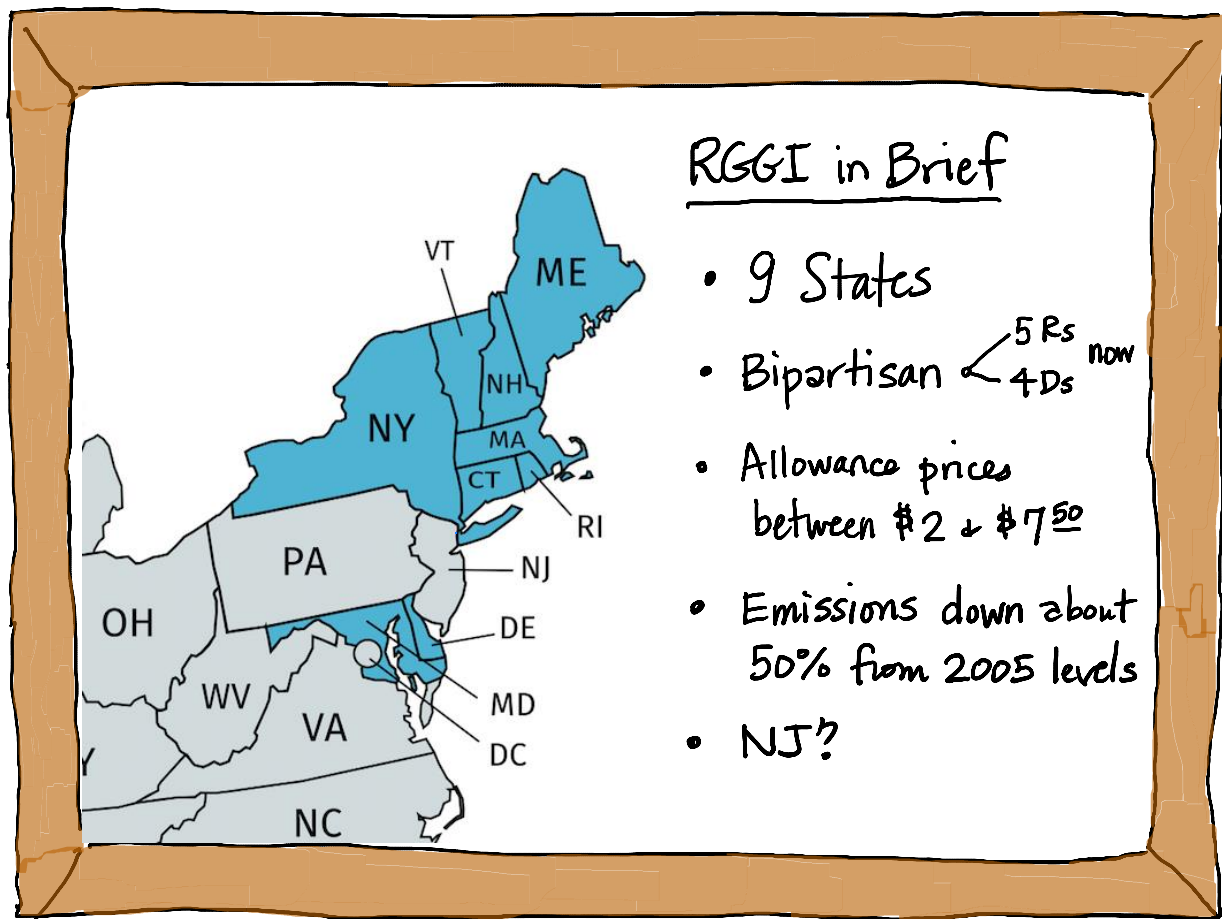
Franz T. Litz
Litz Energy Strategies LLC



OVERVIEW

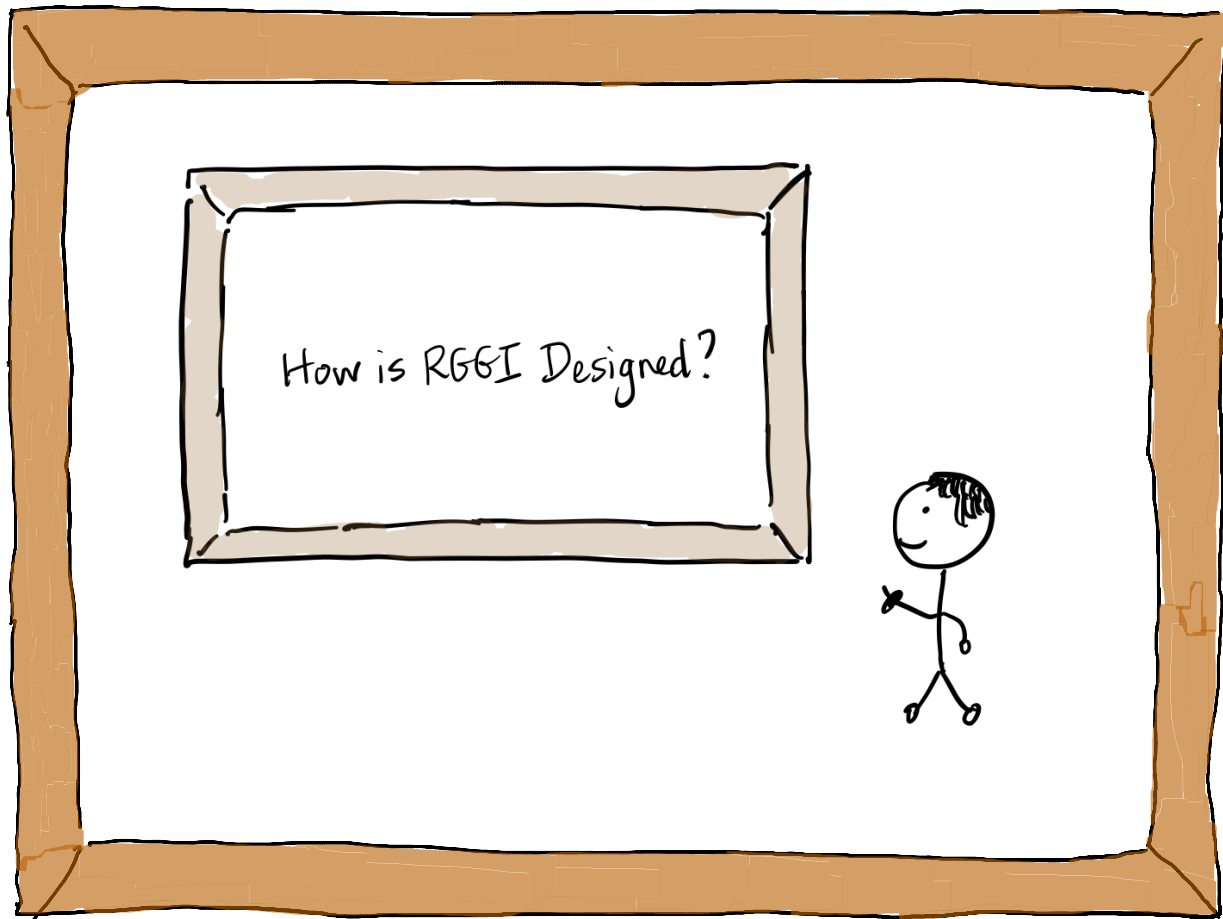
- History of RGGI
- Program Design
- Program Review
- Linking Considerations





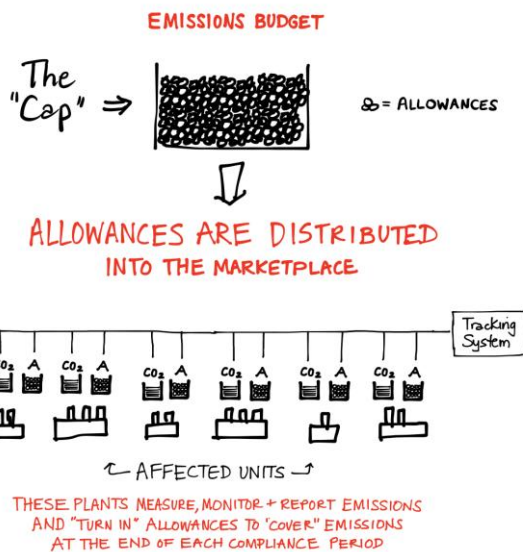
RGGI's Prices Have Been in \$2 to \$7 Range:





RGGI is
Modeled
After
the
NOx
Trading
Programs

HOW RGGI WORKS



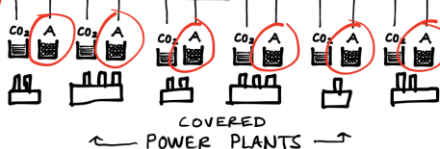
ALLOWANCE ALLOCATION



↓

ALLOWANCES ARE DISTRIBUTED INTO THE MARKETPLACE

AND EVENTUALLY INTO ALLOWANCE ACCOUNTS OF AFFECTED UNITS WHO NEED THEM




THESE PLANTS MEASURE, MONITOR + REPORT EMISSIONS AND "TURN IN" ALLOWANCES TO "COVER" EMISSIONS AT THE END OF EACH COMPLIANCE PERIOD

RGGI Agreed to allocate 25% to "consumer benefit or strategic energy purpose"

The RGGI Model Rule

Key Elements

- What do the states do?
 - set the cap + rate of decline
 - distribute allowances by auction and invest proceeds
 - oversee compliance
 - enforcement
 - program review

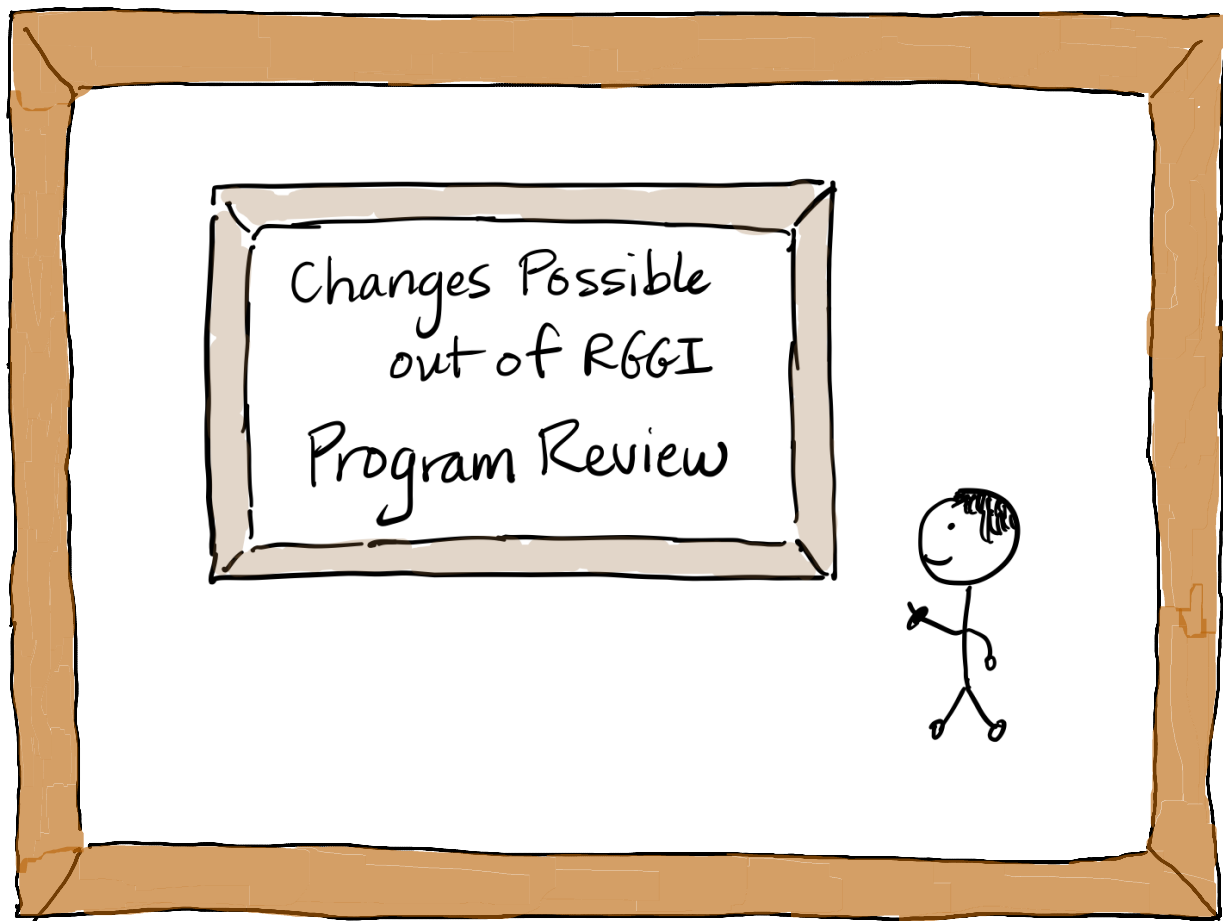
The RGGI Model Rule

Key Elements

- Who is covered? "applicability"
- What do covered plants have to do?
 - measure, monitor + report CO₂
 - obtain allowances
 - annual holding requirement of 50% of emissions
 - every 3 years, surrender allowances to cover 100% emissions

More Key Elements

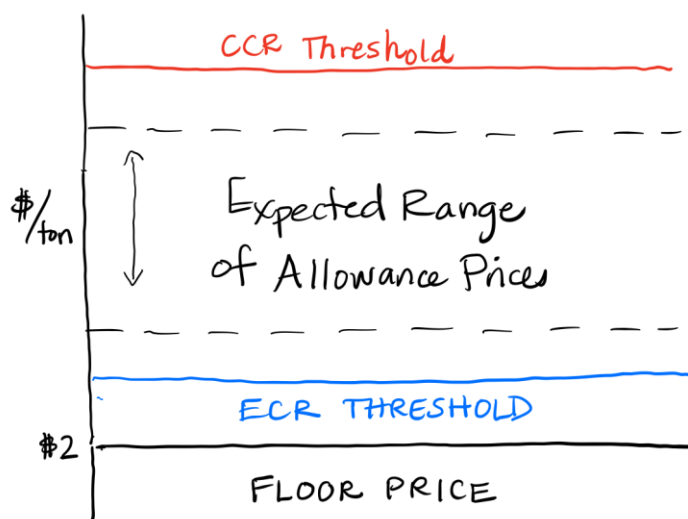
- Flexibility
 - trading
 - banking
 - 3-year compliance periods
 - offsets (up to 3.3% of compliance)
- Cost-containment Reserve (CCR)

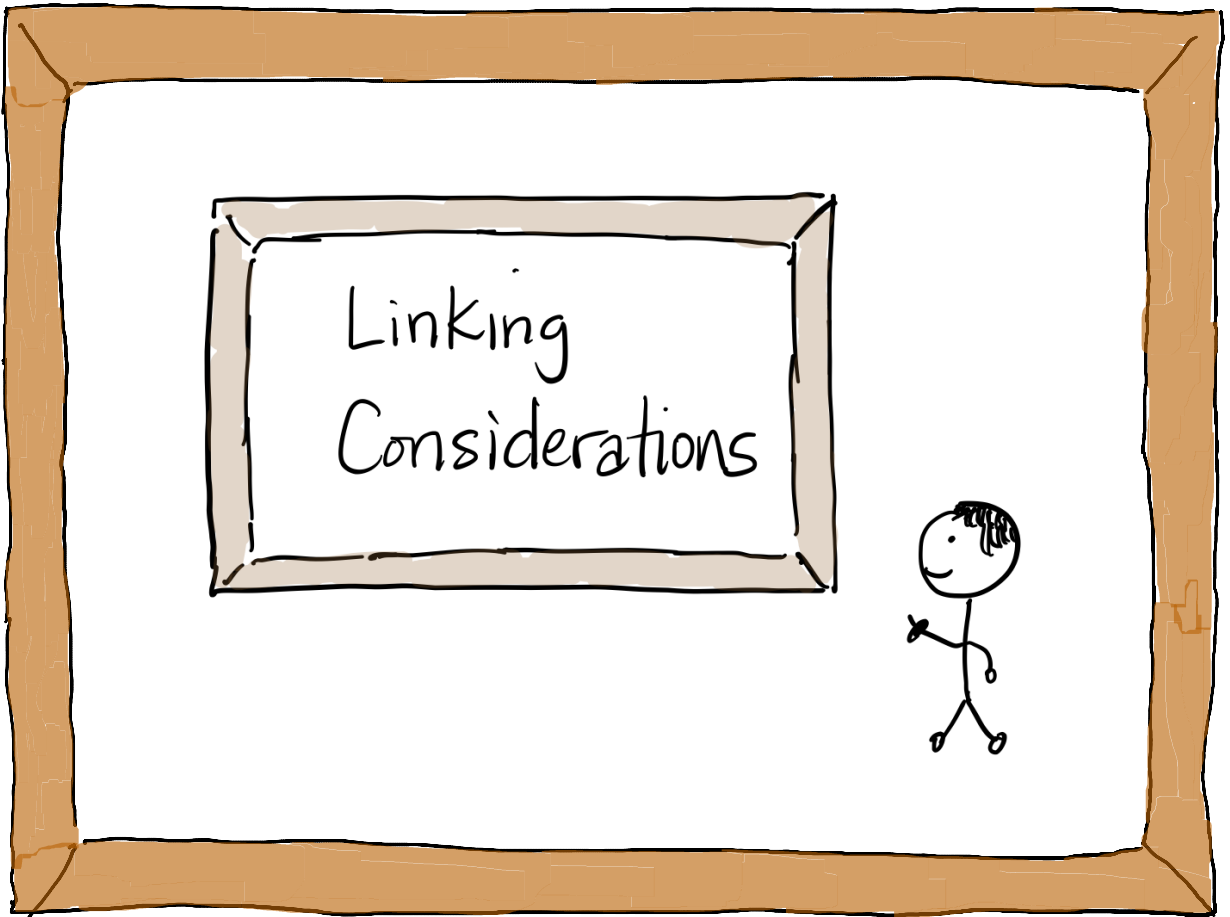


Possible Changes

- cap & rate of decline - after 2020?
- bank adjustment
- emissions containment reserve (ECR)
- offsets
- CCR changes? size and trigger
- Maybe others

THE RGGI AUCTION DOES MORE THAN DISTRIBUTE ALLOWANCES





- RGGI is 9 separate programs that each stands alone
 - RGGI, Inc. is an agent + technical support organization
 - No enforcement, no binding agreement among states

What do we know about linking?

- adopting model rule = linkable
- importantly, allocation is left to each state in RGGI (w/ 25% "consumer benefit or strategic energy purpose")

↳ what would VA do differently from model rule?



Virginia Power Sector Profile and Trends

CO₂ Trading Regulation – Regulatory
Advisory Group Meeting

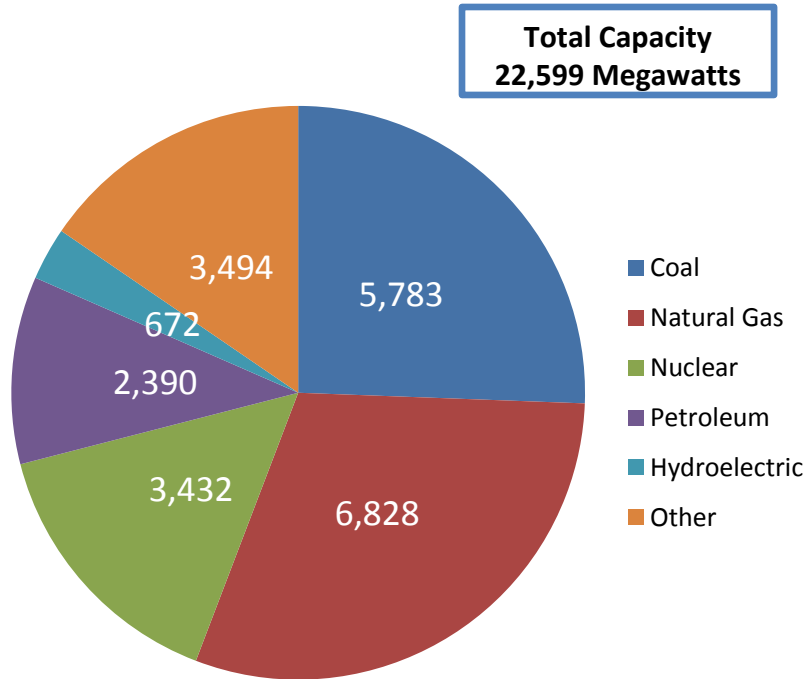
August 3, 2017

Virginia Electricity Generation Profile

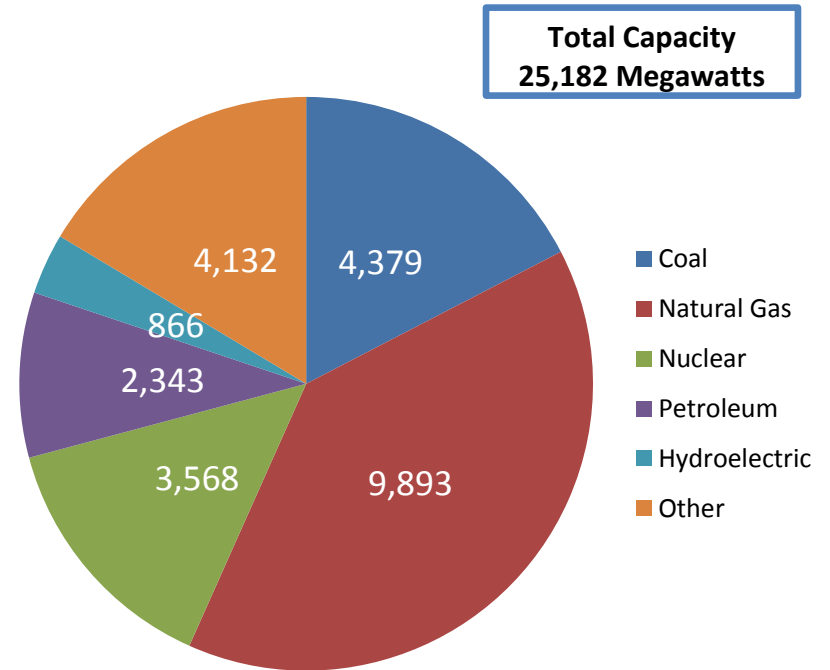
- Historically a coal generation state
- This has changed over the last ten years
- Significant decrease in coal generation
- Significant growth in natural gas capacity and generation (now #1 generation source)
- One constant - two nuclear facilities
- Other generation sources – mostly biomass and Hydroelectric
- Renewables – small but growing generation source
- Also has been an importer of power

VA Capacity Trends

**VA 2005 Generation Capacity
(MW)**



**Virginia 2015 Generation
Capacity (MW)**

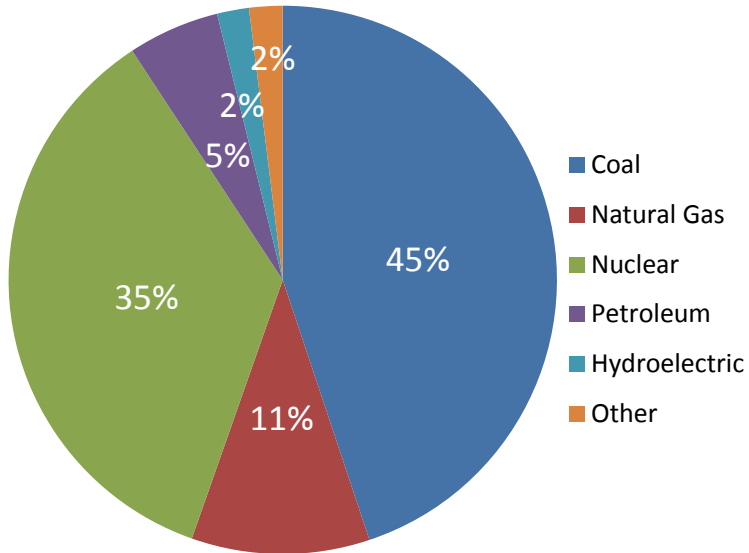


Source: US Energy Information Administration

VA Generation Trends

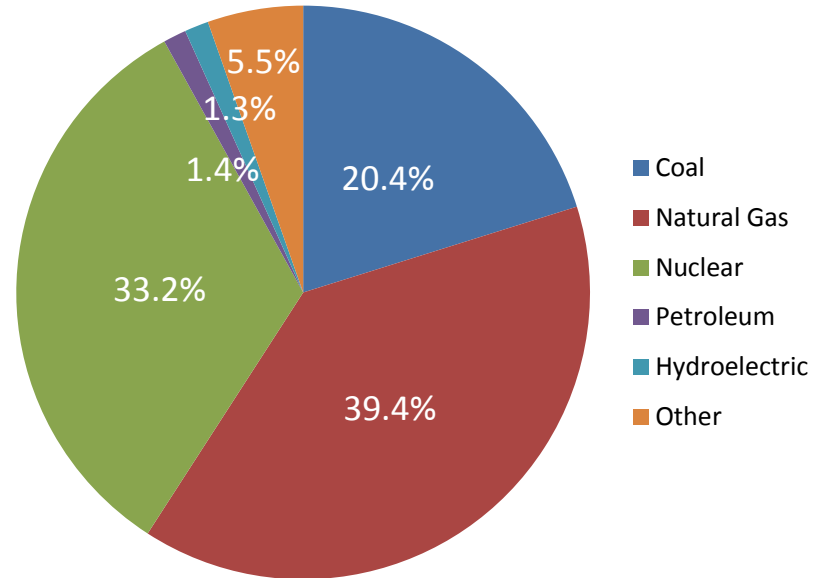
VA Generation in 2005

**Total Generation
79 Million Megawatt Hours**



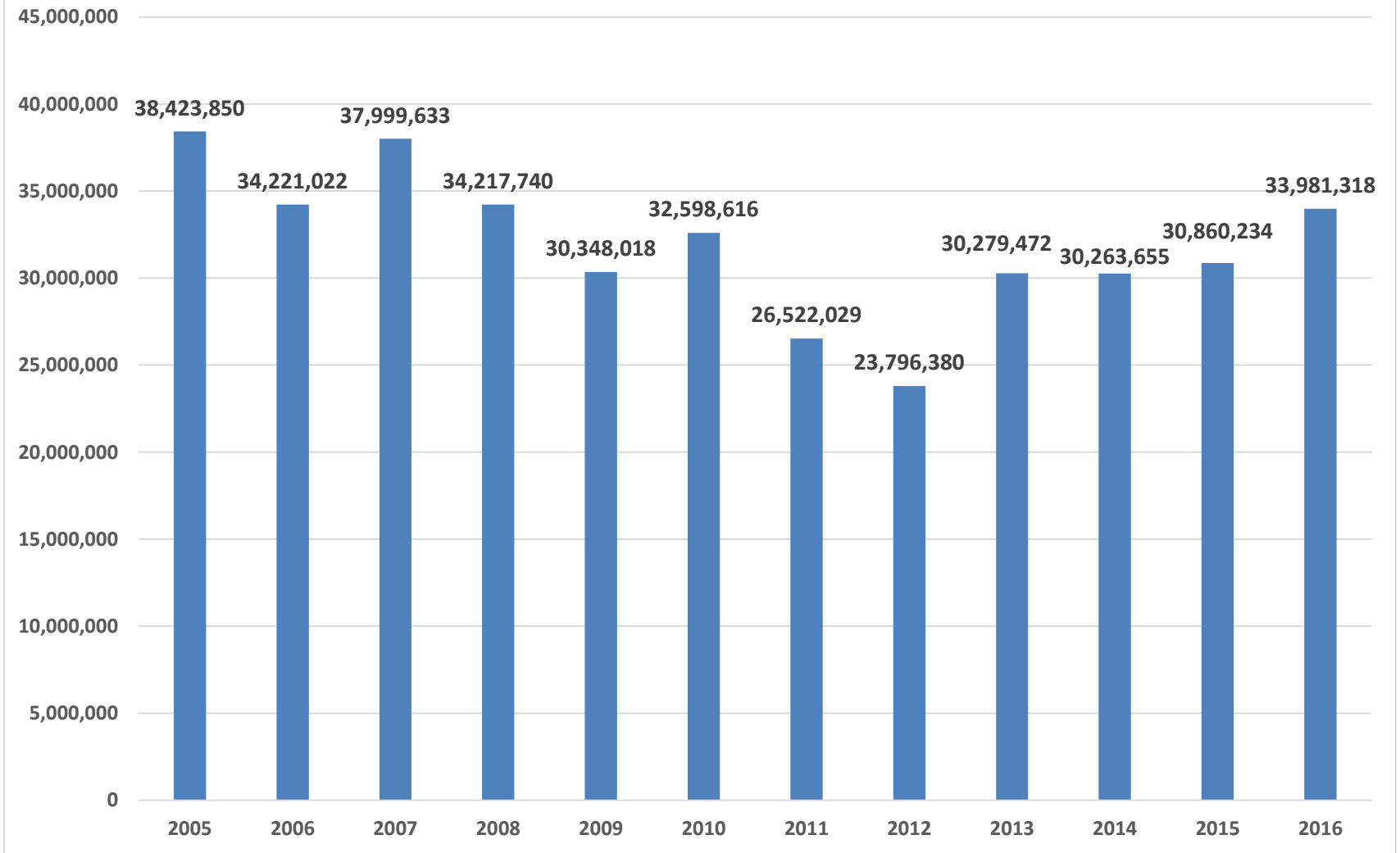
VA Generation in 2015

**Total Generation
84 Million Megawatt Hours**



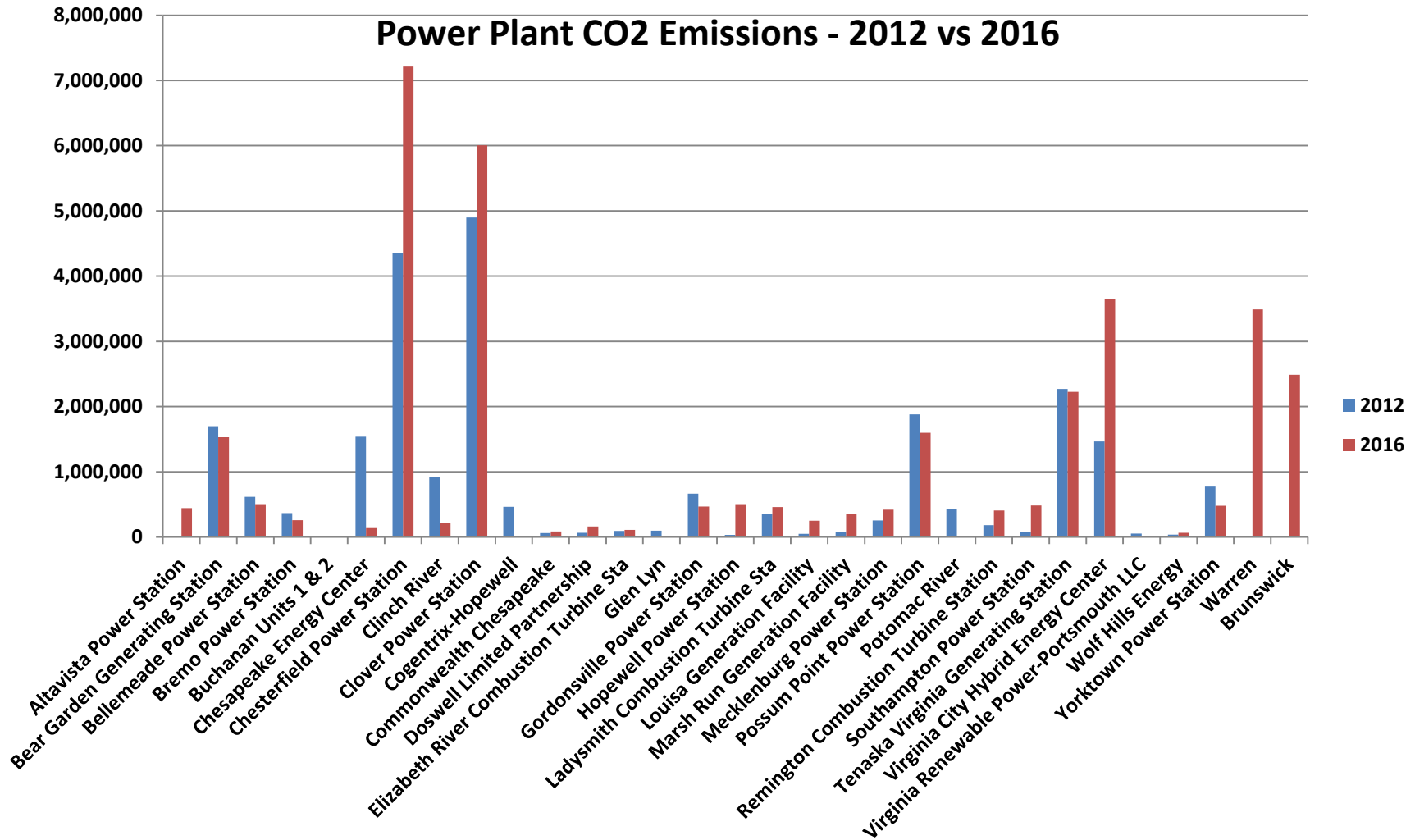
Source: US Energy Information Administration

Virginia Power Plant CO2 Emission Trends



Source: EPA Air Markets Program Data (AMPD)

Utility CO2 Emissions Trends in Virginia

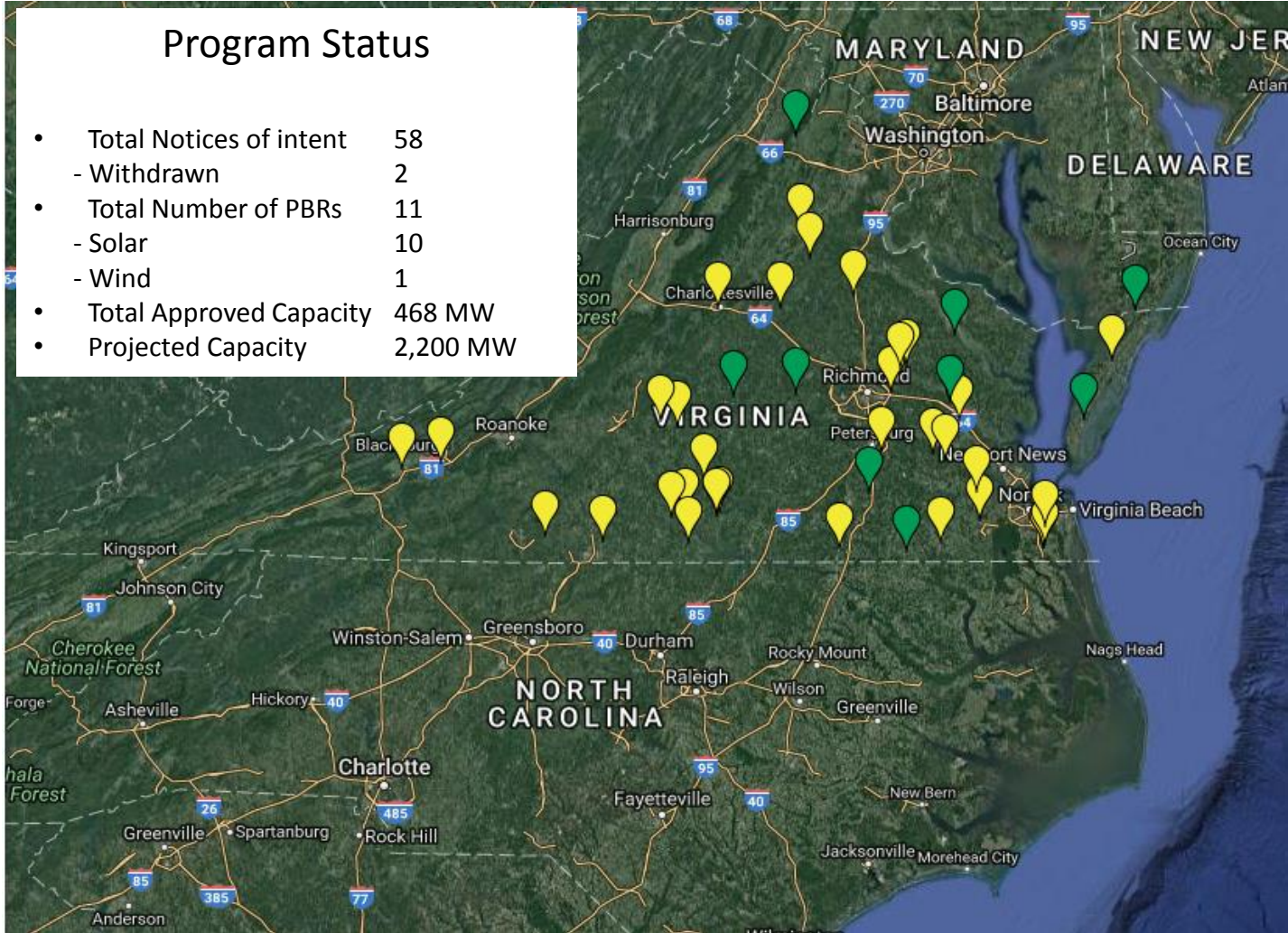


Source: EPA Air Markets Program Data (AMPD)

Renewable Energy Progress

Program Status

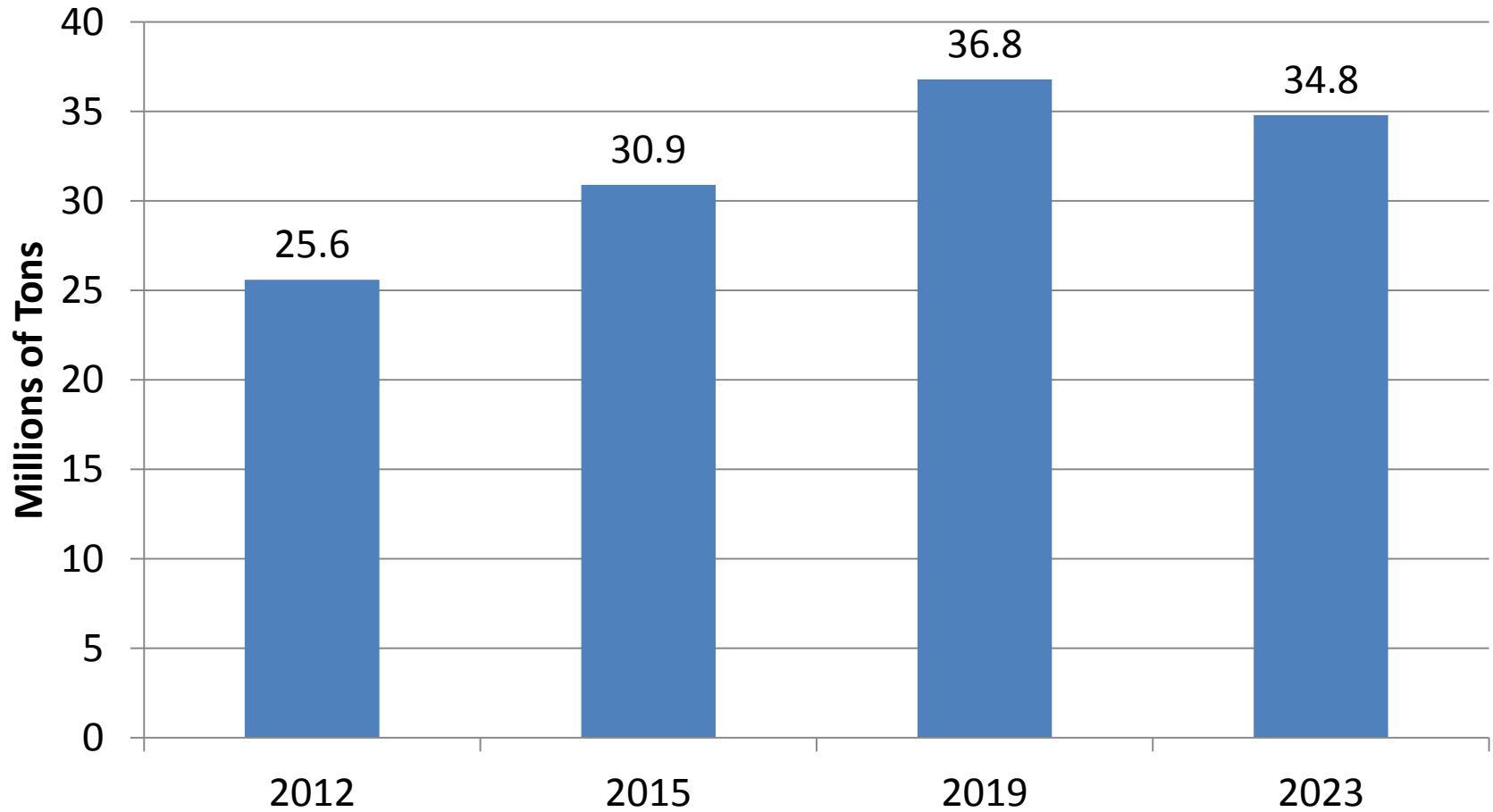
- Total Notices of intent 58
- Withdrawn 2
- Total Number of PBRs 11
- Solar 10
- Wind 1
- Total Approved Capacity 468 MW
- Projected Capacity 2,200 MW



Virginia and RGGI – Preliminary Assessment

- Based on initial analysis of source/unit applicability here's what we have:
 - 36 sources/130 units
- Big change from CPP – Simple cycle facilities & units included
- This represents ~23,000 Megawatts of generation
- CO2 emissions from these units was 31 million tons in 2015
- Emission expected to increase to about 37 million tons in 2019 - new units and increasing utilization
- Some additional non-egu units could be included or exempted
- We currently have about 400 MW of permitted solar projects in the pipeline with potential to over 2000 MW

VA CO2 Projections



Source: ERTAC Utility Sector Projection Tool