Annual State of Our Air Briefing and Press Conference

Sponsored by:
Regional Clean Air Campaign, N.C. Division of Air Quality,
WNC Regional Air Quality Agency, Land of Sky Clean Vehicles Coalition
Thanks to Buncombe County Government TV for their support!
Welcome and Introductions – Bill Eaker, Land-of-Sky Regional Council (LOSRC) (3 minutes)

State and Federal Air Quality Issues Update – Mike Abraczinskas, Director, NC Division of Air Quality, NC DEQ (20 minutes)

Local Agency Air Quality Update (Air Quality Conditions/Trends in Buncombe County) – Ashley Featherstone, Director, WNC Regional Air Quality Agency (10 minutes)

Air Quality Forecasting in the Mountains (Overview, Process, Recent changes) – Elliot Tardif, Meteorologist, NC Division of Air Quality, NC DEQ (10 minutes)

A Smarter and Cleaner Energy Future for WNC – Jason Walls, District Manager for WNC, Duke Energy (10 minutes)

Cost Effective Actions to Reduce Energy Demand and Emissions - Sophie Mullinax, Project Manager, Blue Horizons Project (10 minutes)

Efforts to Reduce Emissions from Motor Vehicles in the Region – Bill Eaker, Coordinator, Land of Sky Clean Vehicles Coalition, LOSRC (10 minutes)

Question and Answer Session – The Press (15 minutes)

Closing Remarks – Bill Eaker, LOSRC (2 minutes)

For more Information, Contact: Bill Eaker, LOSRC, 828-734-7434 cell

Working Together We Can Clear The Air!
Virtual Press Conference Housekeeping

Type your question into the question panel of Gotowebinar

Questions will be answered at the end of the webinar or followed up with later

Audience will be kept on mute during the webinar

Webinar recording and deck will be shared after the webinar

If you are having technology related issues please put that in the chat box or email Terry Albrecht at terry@landofsky.org

Having sound issues? Try dialing in to the call in number in the invitation
Pathways to a Cleaner Energy Future
Jason A. Walls, District Manager, Asheville Area
## Building a smarter grid for YOU!

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPROVE RELIABILITY</td>
<td>to avoid outages and speed restoration</td>
</tr>
<tr>
<td>STRENGTHEN THE GRID</td>
<td>against physical and cyber impacts</td>
</tr>
<tr>
<td>MORE OPTIONS AND CONTROL</td>
<td>over energy use and tools to save money</td>
</tr>
<tr>
<td>EXPAND SOLAR AND RENEWABLES</td>
<td>across a two-way, smart-thinking grid</td>
</tr>
</tbody>
</table>

**SMART-THINKING GRID:** predicts maintenance, quickly identifies outages and automatically reroutes service to keep power on for customers.

- **Equipment health monitoring**
- **Intelligent two-way flow of electricity**
- **Faster outage identification and isolation**
- **Automatic switching and restoration**
- Upfront, robust stakeholder engagement.
- Multiple generation paths outlined to reduce emissions, including possible options to cut carbon by 70% by 2030.
- Aggressive targets achievable with investments in solar, wind, energy storage, grid, new technologies, policy advancements.
- Significant grid investments necessary to support transition to renewable, storage and zero-emitting resources.
Investments in the Asheville Area’s Energy Future

- 75% more efficient than the now-retired coal plant it replaced

- Because natural gas burns cleaner than coal:
  a. 60% reduction in carbon dioxide emissions per megawatt-hour.
  b. 99% reduction in sulfur dioxide.
  c. 40% reduction in nitrogen oxides.
  d. Mercury has been eliminated.
Investments in the Asheville Area’s Energy Future

- $600 million in battery projects across the six states.

- Batteries can provide:
  - Backup energy storage
  - Control energy flow inside power lines
  - Multiple applications

- Other local projects:
  - Hot Springs microgrid
  - Riverside storage
  - Asheville plan solar/storage
Duke Energy is an active participant in the stakeholder process

Seeking common ground with environmental groups, public advocates, electric co-ops, municipalities and other companies

Ambitious goals for 70% reduction in greenhouse gas emissions by 2030; carbon neutrality by 2050

Report due to the governor by 2020
State of the Air - NC
Visibility Improvements - You can see the progress!

Most Impaired Days - Standard Visual Range and Particle Contributions to Light Extinction*

Great Smoky Mountains National Park

Extinction (Mm$^{-1}$)

Standard Visual Range (miles)


Sea Salt
Coarse Mass
Soil
Light Absorbing Carbon
Organic Carbon
Ammonium Nitrate
Ammonium Sulfate
Rayleigh
Standard Visual Range

*Contributions to Light Extinction
2020 Ozone Season

- Monitoring data show statewide attainment (no violations) to date
- No exceedances at any monitor in 2020
- Charlotte Area:
  - Design values will decline for 2018-2020

<table>
<thead>
<tr>
<th>Charlotte Area Monitor Sites</th>
<th>2020 4th high for violation ('18-'20 Design Value)</th>
<th>2021 4th high for violation ('19-'21 Design Value)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garinger</td>
<td>69 ppb</td>
<td>80 ppb</td>
</tr>
<tr>
<td>Monroe</td>
<td>73 ppb</td>
<td>92 ppb</td>
</tr>
<tr>
<td>University Meadows</td>
<td>72 ppb</td>
<td>81 ppb</td>
</tr>
</tbody>
</table>

* Projected value based on data through 10/12/2020.
### 2019/20 Ozone Season Comparison (Charlotte Area)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Carolina</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garinger</td>
<td>62</td>
<td>14</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Monroe</td>
<td>60</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>University Meadows</td>
<td>67</td>
<td>22</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>South Carolina</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>York Landfill</td>
<td>72</td>
<td>2</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Catawba Indian Nation</td>
<td>44</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

* Based on data through: 10/12/2020.
Impacts of Pandemic on Air Quality
A Preliminary Look

NC Daily Vehicle Miles Travelled (Percent change)
March & April 2019 vs. 2020

Note: NCDOT data
Impacts of Pandemic on Air Quality
A Preliminary Look

*2020 data through Sept 30, 2020

Annual Mean Nitrogen Dioxide (ppb)

<table>
<thead>
<tr>
<th>Location</th>
<th>2018</th>
<th>2019</th>
<th>2020 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlotte</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Charlotte roadside</td>
<td>10</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Winston-Salem</td>
<td>7</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Raleigh</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>RTP roadside</td>
<td>9</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Northampton</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

*2020 data through Sept 30, 2020
Impacts of Pandemic on Air Quality
A Preliminary Look

98th Percentile Nitrogen Dioxide Concentrations (ppb)

*2020 data through Sept 30, 2020
Triple Oak – Roadside NO2 monitor in RTP

NO2 AVG Triple Oak

NO2 MAX Triple Oak

DEQ Department of Environmental Quality
Impacts of the Pandemic on DAQ Operations
Pandemic’s Impact on… DAQ Operations

Teleworking is… working

• Software - productivity tools were in place

• Hardware - limitations remain for some
Pandemic’s Impact on… DAQ Operations

Workload high… so is productivity

• Ambient monitoring – no data gaps!
  • Lab open
  • Network assessments submitted to EPA
  • Upgraded data stream – data to EPA’s AirNow 5 minutes past hour

• Compliance strategies in place
• Permitting productivity metrics are up since teleworking started
Permitting Stats – Title V Final Actions

January: 23, 2019; 13, 2020
February: 13, 2019; 15, 2020
March: 17, 2019; 13, 2020
April: 25, 2019; 17, 2020
May: 26, 2019; 19, 2020
June: 20, 2019; 11, 2020
July: 13, 2019; 11, 2020
August: 16, 2019; 9, 2020
September: 23, 2019; 11, 2020

Total Increase: +31
Pandemic’s Impact on… DAQ Operations

Public participation process

• Critical to rule-making and permitting

• Pandemic = Shift to virtual public hearings and meetings

• Challenges exist
  • Public’s access to technology
  • Internet connections in rural areas

• Expanding ways to participate
Emerging Compounds
Background Atmospheric Deposition Network
PFAS in North Carolina

Each block is a week-long sample

= PFAS not detected
= PFAS detected
### Background Atmospheric Deposition Network

#### PFAS in North Carolina

Each block is a week-long sample

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/19-1/25</td>
</tr>
<tr>
<td>1/26-2/1</td>
</tr>
<tr>
<td>2/2-2/8</td>
</tr>
<tr>
<td>2/9-2/15</td>
</tr>
<tr>
<td>2/16-2/22</td>
</tr>
<tr>
<td>2/23-3/1</td>
</tr>
<tr>
<td>3/2-3/9</td>
</tr>
<tr>
<td>3/10-3/17</td>
</tr>
<tr>
<td>3/18-3/24</td>
</tr>
<tr>
<td>3/25-4/1</td>
</tr>
<tr>
<td>4/2-4/8</td>
</tr>
<tr>
<td>4/9-4/15</td>
</tr>
<tr>
<td>4/16-4/22</td>
</tr>
<tr>
<td>4/23-5/1</td>
</tr>
<tr>
<td>5/2-5/8</td>
</tr>
<tr>
<td>5/9-5/15</td>
</tr>
<tr>
<td>5/16-5/22</td>
</tr>
<tr>
<td>5/23-5/29</td>
</tr>
<tr>
<td>6/2-6/8</td>
</tr>
<tr>
<td>6/9-6/15</td>
</tr>
<tr>
<td>6/16-6/22</td>
</tr>
<tr>
<td>6/23-6/29</td>
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<tr>
<td>7/1-7/7</td>
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<tr>
<td>7/8-7/14</td>
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<td>7/15-7/21</td>
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<td>7/22-7/28</td>
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<td>7/29-8/4</td>
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<td>8/5-8/11</td>
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<td>8/12-8/18</td>
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<td>8/26-9/1</td>
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<td>9/2-9/8</td>
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<td>9/9-9/15</td>
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<td>9/16-9/22</td>
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<tr>
<td>9/23-9/29</td>
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<tr>
<td>10/2-10/8</td>
</tr>
<tr>
<td>10/9-10/15</td>
</tr>
<tr>
<td>10/16-10/22</td>
</tr>
</tbody>
</table>

- **AS - ARO**
- **CD - FRO**
- **RK - MRO**
- **MB - RRO**
- **PG - WaRO**
- **EG - WIRO**
- **MH - WSRO**

- **= PFAS not detected**
- **= PFAS detected**

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**DEQ**

Department of Environmental Quality

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30
### VW Awards by Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of Vehicles/Stations Funded</th>
<th>Program Total Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Bus</td>
<td>111</td>
<td>$12,289,900</td>
</tr>
<tr>
<td>Transit Bus</td>
<td>16</td>
<td>$6,136,377</td>
</tr>
<tr>
<td>Off-Road*</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td>On-Road</td>
<td>45</td>
<td>$4,240,409</td>
</tr>
<tr>
<td>ZEV Infrastructure**</td>
<td>33 DC Fast stations</td>
<td>$3,415,748</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>172 vehicles and 33 stations</td>
<td>$26,082,434</td>
</tr>
</tbody>
</table>

* Off-Road project award was declined by awardee. Funds to be applied to Phase 2
** An additional $1,150,571 allocated for ZEV Level 2 RFP.

### Percent Funded

- **School Bus 47%**
- **On-Road 16%**
- **Transit Bus 24%**
- **DC Fast 13%**

*饼图显示了不同项目的资金分配比例。*
Thank you!

Mike Abraczinskas, EIT, CPM
Director
NC Division of Air Quality
919-707-8447
Michael.Abraczinskas@ncdenr.gov
Overview

The Western North Carolina Regional Air Quality Agency (WNCRAQA) is one of three state certified local air pollution control programs in NC that is responsible for monitoring and regulating air quality.
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
  - Compliance and Enforcement
  - Asbestos Removal and Open Burning
- Education and Outreach
  - Pollution Prevention Projects and Outreach
  - Indoor Air Quality – radon awareness, IAQ webpage
  - Website – www.wncairquality.org, social media
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
  - 1970-2000 Buncombe and Haywood
  - 2000-Buncombe County and City of Asheville
WNCRAQA - 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 Council
  - Several members of the community from diverse backgrounds
  - Citizens may apply and are appointed by the board
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
Ozone Levels in Buncombe County

Ozone 3-Year Design Values for Buncombe County

- 4th Highest Maximum 8 Hour Average Ozone Concentration
- 2008 National Ambient Air Quality Standard
- 2015 National Ambient Air Quality Standard
# Ozone Daily AQI Values 2005-2019

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2005 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2006 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2007 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2008 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2009 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2010 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2011 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2012 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2013 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2014 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2015 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2016 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2017 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2018 |     |     |     |     |     |     |     |     |     |     |     |     |
| 2019 |     |     |     |     |     |     |     |     |     |     |     |     |
PM$_{2.5}$ Levels in Buncombe County

PM$_{2.5}$ 3-Year Design Values for Buncombe County

- Weighted Annual Mean PM$_{2.5}$ Concentration
- 2006 National Ambient Air Quality Standard
- 2012 National Ambient Air Quality Standard
## Air Quality Index for Buncombe County

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Days with an AQI</th>
<th>Number of Days the AQI was:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>2019</td>
<td>365</td>
<td>328</td>
</tr>
<tr>
<td>2018</td>
<td>365</td>
<td>318</td>
</tr>
<tr>
<td>2017</td>
<td>365</td>
<td>325</td>
</tr>
<tr>
<td>2016</td>
<td>366*</td>
<td>300</td>
</tr>
<tr>
<td>2015</td>
<td>363</td>
<td>329</td>
</tr>
<tr>
<td>2014</td>
<td>365</td>
<td>311</td>
</tr>
</tbody>
</table>
AQI Values for 2019
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
Know the Code

<table>
<thead>
<tr>
<th>Air Quality Index Levels of Health Concern</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Air quality is considered satisfactory, and air pollution poses little or no risk.</td>
</tr>
<tr>
<td>Moderate</td>
<td>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.</td>
</tr>
<tr>
<td>Unhealthy for Sensitive Groups</td>
<td>Members of sensitive groups may experience health effects. The general public is not likely to be affected.</td>
</tr>
<tr>
<td>Unhealthy</td>
<td>Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.</td>
</tr>
<tr>
<td>Very Unhealthy</td>
<td>Health alert: everyone may experience more serious health effects.</td>
</tr>
<tr>
<td>Hazardous</td>
<td>Health warnings of emergency conditions. The entire population is more likely to be affected.</td>
</tr>
</tbody>
</table>
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
- Voluntary Hangtag Guidelines for Manufacturers of Wood-Burning Devices (Wood stoves and heaters that meet new 2015 standards that go into effect in 2020)
Revised Sulfur Dioxide (SO2) Standard

- SO2 monitor near the Duke Energy Progress Plant in Skyland
  - Began operation in January 2017
  - EPA approved the shutdown of the monitor on July 1st, 2020
  - EPA announced on August 13th, 2020 that they intend to designate the Limestone Township portion of Buncombe County as Attainment/Unclassifiable

- NAAQS: 75 ppb (99th percentile of 1-hour daily maximum concentrations)
  - 2017 Data: 16.6 ppb
  - 2018 Data: 9.8 ppb
  - 2019 Data: 8.0 ppb
  - 3 Year Design Value of 11.5 ppb
Recognizing Voluntary Initiatives

- Clean Air Excellence Award-2020
- Eaton Corporation’s Arden Plant
  - Energy Efficiency Upgrades include roofing, insulation, HVAC systems
  - Projected Annual GHG Reduction = 544,513 pounds per year
  - Projected cost savings = $17,239 per year
Questions?

Ashley Featherstone
Director, Western North Carolina Regional Air Quality Agency
828-250-2677
ashley.featherstone@buncombecounty.org
Updates to the NCDAQ Forecast Program

Department of Environmental Quality

Elliot Tardif
County-Level Forecast Update
Prior to 2020, the air quality forecast was provided for six regions within North Carolina:

- **Asheville** Valleys and Ridge Tops
- **Hickory**
- **Charlotte**
- **The Triangle**
  - Including: Raleigh/Durham/Chapel Hill
- **Rocky Mount**
- **Fayetteville**

- The Triad area is handled by the Forsyth County Office of Environmental Assistance and Protection
**Multiple large, dynamic fires** burned across the Appalachians, fall 2016.

- Forecast regions too broad spatially
- Code red conditions were expected to be far more localized than old forecast process allowed.
- Learned that county-based forecasting was needed statewide.
NCDAQ meteorologists now prepare air quality forecasts at a county level for all counties of North Carolina

- The Triad area is still handled by the Forsyth County Office of Environmental Assistance and Protection
- The remaining 91 counties are covered by NCDAQ
- Two areas for the western ridgetops:
  - North Ridges, including Mount Mitchell
  - South Ridges, including Fryingpan, Purchase Knob, and Joanna Bald
Additional Updates from the NCDAQ Forecast Program
NC Climate Office (SCO)-DAQ Air Quality Partnership

• Collaboration is centered around web hosting and development, a strength for SCO, which has successfully worked with many state and federal agencies on similar projects
  • Ozone Design Value Predictor (http://airquality.climate.ncsu.edu/dv/)
  • Air Quality Forecast Model Output (http://airquality.climate.ncsu.edu/models/)
  • Future: Ambient Monitoring Tool
New Social Media Initiative

• NCDAQ has recently joined twitter, and sends out automated daily forecast tweets
  • Additional (manual) updates & content provided during significant air quality episodes
    • Follow us! @NCDAQ_Forecast
  • Also share updates on NC Air Quality Forecast Center Facebook page
Questions?
The Blue Horizons Project
Setting the Course for Clean Energy
Land of Sky Air Quality Briefing
Our goal

Enlist **public support** and provide **easy access** to resources designed to make new and existing homes and buildings more energy efficient and support the adoption of more renewable energy.
The Peak Demand Challenge

Winter peak = 30% higher than in the summer.
Residential sector is a significant driver of winter peak

Source: DEPW Customer and Sales history
Greenhouse gas emissions by sector
In billions of tonnes of CO₂-equivalent

Source: CAIT Climate Data Explorer
For your home...

1) Join Duke Energy’s EnergyWise Home program
Lower peak demand by having Duke Energy install smart equipment on your home to cycle certain equipment (heat pump/HVAC and water heater), and get up to $175 per year in bill credits.

2) Get a free in-home energy assessment
Discover how energy efficient your home is (or isn’t). Eligible homeowners also get free LEDs, a free showerhead and more.

3) Find energy savings for low-income households
While there are many no- and low-cost things you can do to lower your energy use, some can be costly. Energy Savers Network can help lower your bills and keep you more comfortable.

4) Make changes in your home to reduce energy
Install energy-efficient appliances and lighting; air seal and increase your insulation; turn off electronics when not in use; use low-flow water fixtures; use cold water for laundry and hang-dry; lower water heater temperature, and more - see handout!
For your business...

1) Make your facility more energy efficient & earn big rebates to offset improvement costs

Duke’s Small Business Energy Saver program pays up to 80% of costs to make energy efficiency improvements to businesses. On average, 60% of project costs are covered.

2) Join Duke Energy’s EnergyWise Business program

Duke’s EnergyWise program for businesses provides free equipment, free installation and annual bill credits that can result in significant savings.

3) Get a free energy audit

Land of Sky Waste Reduction Partners helps organizations improve environmental and energy management through efficiency techniques that save money. The WRP team conducts free on-site assessments and provides consulting services to businesses and public facilities throughout North Carolina.
What are we doing?

- **Blue Horizons Project**: Promoting residential and targeted business energy efficiency programs and renewable energy through community engagement and education

- **City/County**: new investments in city/county buildings, Blue Horizons Project, solar installations forthcoming on 47 county and city properties, funding Blue Horizons Project

- **Duke Energy**: 19 MW battery storage, 15 MW solar, micro-grids, solar rebate, AMI, low-income weatherization pilot program, multi-family DSM/EE programs

- **All**: Partnership to help cities reach RE goals
Energy Savers Network

- Income-qualified Buncombe County residents can receive free weatherization, energy-efficiency upgrades, and an energy consultation with recommendations and referrals to resources to perform or help pay for improvements.
- Air sealing and insulation upgrades have helped reduce air leakage by up to 40% and helped improve comfort and durability in 500+ homes since 2016.
- Plan to increase the number of homes we serve every year.
Be a part of the solution.

Visit bluehorizonsproject.com to get involved today. Spread the word to others interested in creating a cleaner energy future, preserving our skies and waters for future generations.

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EFFORTS TO REDUCE EMISSIONS FROM MOTOR VEHICLES IN THE REGION

AIR QUALITY BRIEFING
OCTOBER 30, 2020
LOSRC

Bill Eaker – Coordinator
Chris Dobbins – Fleet Advisor
Sara Nichols – Co-Coordinator
Clean Cities Program

- LOS Clean Vehicles Coalition Designated on July 27, 2012
- Clean Cities Program Goal: support local partnerships to reduce petroleum use and GHG emissions in US transportation sector, primarily by promoting cleaner, domestic, alternative fuels and vehicles
- Support: Networking, Funding Opportunities, Technical Assistance
Coalition Services

- Education, Outreach and Training
- Forum for Discussions and Networking
- Fleet Assessments & Technical Assistance
- Funding for Stakeholder Projects
- Stakeholder Recognition (Awards; Media including Motor Week TV)
Alternative Fuels Promoted by CVC

- Biodiesel
- Electricity
- Natural gas
- Propane
- Ethanol (E85)
- Hydrogen

Portfolio now includes Idle Reduction, Fuel Efficient Vehicles (Hybrids) and VMT Reduction
Coalition Accomplishments:
Petroleum Reduction

2009 - 2019
Historical Gasoline Gallon Equivalents
Total Reduced - 8,614,421 Gallons

GGE's Reduced

Year

Alternative Fuel Vehicles
Vehicle Miles Traveled Reductions
Electric, PHEV, HEV, NEV
Idle Reduction
Fuel Economy Improvements
Off-Road
Greenhouse Gas Reductions

2009 - 2019 Historical Greenhouse Gas Emissions
Total Reduced - 66,108 Tons
Drive Less, Smarter, Cleaner

- Walk, Bike or Ride Transit
- Live Close to Work or School
- Telecommute (Work at Home/Outdoors)
- Car/Vanpool to work, school, meetings
  - Park and Ride Lots
  - Trans. Demand Management Program
- Combine Errands to Reduce Trips
- Green Driving (Reduce Speed and Idling)
- Engines Tuned Up
Biodiesel

- Used in any Diesel Vehicle without Modification
- Blue Ridge Biofuels local Producer – Moved Production but Distribution Center Here
- Users include MSD, Asheville, NC DOT, Great Smoky Mountains National Park; Waynesville
- Cherokee Boys Club (Harrah's Casino Oil) and Biltmore Estate (Canola Oil) produce own biodiesel
- Lost Most Commercial Pumps but Fleet Use Steady
Propane Auto-gas

- Propane is the most used alternative transportation fuel in the world
- Current Success Stories
  - Mountain Mobility, Haywood, Jackson and Macon Co. Transit Systems
  - Biltmore Estate – 10 shuttle buses/2 SUVs and onsite fueling
  - Town of Waynesville – 20 police cruisers and 8 trucks
  - Carl Sandburg Home Historic Site – trucks, shuttle, mower, fueling site
  - Warren Wilson College and MB Haynes Electric Co
- Blossman Research and Technology Center & Fueling Station
- New Blossman Public Access Fueling Station in Flat Rock
- Nov 17 Autogas Answers Webinar
Compressed Natural Gas

- 5 Public CNG stations
  - City of Asheville (2005)
  - Altech-Eco (2007)
  - Henderson Co. (2012)
  - Dominion Energy (2013 & 2015)
- Henderson Co Upgraded CNG Fueling Station (2018)
- Altech-Eco Energy NGV Conversion Facility
- City of Hendersonville Virtual Facility Tour
Plug In Electric Vehicles

Yearly Plug-In Electric Vehicle Sales

- 2010 - 2017

Graph shows the sales of plug-in electric vehicles from 2010 to 2017, with a projection for 2018.
Electric Vehicle Deployment

Policies re Zero Emission Vehicles

• Gov. EO 80 – 80K ZEVs by 2025
• NC Zero Emission Vehicles Plan
• 15 State MOU re M/HD ZEVs
• Asheville/Buncombe Co. Sustainability Plan Goals

Over 900 electric vehicles in the Asheville region and 15,000 in NC

Chevy Bolt

Asheville Transit Electric. Bus
Charging Station Deployment

246 Public Access Charging Outlets at 94 locations in the Asheville region (10-20)
Charging Station Deployment

- **11 DC Fast Chargers** installed at AB Tech., Asheville Public Works, Aloft Hotel, Asheville Outlets, Waynesville, Biltmore Park Town Square and Great Smoky Mountains National Park and Electrify America at Sams Club - Asheville

- **8 Tesla Super Chargers** installed at Asheville Outlets

- **New Level IIs** — Ingles in Weaverville & West Asheville and Lake Toxaway CC, HEMC HQs

- **VW and CFAT Grant Opportunities**
VW Settlement

- **VW Settlement**
  - North Carolina - $92 Million for Environmental Mitigation Trust (DEQ lead)
  - Replace 1992-2009 Diesel Vehicles with new Clean Diesel, Propane, CNG, Hybrid, Electric or Hydrogen
  - Old Diesel Vehicles must be Scrapped (3 inch hole in engine block & cut frame rails in half)
  - Medium and Heavy Duty Transit, Shuttle and School Buses
  - Medium and HD Local Freight Trucks
  - EV Charging Stations (State can allocate up to 15% of Mitigation funds)

- **Phase 1 Awards in WNC (July 29, 2020):**
  - Cleaner Diesel/Alt Fuel Trucks (NC Arboretum CNG, Mars Hill, Bk Mtn., Spindale)
  - Cleaner Diesel School Buses, Elect. School Buses (EBCI, Trans Co.)
  - ASU Applecart Elect. Transit Bus, UNCA Bi-fuel Propane Shuttles
  - DC Fast Chargers (Henderson Co., HEMC, Morganton)

- **Level 2 EV Charger RFP out Very Soon!**
- **Phase 2&3 Planning Underway ($60 Million available)**
Thank You

- **For more information**
  - Email
    - Bill Eaker, bill@landofsky.org
    - Chris Dobbins, broadspeed@frontier.com
    - Sara Nichols, sara@landofsky.org
  - Website - Cleanvehiclescoalition.org
  - Facebook – Land of Sky Clean Vehicles Coalition
Closing Remarks

- Thanks to all our Presenters Today
- And to All of You for Participating
- Thanks again to our Sponsors: CAC, NC DAQ, WNCAQA and LOS CVC
- Special Thanks to Terry Albrecht of WRP
- What we Learned today is that if we all work together we can make a real difference!