



EFFORTS TO REDUCE EMISSIONS FROM MOTOR VEHICLES IN THE ASHEVILLE REGION

Bill Eaker – Coordinator

Chris Dobbins – Fleet Advisor

Ozone Kickoff and Press Conference – March 30, 2016

Air Quality Issues in WNC

- **Mid 90s – Call for Action by NPS and USFS**
 - 3 Air Quality Issues – GL Ozone, Acid Deposition & Haze
 - LOSRC – AQ Assessment and Regional Conference
 - SAMI - Call for Local, State and Federal Action (Gov. Summits)

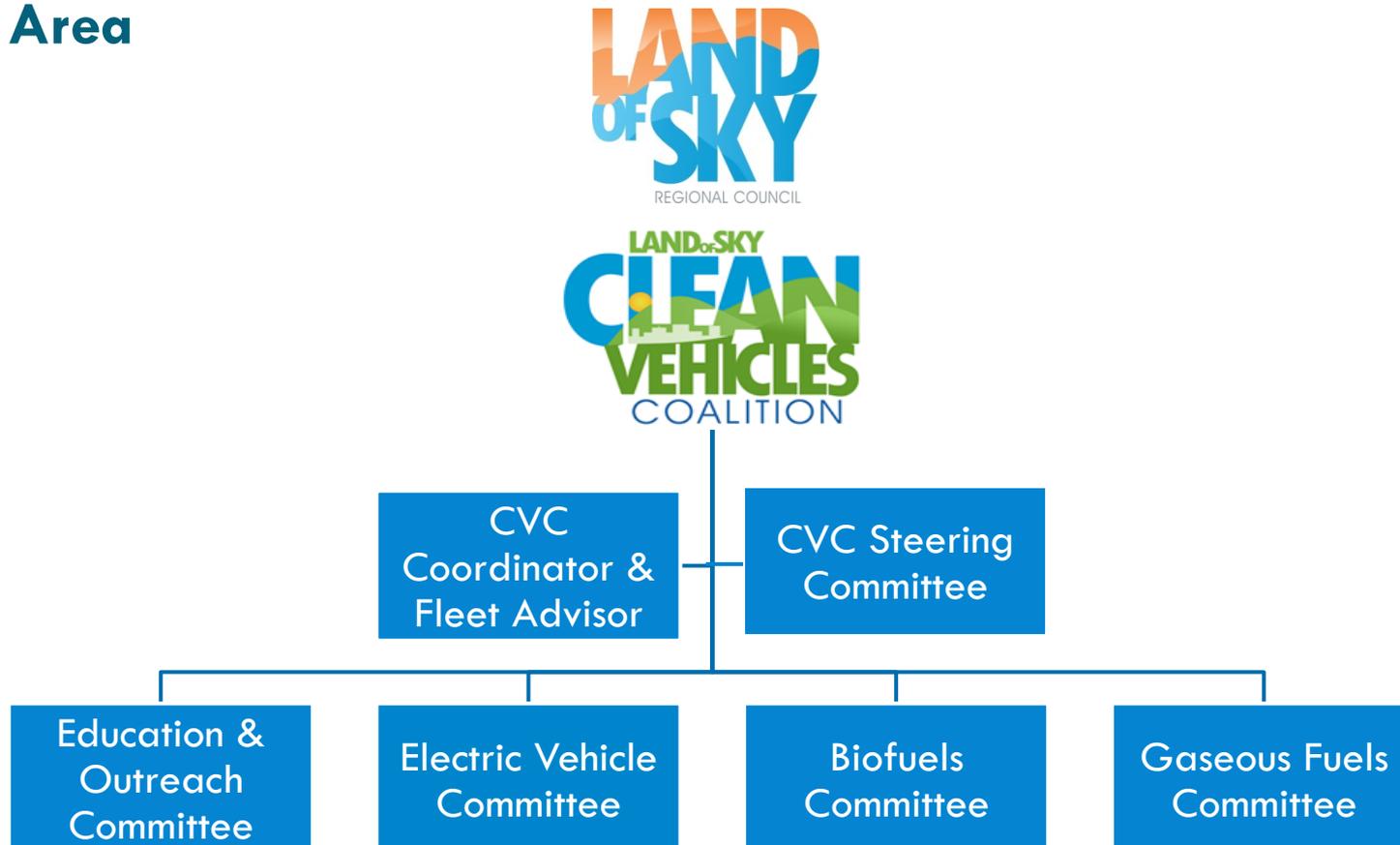
- **1998 – Regional Clean Air Campaign Established**
 - Education and Outreach to Public and Decision Makers
 - Message - Energy Conservation, Drive Less and Low Emission Vehicles
 - Clean Air Car Fairs

- **Air Quality has Improved Significantly in 15 years**
 - NC Clean Smokestacks Act – Huge emission reductions
 - Cleaner Fuels, Engines and Vehicles

CVC Background and Mission

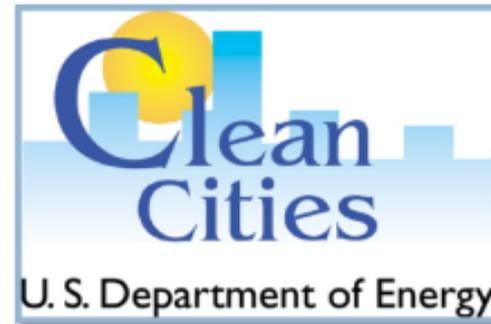
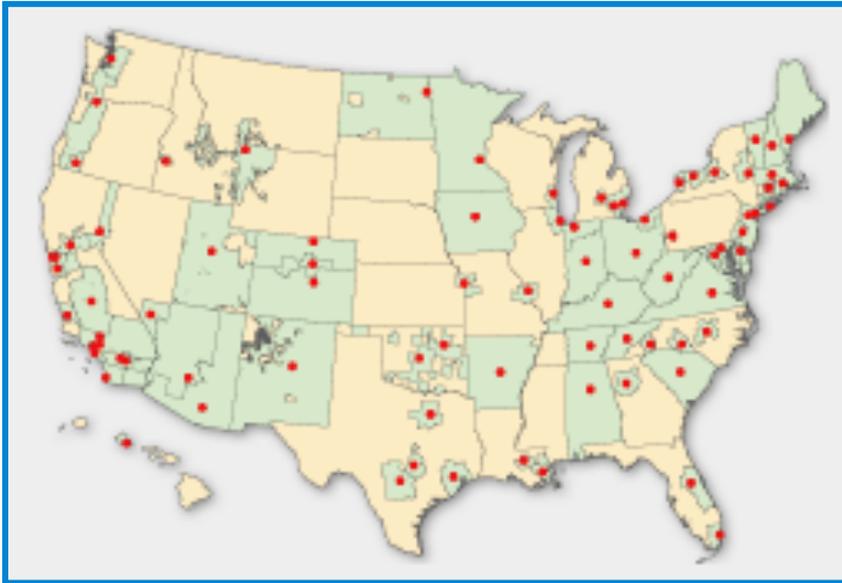
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The **Land-of-Sky Clean Vehicles Coalition** was created in 2004 to promote alternative fuel vehicle adoption in the Asheville Metro Area



Clean Cities Designation

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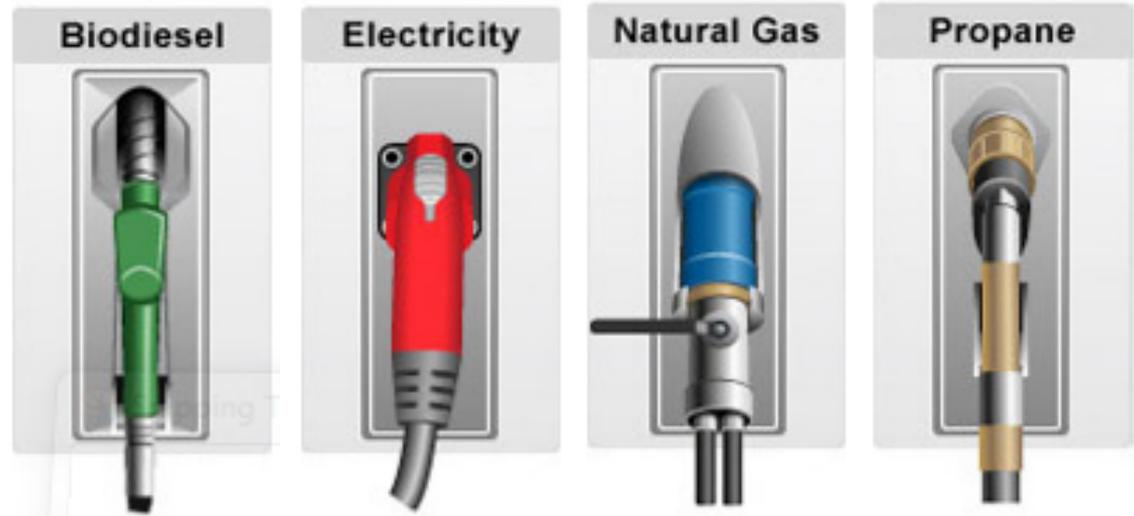
- ❑ **LOS Clean Vehicles Coalition Designated on July 27, 2012**
- ❑ **Clean Cities Program Goal:** support local partnerships to reduce petroleum use in US transportation sector, primarily by promoting cleaner, domestic fuels and vehicles
- ❑ **Support:** Networking, Funding Opportunities, Technical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

Clean Cities Alternative Fuels Portfolio



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

Benefits of AFVs

2



Fuel Economy



Energy Security



Fewer Emissions



Fuel that is cheaper, cleaner, and made in America

Drive Less, Smarter, Cleaner



- ❑ Walk, Bike or Ride Transit
- ❑ Live Close to Work or School
- ❑ Telecommute (Work at Home)
- ❑ Car/Vanpool to work, school, meetings
 - ❑ New Park and Ride Lot (Waynesville)
 - ❑ New Trans. Demand Management Program
- ❑ Combine Errands to Reduce Trips
- ❑ Green Driving
- ❑ Engines Tuned up;
- ❑ Purchase Fuel Efficient Vehicle (www.FuelEconomy.gov)



Idling – Why care?

- **Idling is expensive**
- **Idling pollutes**
- **Idling threatens health**



STOP Idling.
START \$aving.

**Clean
Cities**
U.S. Department of Energy

Coalition Services

- Education and Outreach and Training
- Forum for Discussions and Networking
- Fleet Assistance and Assessments
- Funding for Stakeholder Projects

Funding

- **Stakeholder/Project Funding (Over \$12 Million)**
 - US DOE Clean Cities Program Grants
 - ARRA (Stimulus) Grants (SEPDP, CBS)
 - Mountains to Sea EV Readiness
 - National Parks Initiative
 - SADI - AFV Pilot Demonstration Project
 - NC DOT Congestion Mitigation & Air Quality (CMAQ)
 - NCSU Clean Fuels Advanced Transportation (CFAT)
 - US EPA/NC Division of Air Quality (Diesel Emission Reductions)
 - Propane Education and Research Council (PERC)

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; Tennoca Construction
- [Lost Several Commercial Pumps but Fleet Use Steady](#)
- Outreach Campaign: Workshops and Videos



Propane Auto-gas

Propane Autogas

- Propane is the most used alternative transportation fuel in the world
- Propane Road Shows in 2010, 2012 & 2013
- Current Success Stories
 - ▣ Mountain Mobility
 - 10 Vans; DOT Funds (Clean Air Excellence Award)
 - ▣ Buncombe Co. Sheriff's Dept.
 - 10 cruisers; SEPDP \$
 - ▣ Biltmore Estate – 8 shuttle buses/2 SUVs and onsite fueling
 - ▣ Haywood & Jackson Co. Transit ([Macon Co soon](#))
- Blossman Research and Technology Center & Fueling Station



Propane Auto-gas

Propane Autogas

- Blossman/Alliance Autogas received EPA Certification for Ford F-150 Pickup and Ford Transit Van
- F-150 Coast to Coast Tour ending in Homecoming in Asheville on May 23rd
- Propane Mowers at Warren Wilson College, Blue Ridge Parkway and Great Smoky Mountains National Park



Compressed Natural Gas



- Public CNG stations
 - City of Asheville (2005)
 - Altech-Eco (2007)
 - Henderson Co. (2012)
 - **PSNC (2013 & 2015)**
 - ***Sixth Soon for Tractor Trailers?***
- Altech-Eco Energy NGV Conversion Facility
- Carolina Blue Skies DOE Grant
 - Over \$1 million
 - 37 CNG Vehicles for Asheville, Hendersonville, Henderson Co. and Mission Hospital
 - Expanded Asheville/Henderson Co CNG Fueling Stations



High Speed Electric Vehicles



They're
Here!



Electrics - PHEV vs. BEV

Chevrolet Volt



- **Plug-in Hybrid Electric Vehicle (PHEV)**
- Auxiliary gas engine charges battery
- Electric Range: 53 miles electric + 367 miles in hybrid mode
- 18.4 kWh Li-ion battery
- 2016 MSRP: starts at \$33,995
- \$7,500 federal tax credit

Nissan LEAF



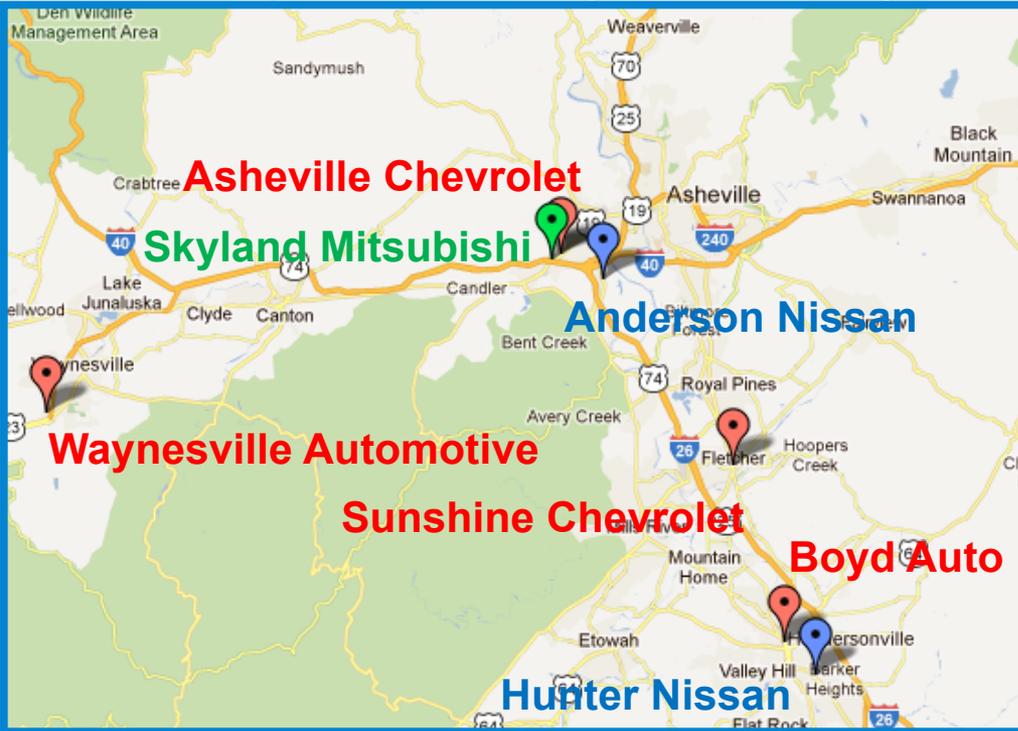
- **Battery Electric Vehicle (BEV)**
- All-electric, no tailpipe
- Electric Range: 84-107 miles electric
- 30 kWh Li-ion battery
- 2016 MSRP: S model starts at \$29,010
- \$7,500 federal tax credit



Electric Vehicle Deployment

Dealerships are selling EVs in Region

Over 200 electric vehicles in the Asheville region and 4,000 in NC



Duke Nissan
 LEAF



Eaton Mitsubishi i



APD Chevy Volt

EV Charging Levels

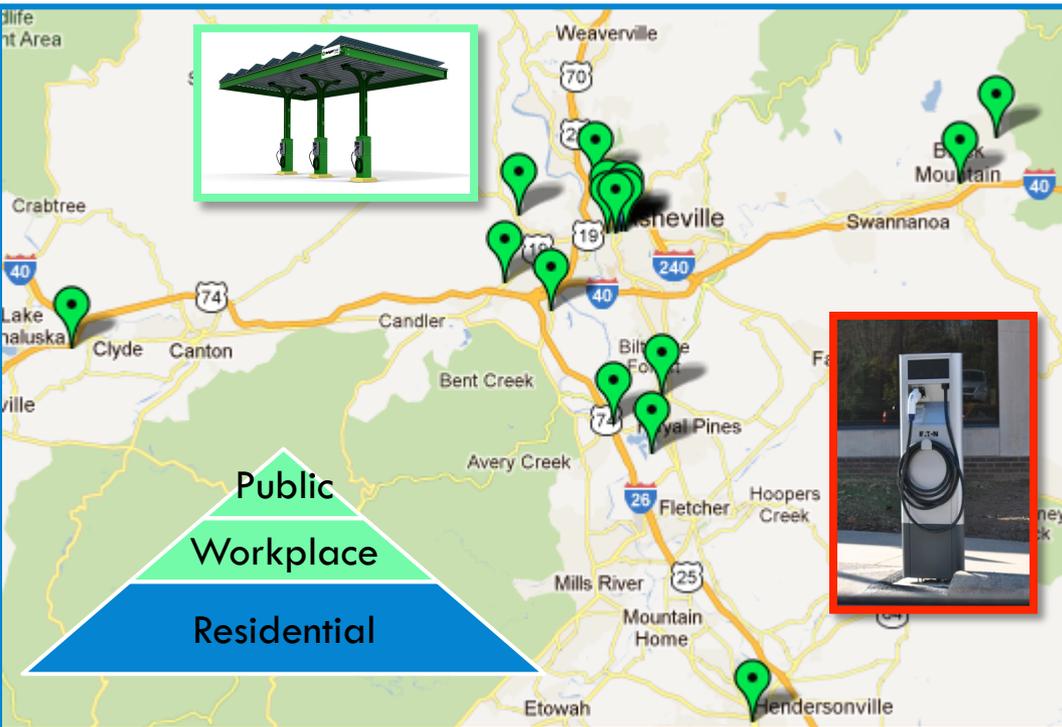


	Level 1	Level 2	DCFC
Miles Recovered Per Hour of Charge	~ 4 mi	~ 10-20 mi	~ 140 mi.
Voltage	120V	208/240V	208/480V
EV Connector	J1772 AC	J1772 AC	SAE AC/DC Combo or CHAdeMO
Hardware Cost	Comes with EV	Res: \$500-\$1,500 Com: \$1,500-\$7,500	\$20,000 - \$30,000
Installation Cost		Res: \$500-\$1,500 Com: \$3,000-\$10,000	\$5,000-\$15,000

Charging Station Deployment

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112 Public & workplace charging stations
at **50** locations in the Asheville region (2-16)



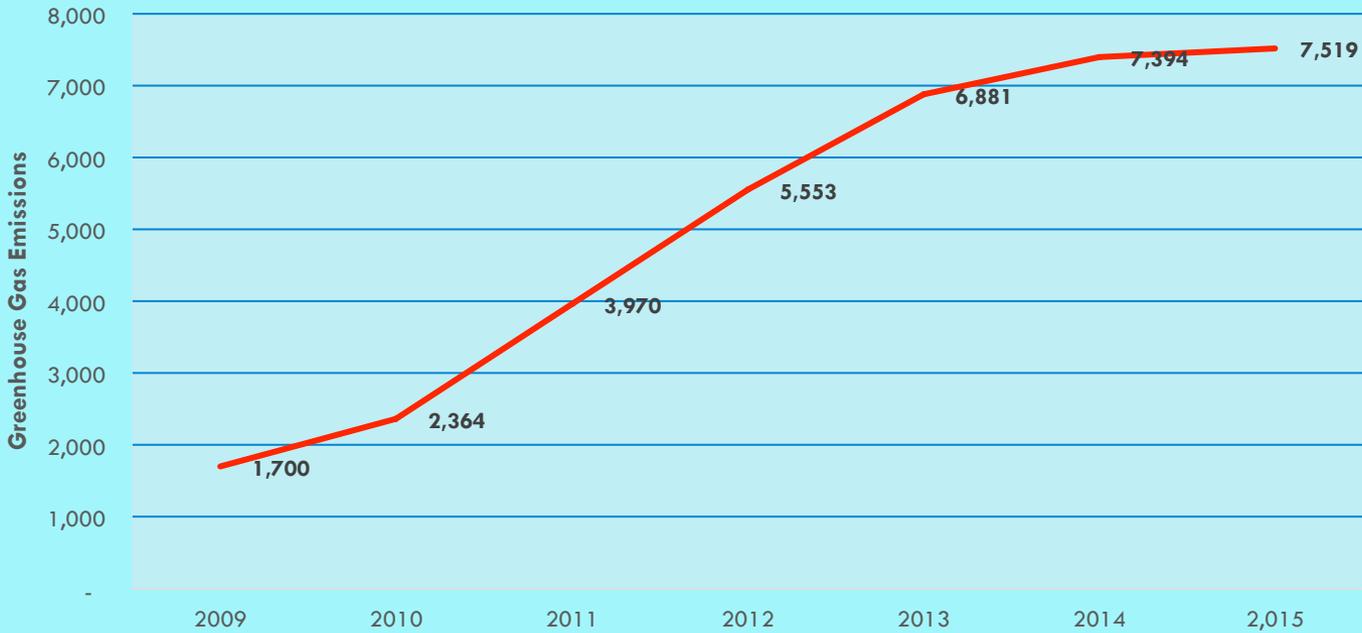
Charging Station Deployment

- 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
- 8 Tesla Super Chargers installed at Asheville Outlets
- First EV Chargers in Transylvania County at Brevard College
- CFAT Proposal for 20 Level IIs at 9 Sites in WNC



Greenhouse Gas Reductions

Historical GHG in Tons Reduced 2009 - 2015



Thank You

- For more information

- Email

- Bill Eaker, bill@landofsky.org

- Chris Dobbins, broadspeed@frontier.com

- Website

- Cleanvehiclescoalition.org

Brightfield Charging Station

scross@brightfieldts.com



Coalition Background and Upcoming Re-Designation



□ DOE Clean Cities Goals

■ Petro Reduction

- Displaced approx. 7 Billion Gals to Date
- Displace 2.5 Billion Gallons per year by 2020

■ Coalitions – 15% Increase in Petro Displacement per year

