





# Air & Renewable Energy Regulatory Update

## VEEP Workshop

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Michael G. Dowd

Director, Air & Renewable Energy Div.

Virginia Department of Environmental Quality

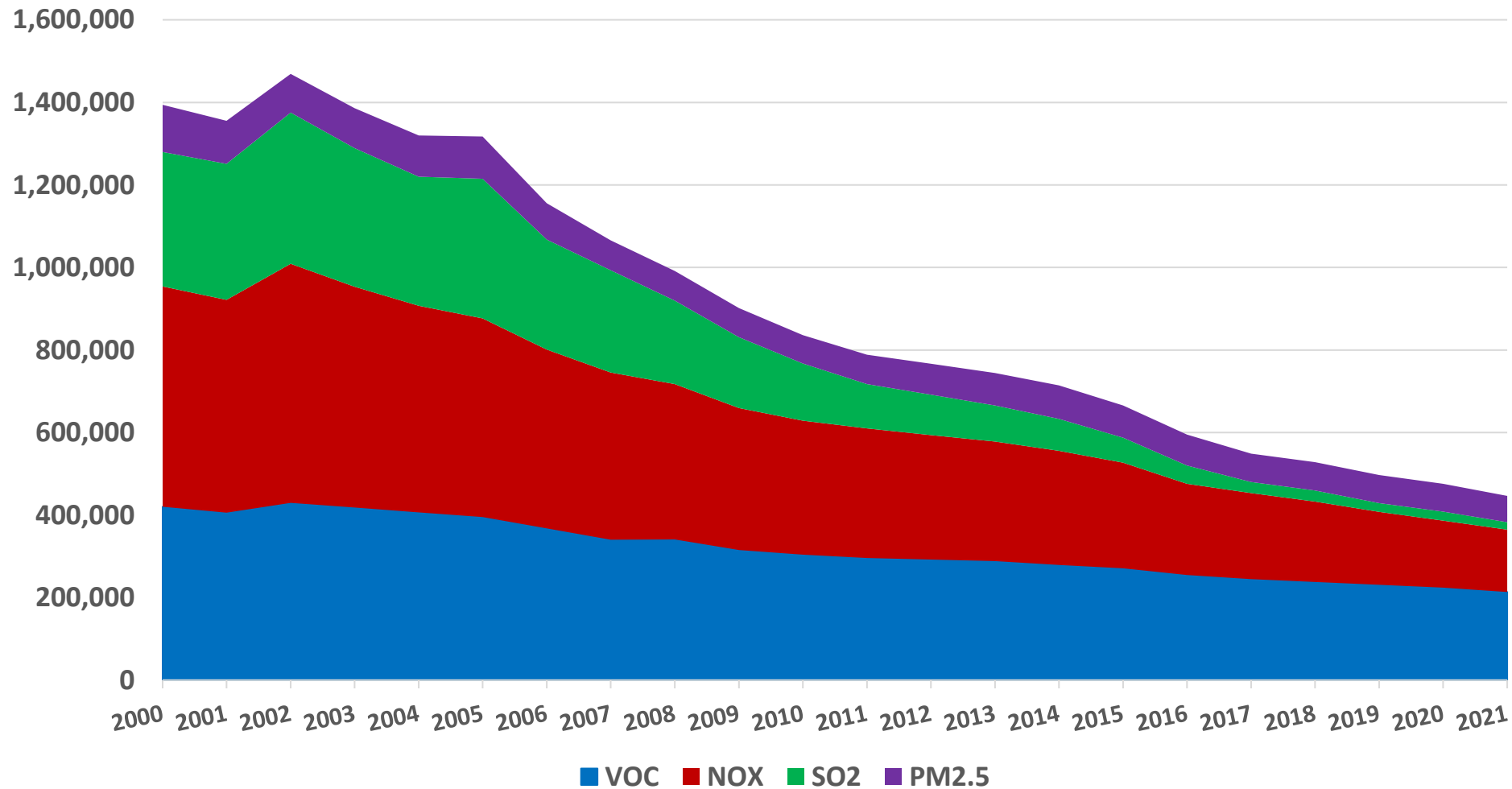
May 25, 2023



Air

# Emission Reduction Trends

Virginia Criteria Pollutant Trends



# EPA Our Nation's Air Report – Trends Through 2022

- The report released May 23 shows that between 1970 and 2022, the combined emissions of six key pollutants dropped by 78%, while the U.S. economy grew 304% over the same time.
- National average concentrations of air pollutants decreased considerably across the nation between 1990 and 2022:
  - Carbon Monoxide (CO) 8-Hour: 81%
  - Lead (Pb) 3-Month Average: 88% *(from 2010)*
  - Nitrogen Dioxide (NO<sub>2</sub>) Annual: 60%
  - Nitrogen Dioxide (NO<sub>2</sub>) 1-Hour: 54%
  - Ozone (O<sub>3</sub>) 8-Hour: 22%
  - Particulate Matter 10 microns (PM<sub>10</sub>) 24-Hour: 34%
  - Particulate Matter 2.5 microns (PM<sub>2.5</sub>) Annual: 42% *(from 2000)*
  - Particulate Matter 2.5 microns (PM<sub>2.5</sub>) 24-Hour: 42% *(from 2000)*
  - Sulfur Dioxide (SO<sub>2</sub>) 1-Hour: 90%

# The Clean Air Act, National Ambient Air Quality Standards, and the Federal-State Partnership

- The Act directs EPA to establish NAAQS for certain air pollutants at a level to protect human health with an adequate margin of safety
  - Ozone
  - PM10
  - PM2.5
  - Sulfur dioxide
  - Nitrogen dioxide
  - Lead
  - Carbon monoxide
- The Act directs states to develop, implement, and enforce plans to achieve and maintain the NAAQS
  - Northern Virginia – nonattainment for ozone
  - Giles County – nonattainment for SO2

# Federal Ozone Air Quality Standards

- **1979 Standard**

- 0.12 ppm
- Averaged over one hour

- **1997 Standard**

- 0.08 ppm
- Averaged over eight hours

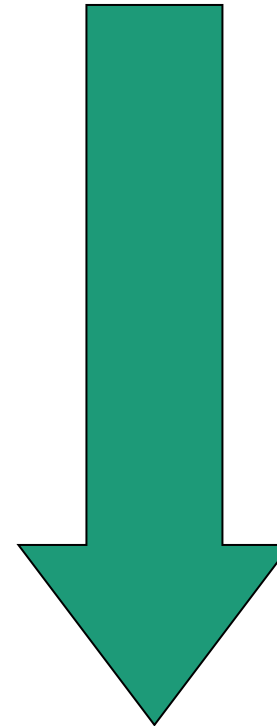
- **2008 Standard**

- 0.075 ppm
- Averaged over eight hours

- **2015 Standard\***

- 0.070 ppm
- Averaged over eight hours

**LESS  
STRINGENT**



**MORE  
STRINGENT**

*\* EPA's revised draft Policy Assessment for the ozone NAAQS, dated March 1, 2023, indicates that EPA is not considering changing the primary ozone standard.*



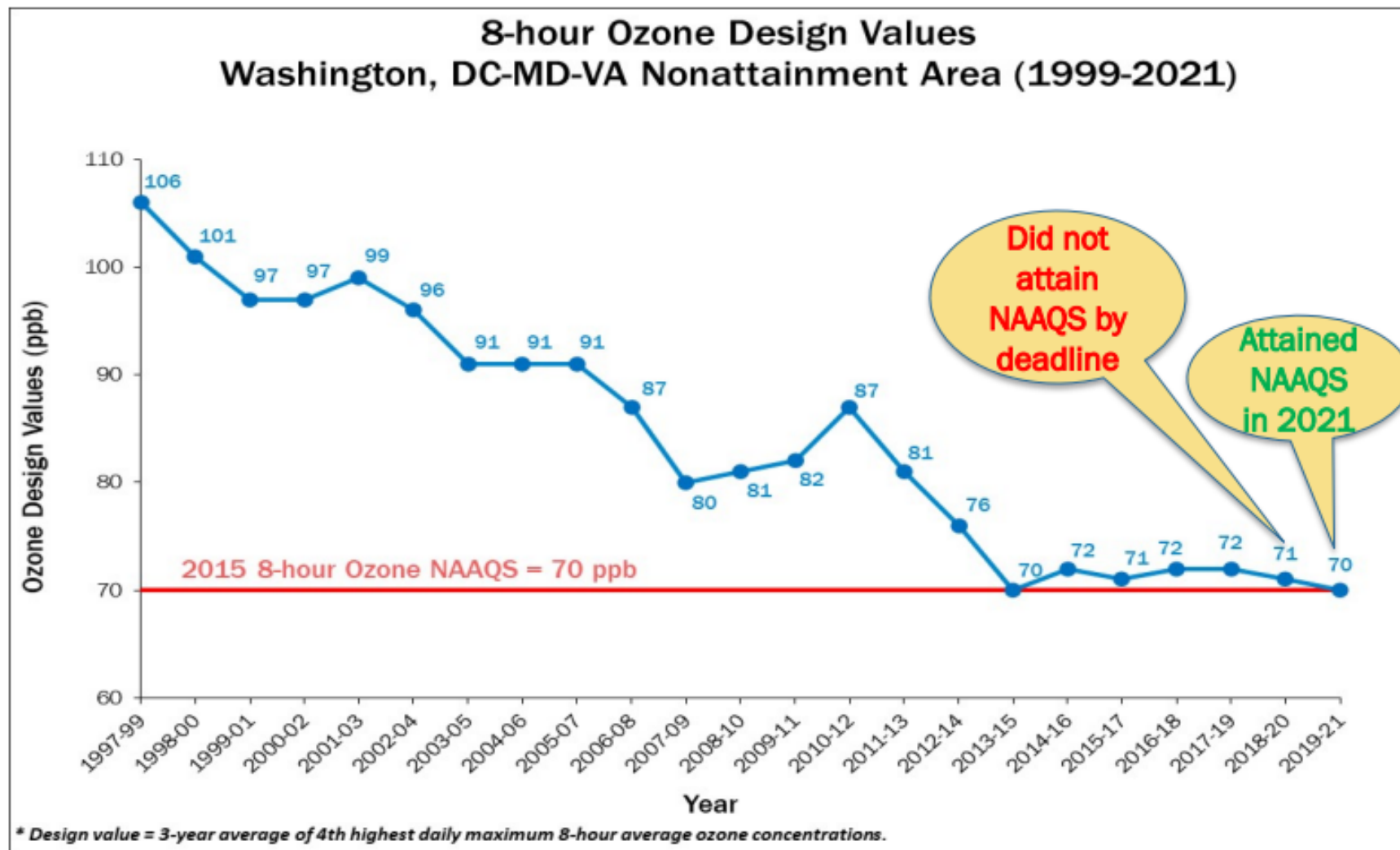
# Metropolitan Washington, D.C. 2015 Ozone NAAQS Nonattainment Area

- Tri-state nonattainment area:
  - More than 5,800,000 people
  - District of Columbia
  - Maryland: Counties of Calvert, Charles, Frederick, Montgomery and Prince George's
  - Virginia: Counties of Arlington, Fairfax, Loudoun, and Prince William; Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park
- Historic, persistent ozone problems





# Ozone Design Value Trend

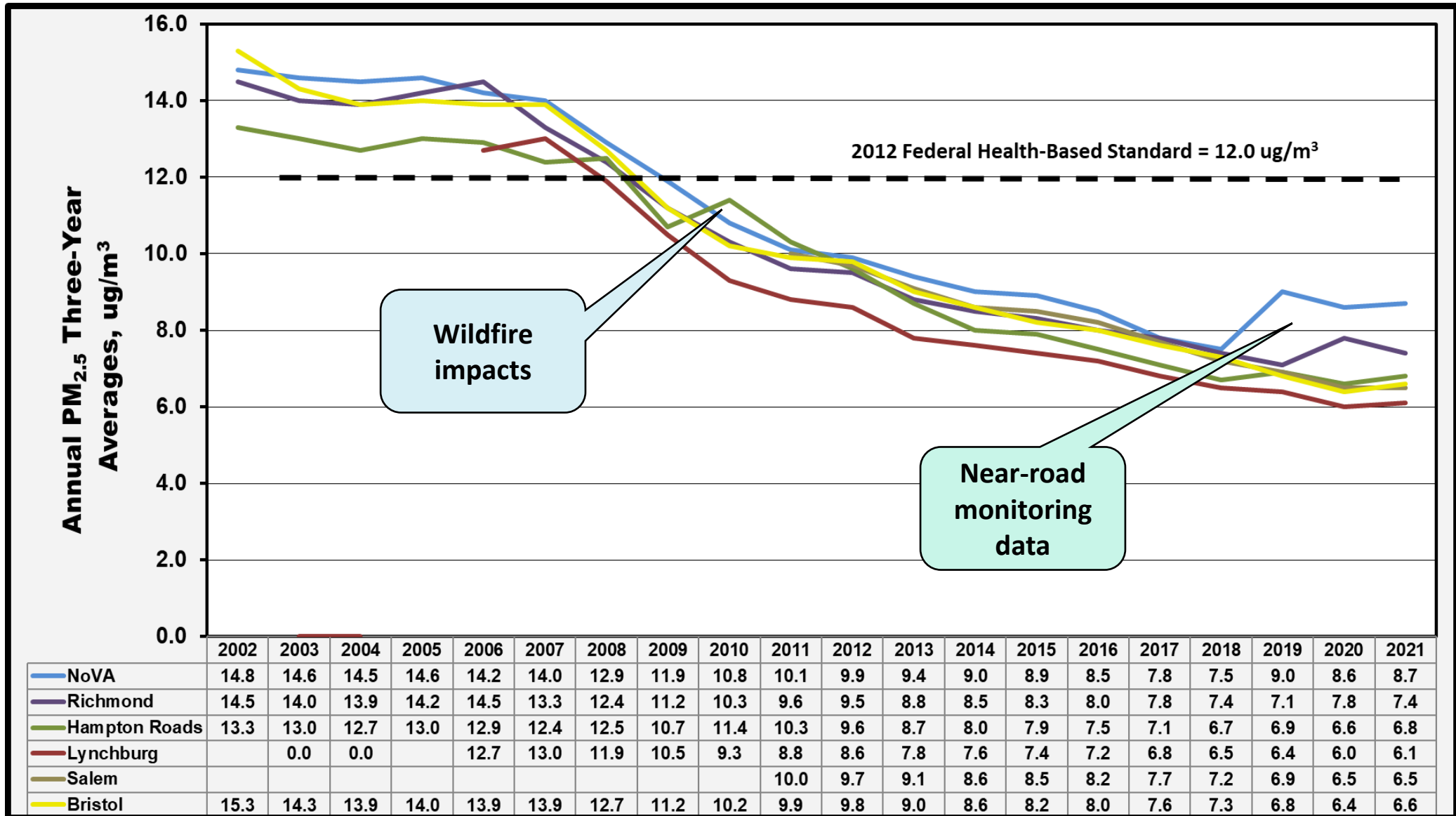




## Next Steps

- DEQ officially asked EPA for a Clean Data Determination (CDD) for the region last November
- DEQ's letter was quickly followed with similar requests from D.C. and Maryland for a CDD
- EPA was receptive and proposed making the CDD on January 31, 2023
- A CDD is the first step in EPA's process to formally redesignate the Northern Virginia/D.C./Suburban Maryland region as attainment for the ozone NAAQS

# Virginia's Air Quality Trends – PM<sub>2.5</sub>



- **1971 Standards (TSP)**

- Primary
  - 260  $\mu\text{g}/\text{m}^3$ , 24-hour
  - 75  $\mu\text{g}/\text{m}^3$ , annual
- Secondary
  - 150  $\mu\text{g}/\text{m}^3$ , 24-hour
  - 60  $\mu\text{g}/\text{m}^3$ , annual

- **1987 Standards (PM<sub>10</sub>)**

- 150  $\mu\text{g}/\text{m}^3$ , 24-hour
- 50  $\mu\text{g}/\text{m}^3$ , annual

- **1997 Standards (PM<sub>2.5</sub> & PM<sub>10</sub>)**

- PM<sub>2.5</sub>
  - 65  $\mu\text{g}/\text{m}^3$ , 24-hour
  - 15.0  $\mu\text{g}/\text{m}^3$ , annual
- PM<sub>10</sub>
  - 150  $\mu\text{g}/\text{m}^3$ , 24-hour
  - 50  $\mu\text{g}/\text{m}^3$ , annual

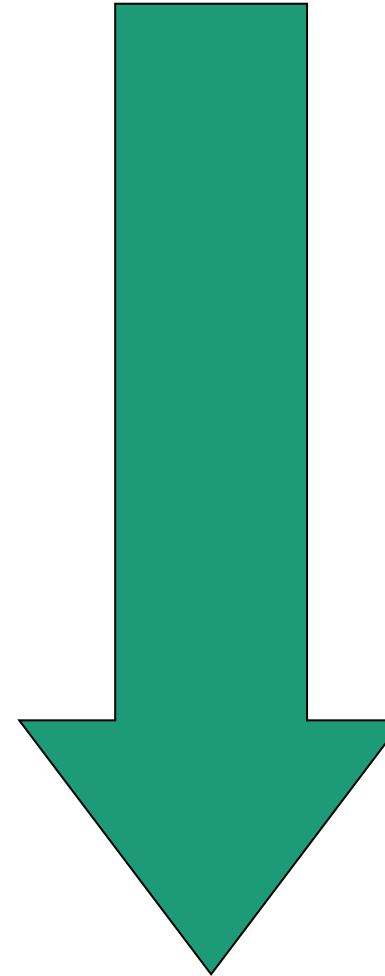
- **2006 Standards (PM<sub>2.5</sub> & PM<sub>10</sub>)**

- PM<sub>2.5</sub>
  - 35  $\mu\text{g}/\text{m}^3$ , 24-hour
  - 15.0  $\mu\text{g}/\text{m}^3$ , annual
- PM<sub>10</sub>: 150  $\mu\text{g}/\text{m}^3$ , 24-hour

- **2012 Standards (PM<sub>2.5</sub> & PM<sub>10</sub>)**

- PM<sub>2.5</sub>
  - 35  $\mu\text{g}/\text{m}^3$ , 24-hour
  - 12.0  $\mu\text{g}/\text{m}^3$ , annual primary; 15.0  $\mu\text{g}/\text{m}^3$  annual secondary.
- PM<sub>10</sub>: 150  $\mu\text{g}/\text{m}^3$ , 24-hour

**LESS  
STRINGENT**



**MORE STRINGENT**

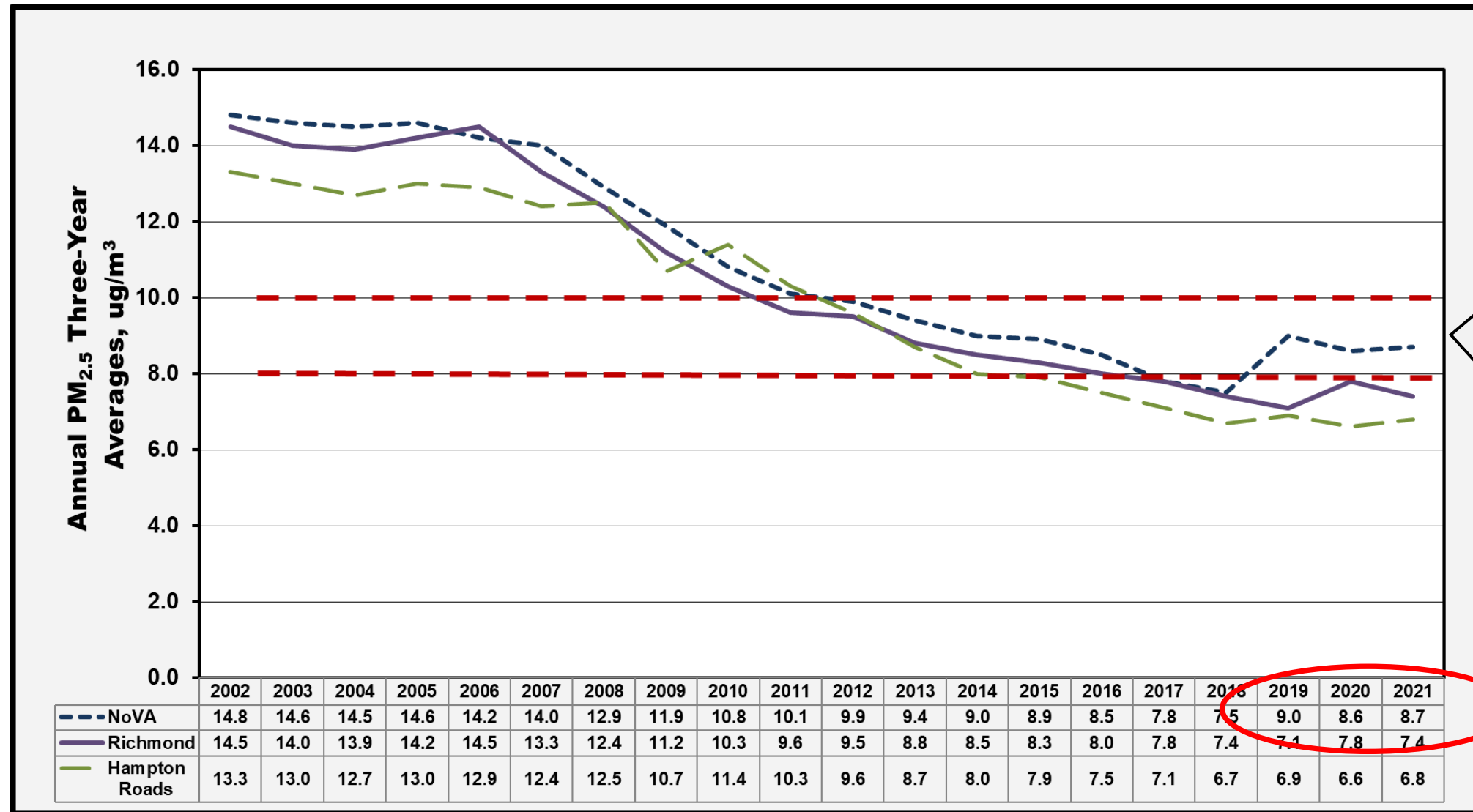
## Federal Particulate Air Quality Standards

# PM<sub>2.5</sub> NAAQS Updates

- Current standards:
  - 35 µg/m<sup>3</sup>, daily 24 hr. average
  - 12.0 µg/m<sup>3</sup>, annual average
- EPA in January proposed to lower the annual PM<sub>2.5</sub> NAAQS to between 9-10 microns per cubic meter,
  - Also taking comment on whether to establish the annual standard as low as 8 microns per cubic meter instead
  - Proposed to retain the daily 24 hr. standard
- Comment period closed in March
- EPA expected to finalize the new PM<sub>2.5</sub> NAAQS sometime later this year.



# Virginia PM<sub>2.5</sub> Monitoring Data and Possible New Standard



Depending on where the new standard is set, Virginia may have additional planning requirements, particularly for NoVA.



# Renewable Energy





# **Solar PBR Program Status: 5/23/2023**

## **Permitted Projects**

**(Rated Capacity > 5 MW and Disturbance zone > 10 acres)**

• PBRs Issued:	86
• Megawatts (MW)	4,366
• Permitted Acreage	51,668
• Projects Operational	30
• MW in operation	1,278.3
• Projects Under Construction	16

## Potential Projects

• Notices of Intent (NOI)	57
• Projected MW	2,034.2
• Projected NOI Acreage	22,932
• Potential Total Acreage (NOI + permitted)	<b>77,910</b>

# **Section 130 Projects**

**(Rated Capacity > 500 kW and  $\leq$  5 MW or  
Disturbance Zone > 2 acres and  $\leq$  10 acres)**

- Section 130 Permits
  - 78 Projects
  - 262.6 MW
  - 3,310 Acres

# Project Acreage by City/County (Top 20)

Locality	# of Apps & Permits	Megawatts	Total Acres
Halifax County	11	462.1	5,121
Pittsylvania County	11	265	3,546
Louisa County	11	364	3,480
Prince George County	3	174.7	3,294
Lancaster County	5	145.2	3,136
Frederick County	4	235	2,648
Buckingham County	5	193.1	2,513
Greensville County	3	189	2,461
Gloucester County	4	191	2,376
Lunenburg County	3	137	1,994
Sussex County	3	138	1,986
Campbell County	3	155	1,962
Charlotte County	4	171.6	1,882
Isle of Wight County	3	125	1,748
Chesapeake City	5	228	1,711
Richmond County	5	142	1,701
Surry County	1	150	1,650
Southampton County	1	100	1,200
Henry County	4	109.8	1,165
Mecklenburg County	3	168	1,053

# HB 206 Small Renewable Energy Projects' Impact on Natural Resources

- Passed by General Assembly in 2022
- Amended Va. Code §10.1-1197.6
- Solar projects are deemed to have a significant adverse impact if they disturb more than 10 acres of prime agricultural soils or 50 acres of contiguous forest lands
- Must submit plan detailing reasonable actions to avoid, minimize, or mitigate impacts
- Becomes effective upon adoption of implementing regulations

# HB 206 Background

- HB 206 directed DEQ to:
  - Form an advisory panel to look at the impact to prime agricultural soils and forest land and evaluate appropriate mitigation as a result of utility solar development under the Small Renewable Energy Permit By Rule (PBR) program
  - Prepare a report to the General Assembly by December 1, 2022
  - Develop regulations by December 31, 2024



# HB 206 Advisory Panel

- DEQ solicited an advisory panel consisting of representatives from a variety of groups as specified in HB206
- The advisory panel was comprised of approximately 90 participants that included environmental interests, solar developer interests, localities, representatives from multiple state agencies, and other interested parties
  - Representatives from State Agencies and State Universities were utilized as Subject Matter Experts attending all advisory panel meetings and provided expertise as requested
- Due to size of panel, DEQ contracted with University of Virginia's Institute of Engagement and Negotiation (IEN) to facilitate
- DEQ and IEN set a series of 5 meetings to develop recommendations for the report to the General Assembly

# HB 206 Workgroups

- Due to its size, advisory panel was split into 5 workgroups
  - Two of the workgroups were combined due to the similarity of topics
- Workgroup 1 – Avoidance and Mitigation
- Workgroup 2 & 3 – Mitigation/In Lieu Mitigation
- Workgroup 4 – Significant Adverse Impact <10 Acres of Prime Soils and <50 Acres of Forest
- Workgroup 5 – Local Control
- Workgroups developed 41 proposals, but did not reach consensus on any major concept

# Illustrative Major Issues

- How do you value loss of environmental or ecological function?
  - “How much is a tree worth?”
  - Necessary to answer before value can be placed on mitigation measures
- Can/should applicant be allowed to perform mitigation measures off project site?
  - Should in lieu mitigation be allowed?
- Should prime agricultural soils be contiguous to trigger 10 acre presumption of significant adverse impact?
- At what point should localities be informed of the details of a proposed solar project?
  - Localities want to be informed as soon as possible
  - Applicants say informing too early would jeopardize competitive interests
- Should localities be able to impose stricter mitigation or additional requirements than state agencies?

# Next Steps

- DEQ submitted lengthy Final Report to Governor and General Assembly last November
- Final Report contained few issues on which consensus was reached but thoroughly present the views of all Advisory Panel members
- HB 206 Advisory Panel formally disbanded last December
- General Assembly took no action last session to amend or revise HB 206 and has provided DEQ with no further comment or advice on how to proceed
- DEQ will shortly form new stakeholder workgroup and publish Notice of Intended Regulatory Action (NOIRA) to begin a regulatory process to revise the small solar permit by rule regulations by end of 2024 as directed by HB 206

# QUESTIONS?