



Asheville-Buncombe
Air Quality Agency

Environment and Energy Subcommittee

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AB Air Quality - Mission/Overview

- The mission of the Agency is to protect and monitor the area's air quality to safeguard the public health and the environment.
- One of three (Mecklenburg, Forsyth, Buncombe) state certified local air pollution control programs in NC that is responsible for monitoring and regulating air quality.
 - Forsyth and Mecklenburg are county programs, A-B is multijurisdictional.

Air Pollution in WNC

- Temperature Inversions
 - Trap air pollution near surface, rather than dispersing it
- “Bowl” Effect associated with topography
- Any locally-generated pollution exacerbates the problem



History

- City of Asheville Smoke Abatement Program – 1947-1967
- Multi-County Agency
 - 1967-1970 Buncombe, Haywood, Henderson, Transylvania
 - 1970-2000 Buncombe and Haywood
 - 2000-Buncombe County and City of Asheville



Air Pollution in WNC

- Volatile organic compounds (VOC) and Nitrogen Oxides(NOx) react with heat and sunlight to make ozone
 - Ozone formation depends mostly on NOx
 - NOx is emitted by cars, trucks, Duke Energy Progress Skyland Plant
- Most Particulate Matter (PM2.5) forms as a result of chemical reactions involving sulfur dioxide and nitrogen oxides that are emitted from power plants, industries and automobiles. Also results from open burning, road dust, land clearing, etc.
 - Very small particles, less than 2.5 microns
 - Causes haze (reduced visibility)
- Health effects-heart and respiratory illness
- Weather and geography are important factors

AB Air Quality - Overview

- Inter-local Agreement (Pursuant to NCGS 143-215.112 Local Air Pollution Control Programs)
- Governed by an Independent 5 Member Board
 - 3 members are appointed by Buncombe County Commission
 - 2 members are appointed by Asheville City Council
- Advisory Committee
 - Several members of the community from diverse backgrounds
 - Citizens may apply and are appointed by the board

What does the WNC Regional Air Quality Agency do?

- Monitor Air Quality for compliance with National Ambient Air Quality Standards (NAAQS)
- Responsible for implementing federal, state, and local air quality regulations
 - Permitting of industrial and area sources (industrial facilities, gas stations)
 - Compliance and Enforcement
 - Risk Management Plans (CAA 112r), drycleaners (perchloroethylene)
 - Fugitive dust, odor complaints
 - Asbestos Removal and Open Burning
- Education and Outreach
 - Pollution Prevention Projects and Outreach
 - Partners: LOS Clean Air Campaign, Clean Vehicles Coalition
 - Indoor Air Quality – radon awareness, IAQ webpage
 - Website – www.abairquality.org, social media

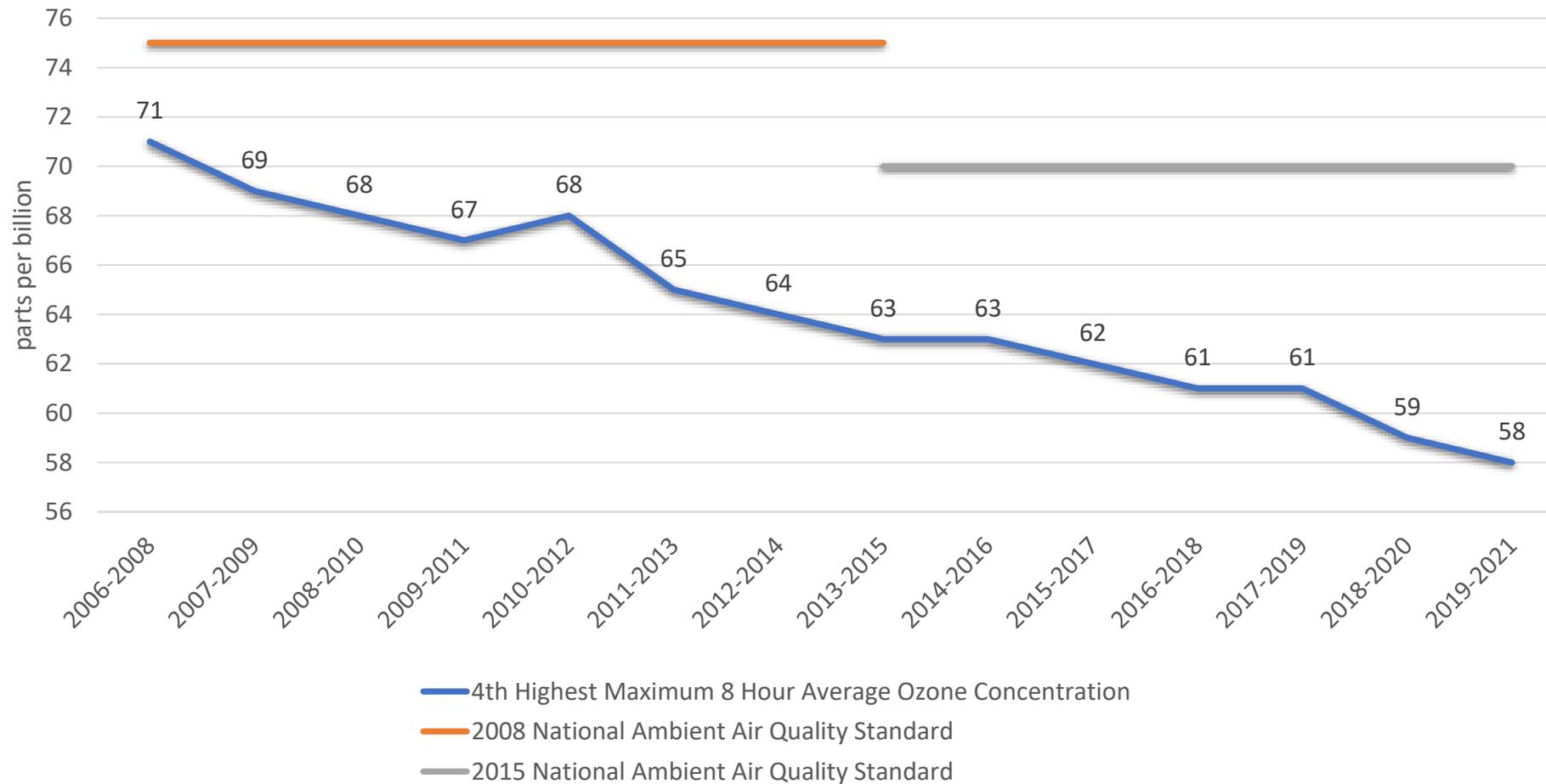
Monitoring Network

- PM 2.5 – Board of Education Building
 - BAM 1022
 - ThermoFisher 2025i
- Ozone – Bent Creek
 - ThermoFisher Model 49i
- Air Toxics – AB Tech
 - Xonteck 911 Volatile Organic Compound Sampler



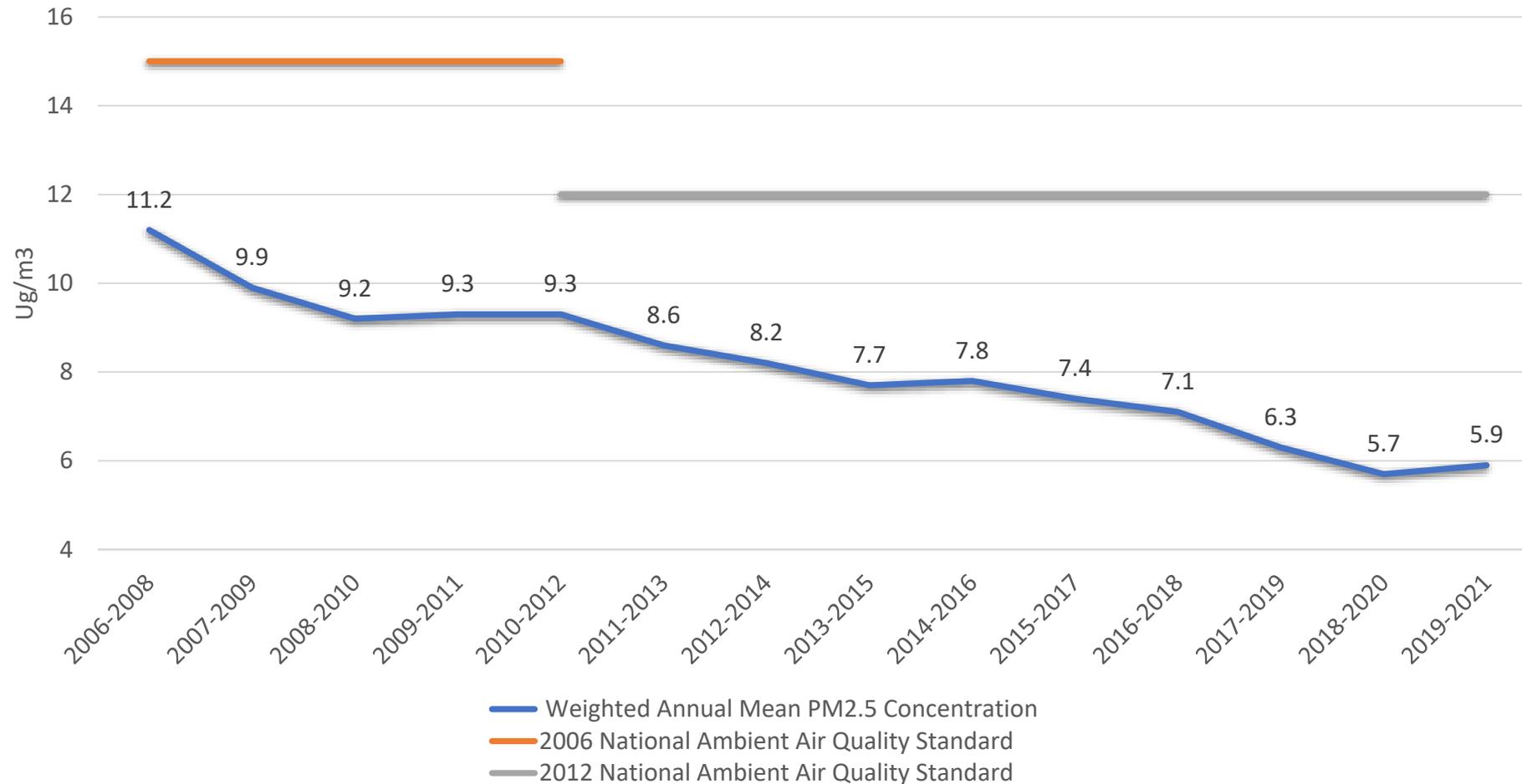
Ozone Levels in Buncombe County

Ozone 3-Year Design Values for Buncombe County

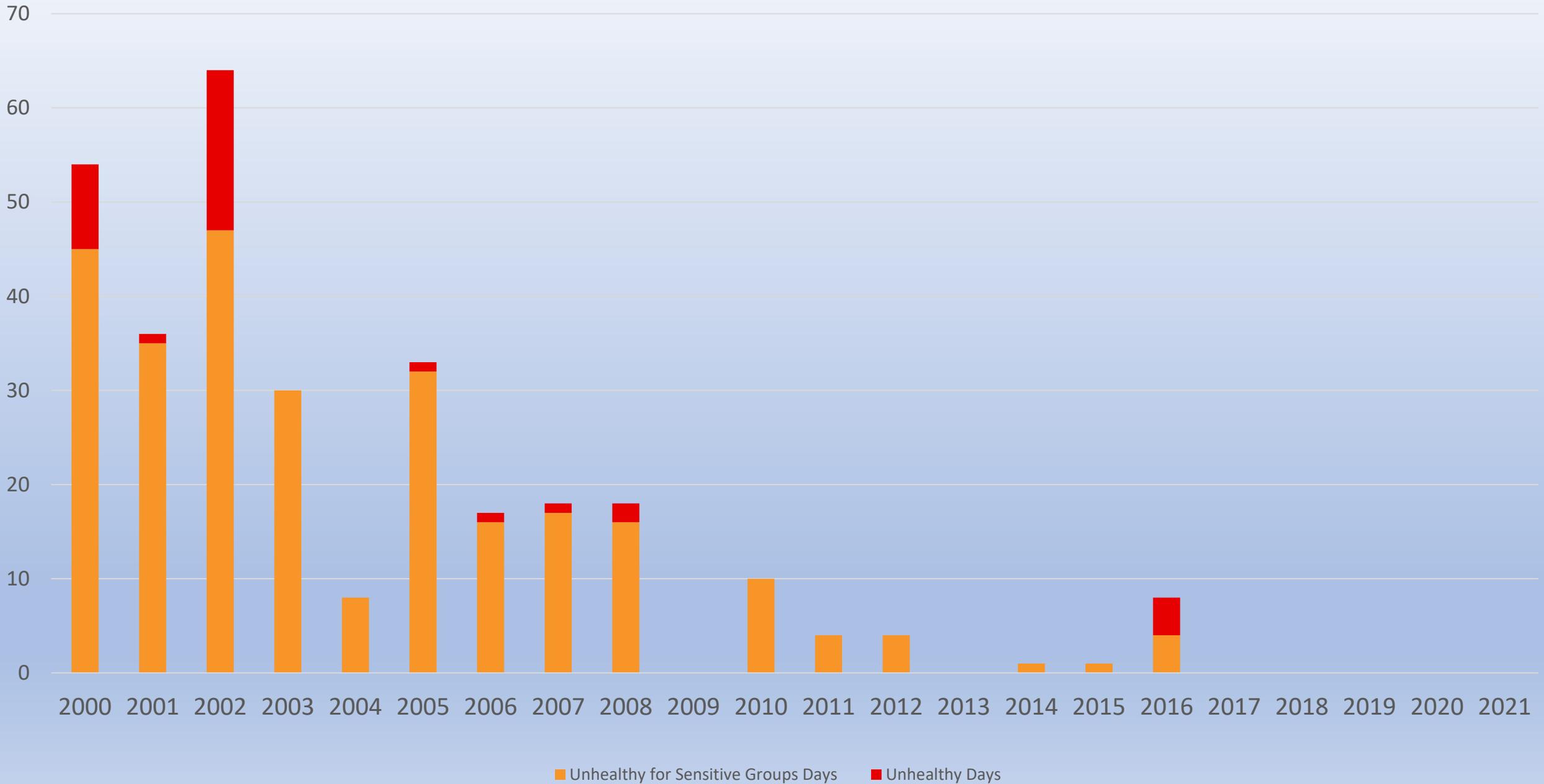


PM2.5 Levels in Buncombe County

PM2.5 3-Year Design Values for Buncombe County

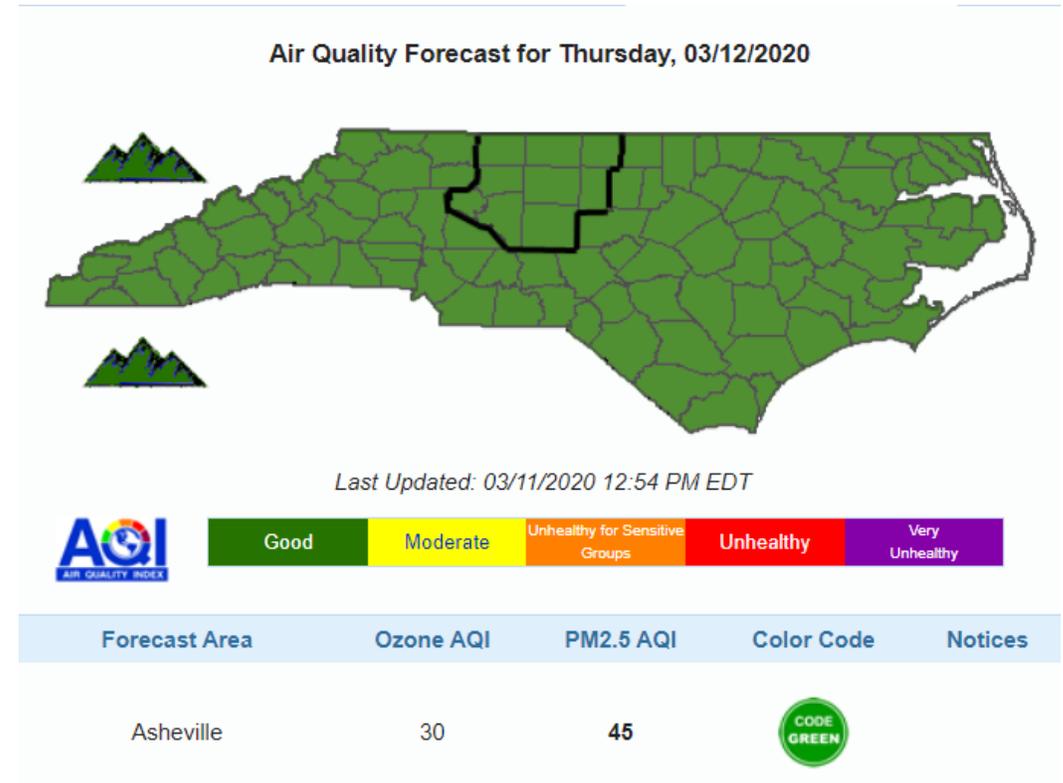


Number of PM_{2.5} / O₃ Unhealthy Days Per Year in Asheville CBSA



Air Quality Index

- Know the Code, check the NC DAQ's Forecasting Page:
<https://xapps.ncdenr.org/aq/ForecastCenterEnvista>
- Forecasts are now done by county
- High elevation forecasts are now split between North Ridges and South Ridges
- NEW partnership with state climate office and DAQ: Air Quality Portal with Ozone data (current and forecast), monitoring tools and latest blogs.
<https://airquality.climate.ncsu.edu/>



Know the Code

Air Quality Index Levels of Health Concern	Meaning
Good	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	Health alert: everyone may experience more serious health effects.
Hazardous	Health warnings of emergency conditions. The entire population is more likely to be affected.

Illegal Open Burning

- **Open Burning Regulations:**
- Open burning is regulated under Asheville Buncombe Air Quality Code Chapter 4 Section 1900
- Burning of household trash, construction materials, asphaltic materials, cardboard, processed wood, and papers are prohibited at any time
- More toxic air pollution is emitted by one burn barrel of trash than a municipal solid waste incinerator!
- Civil penalties-\$25,000 Maximum



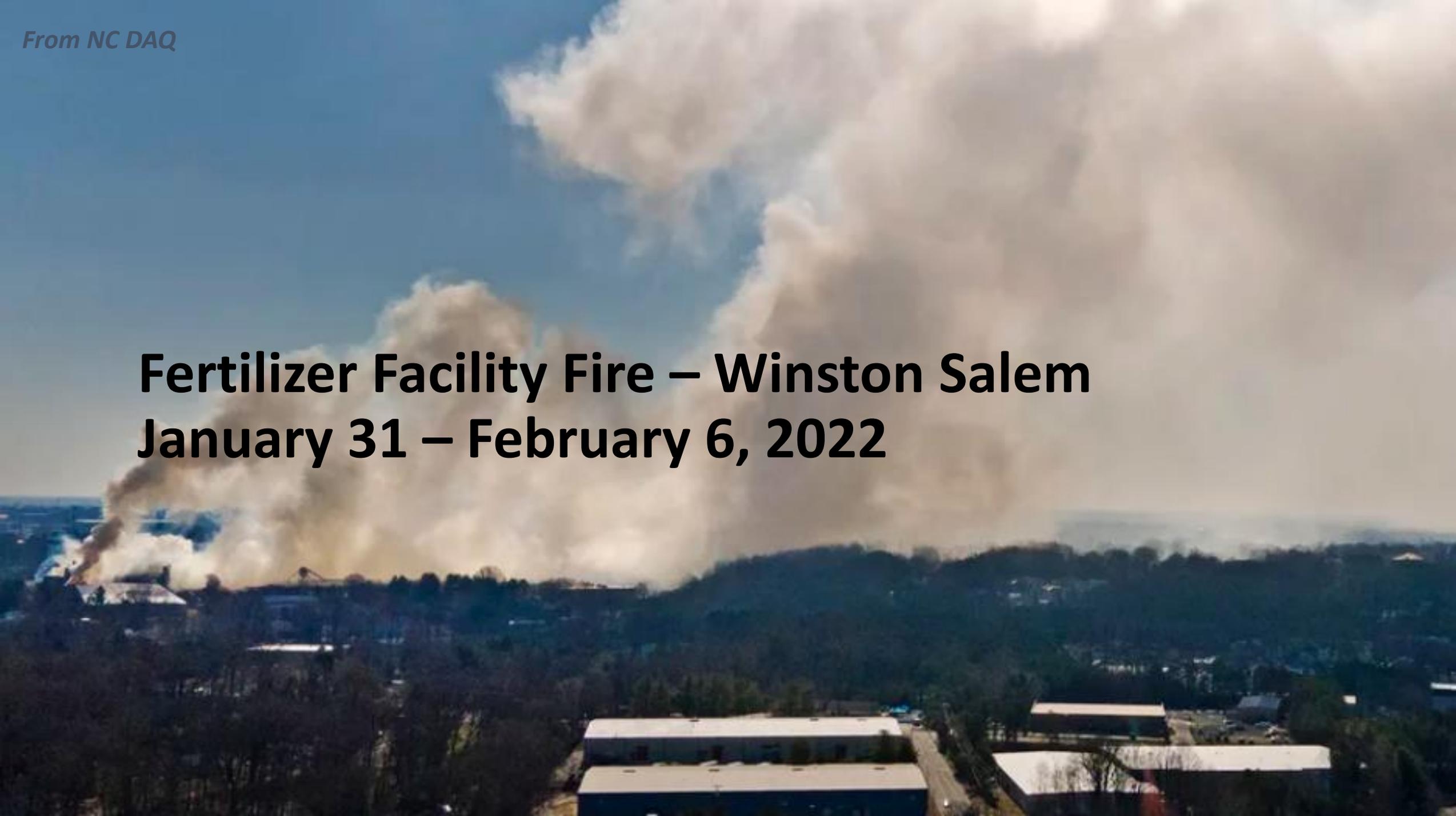
Permissible Open Burning

- Buncombe County residents can burn natural vegetation that originates from their own property on burning days between 8:00 a.m. and 6:00 p.m.
- Burning is not allowed where there is public pick up for yard waste (City of Asheville, Towns of Weaverville, Black Mountain, Woodfin, Montreat, and Biltmore Forest)
- Permits are no longer required by this Agency for the burning of machine piled brush, that is the result of land clearing. However, all land clearing must comply with the regulations: 500' from the nearest occupied structure, no logs or stumps over 12" diameter, and no dirt.
 - Set back requirement was changed by the NCGA from 1,000 feet to 500 feet in 2011.
 - Land clearing is related to construction of buildings, right of way maintenance, residential, commercial, or industrial development.



From NC DAQ

Fertilizer Facility Fire – Winston Salem January 31 – February 6, 2022





6,000 urged to evacuate as North Carolina fertilizer plant fire threatens an ammonium nitrate explosion

Smoke from fertilizer plant fire could pose health risks for some Winston-Salem residents, officials warn

Revenue History

- Agency is 100% self funded:
 - US EPA Grants
 - Industrial and commercial permit fees
 - NC Gas Tax
- Permit fees for Title V permitting program have been decreasing over time
 - Based on emissions
- EPA Grant Funding has been level since 2004
 - Funding decreased with inflation at least 16%
- NC Gas Tax is relatively stable over time but projected to decrease eventually

Revenue and Expense Forecasting

Revenues	2021	2022	2023	2024	2025	2026	2027
EPA Grants	\$265,536	\$270,642	\$352,700	\$275,500	\$275,500	\$275,500	\$275,500
NC Gas Tax Allocation	\$142,431	\$142,361	\$144,000	\$144,000	\$144,000	\$144,000	\$144,000
Title V Permit Fees	\$205,302	\$172,768	\$165,000	\$168,300	\$171,666	\$175,099	\$178,601
Small Source Permit Fees (includes Syn Minors)	\$88,727	\$86,036	\$112,000	\$112,000	\$112,000	\$112,000	\$112,000
Asbestos/Demo/Permit & Review Fees	\$181,848	\$133,293	\$153,000	\$150,000	\$148,000	\$147,000	\$144,000
Stage 1	\$43,075	\$48,025	\$52,650	\$52,650	\$52,650	\$52,650	\$52,650
Miscellaneous (invest, adm fees,etc)	\$16,955	\$517	\$950	\$950	\$950	\$950	\$950
Burning Permit Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect Funds returned by County	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Revenues	\$943,874	\$853,642	\$980,300	\$903,400	\$904,766	\$907,199	\$907,701
Total Expenses	\$824,228	\$816,940	\$1,090,272	\$1,084,176	\$1,087,065	\$1,120,994	\$1,155,996
Revenues less Expenses	\$119,646	\$36,702	-\$109,972	-\$180,776	-\$182,299	-\$213,794	-\$248,295

Fund Balance History

FY18	FY19	FY20	FY21 (June 30, 2021)
\$524,043	\$534,474	\$596,736	\$716,382.00

Potential Sources of Additional Revenue

- Permit Fees
 - Fees were increased in 2021. Landfill source added. \$99,401
 - Average annual loss with Duke emissions reduction: \$66,650
 - Net increase=\$32,751
 - Fee increases typically only occur once every few years. Fees should be stable (no large reductions expected).
- EPA 105 grant
 - Level of funding flat since 2004
 - Very modest increase in 105 grant in FY22 (between \$1,000 and \$5,000-TBD)
- Gas Tax Revenues
 - NC DAQ looking at alternative funding to offset projected shortfall in future years (more fuel efficient vehicles, hybrids and electric, reduced VMTs)
- Annual Contribution from Buncombe County and City of Asheville?
- Capital project request to county for electronic documents/digitizing files?

20 Years Ago



From NC DAQ



10 Years Ago



From NC DAQ



Today



From NC DAQ



What's New

- Duke Energy Progress Western Carolinas Modernization Project
 - 2 new natural gas/fuel oil fired combined cycle are operational.
 - Coal fired units retired on January 29, 2020
- COVID-19 Funding
 - Funding opportunities-AB Air Quality partners with LOS Clean Air Campaign and County Sustainability, Emergency Services, Board of Education, Green Built Alliance on grant proposal
- American Rescue Plan funds for new air pollution monitors in Buncombe County
 - New PM-10 monitor and replacement equipment for ozone
- Upgrade to Buncombe County Air Pollution Monitoring Site
 - Moving site from Roof to Ground
 - Safety benefits
 - Sensor shelter for citizen science projects
- Breath of Mountain Air-Workshop with Clean Air Campaign 2022
 - 60 planners attended, education credits
- Indoor Air Quality Presentation with County Wellness Team
- VW Settlement funds for mobile sources



From NC DAQ

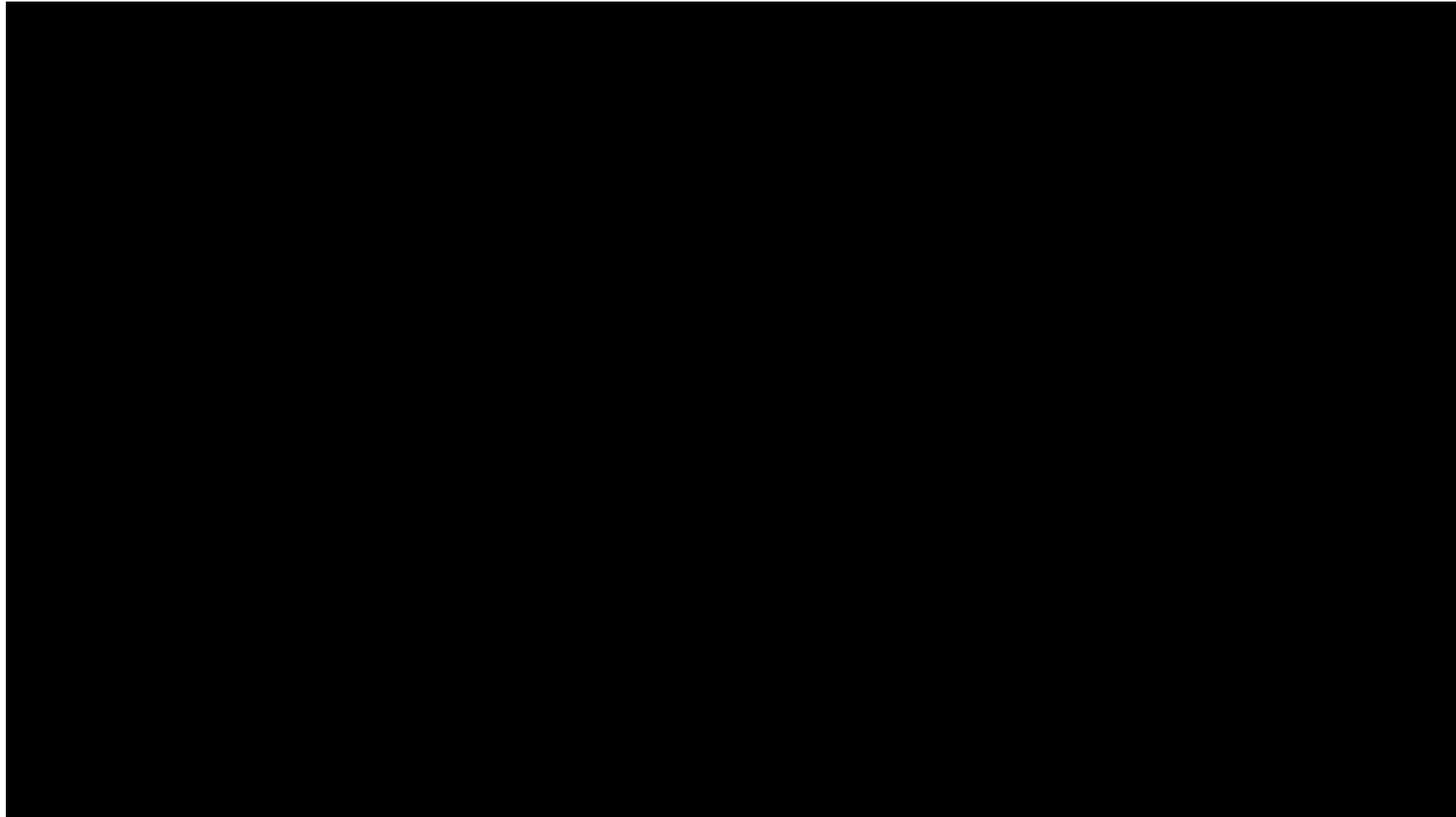
What's New

- Electric School Buses-funding available now
 - First Electric School Bus in NC-Cherokee (NC VW settlement funds)
 - EPA Program-5 billion over 5 years. \$500 million per year.
- EPA Advance Program-community partnerships
- Agency Advisory Committee-new members
- Environmental Justice/Equity policies and project opportunities
- Air and Climate-co-benefits and partnerships
- EPA revising National Ambient Air Quality Standards for O₃ and PM
- Voluntary Hangtag Guidelines for Manufacturers of Wood-Burning Devices (Wood stoves and heaters that meet new 2015 standards that go into effect in 2020)

What's New

- EPA Strategic Plan: Climate change and air quality.
 - Reducing ground level ozone, PM, radon (indoors). Addressing GHGs with transportation strategies.
- Climate Change Adaptation Resource Center (ARC-X)
 - Interactive resource for local governments
 - Information tailored specifically to needs of a given area
 - Focus on risks posed by climate change, relevant adaptation strategies, case studies and tools, EPA funding opportunities
 - <https://youtu.be/IWV9MUuyS-Y>
 - Website: <https://www.epa.gov/arc-x>

Climate Change Adaptation Resource Center (ARC-X)



Climate Change Adaptation Resource Center (ARC-X)

EPA's **Adaptation Resource Center (ARC-X)** is an interactive resource to help local governments effectively deliver services to their communities even as the climate changes. Decision makers can create an integrated package of information *tailored specifically to their needs*. Once users select areas of interest, they will find information about: the risks posed by climate change to the issues of concern; relevant adaptation strategies; case studies illustrating how other communities have successfully adapted to those risks and tools to replicate their successes; and EPA funding opportunities.

How to Use ARC-X



- [Navigation Tips](#)

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Information Tailored to Your Needs



Explore the Center

Learn about a specific topic:

- [Climate Change Implications](#)
- [Adaptation Strategies](#)
- [Case Studies](#)
- [EPA Tools](#)
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- [Federal Funding](#)
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- [EPA Contacts and State Websites](#)

Advisory Committee

- Potential Roles and Responsibilities
 - Clean Air Excellence Awards Support
 - Citizen Science Projects
 - Public Outreach-work with UNCA and other partners
 - Free Radon Kits (make it a budget item?)
 - Woodstove Changeouts and Ground Source Heat Pumps
 - Personal air sensors
 - Energy efficiency treasure hunts-breweries
 - Electric lawn mower rebate program
 - Battery Swap Programs
 - Grant Research and Application Assistance
 - EPA Advance Program
 - Path forward and outreach
 - Apply for funds to reduce emissions from county fleet-EVs and infrastructure, idle reduction technology
 - Environmental Justice/Equity Policy for Agency
 - Other?

Recognizing Voluntary Initiatives



- Eaton Corporation's Arden Plant
 - Replaced older class 4 laser with new class 4 optic fiber laser
 - Projected Annual GHG Reduction = 65,981 pounds per year
 - Reduce GHG from laser energy usage by 87%



Contact Information

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Thank you!