



# Electric Vehicle Strategies for Co-Ops

Lisa Poger



- Independent, non-profit organization established in 1980, in Raleigh, NC
- Provide training, consulting, testing and outreach
  - Transportation Initiatives
  - Building Science
  - Energy Efficiency
  - Renewable Energy
  - Motors and Drives

“Create economic, environmental and societal benefits through innovative and market-based approaches to energy issues.”



[www.advancedenergy.org](http://www.advancedenergy.org)

- Established in 2011 as the North Carolina Plug-in Electric Vehicle Taskforce
- Provide a collaborative opportunity for stakeholders to identify and address barriers to electric vehicle adoption in order to ensure a seamless integration of electric vehicles into local communities

[www.pluginnc.com](http://www.pluginnc.com)

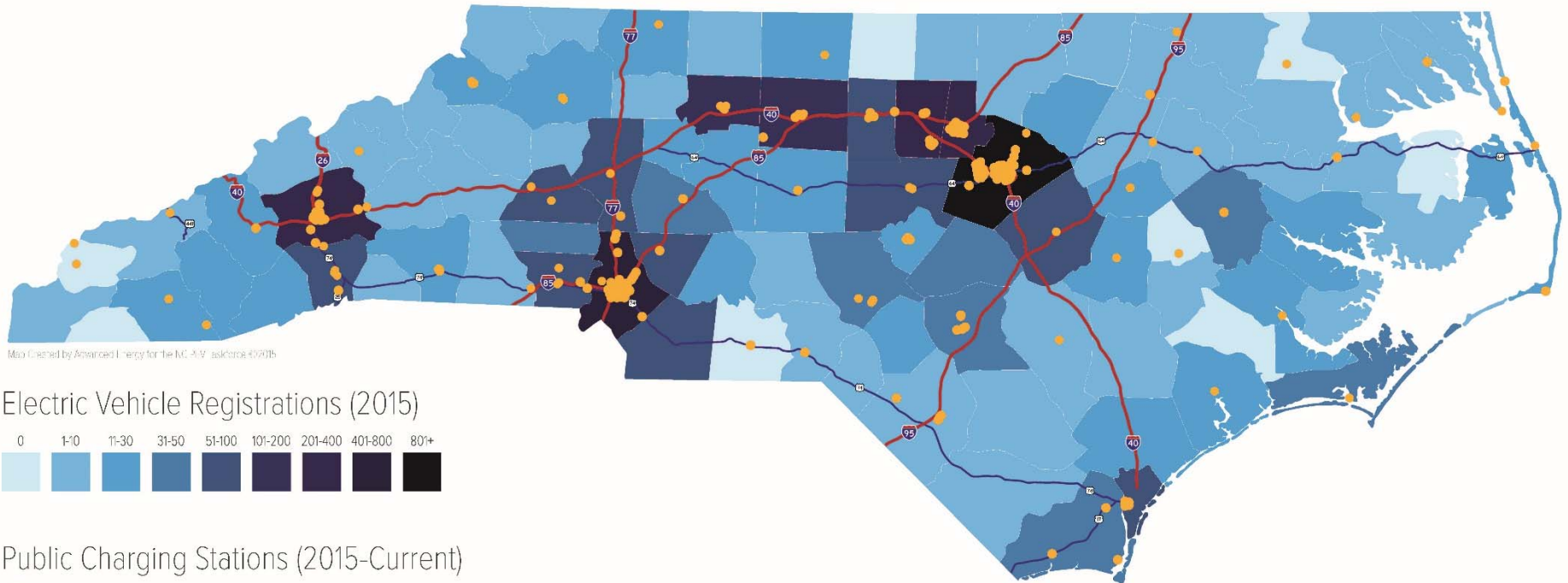


Plug-in nc



- State of Electric Vehicles in North Carolina
- NC Public Utility Programs
- NCEMC's Strategic Plan

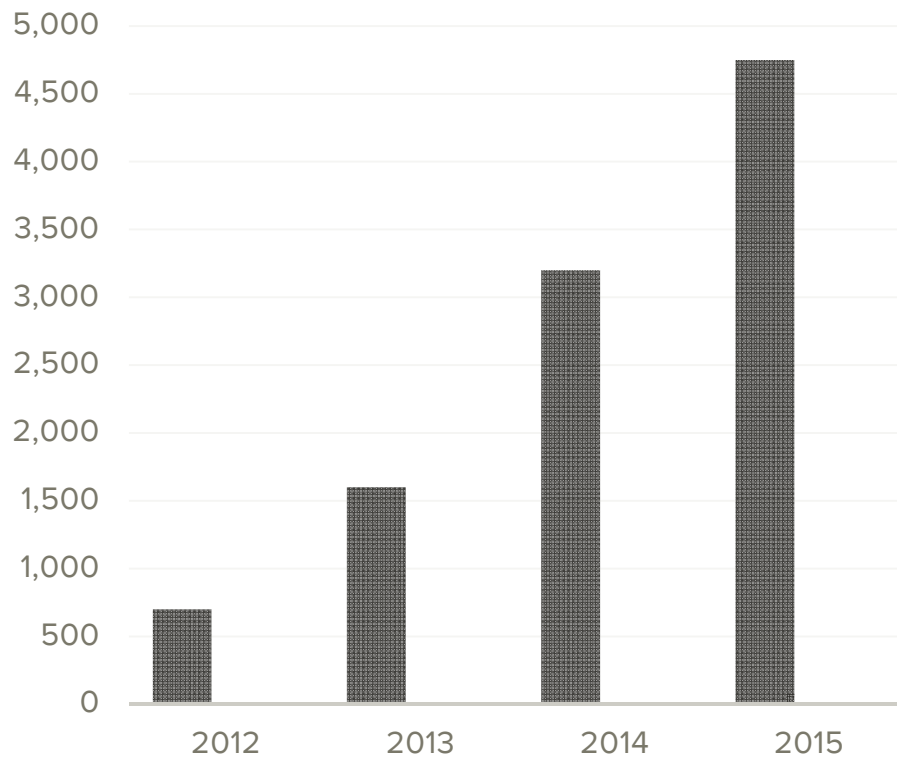
# North Carolina Electric Vehicles & Charging Stations: 2015



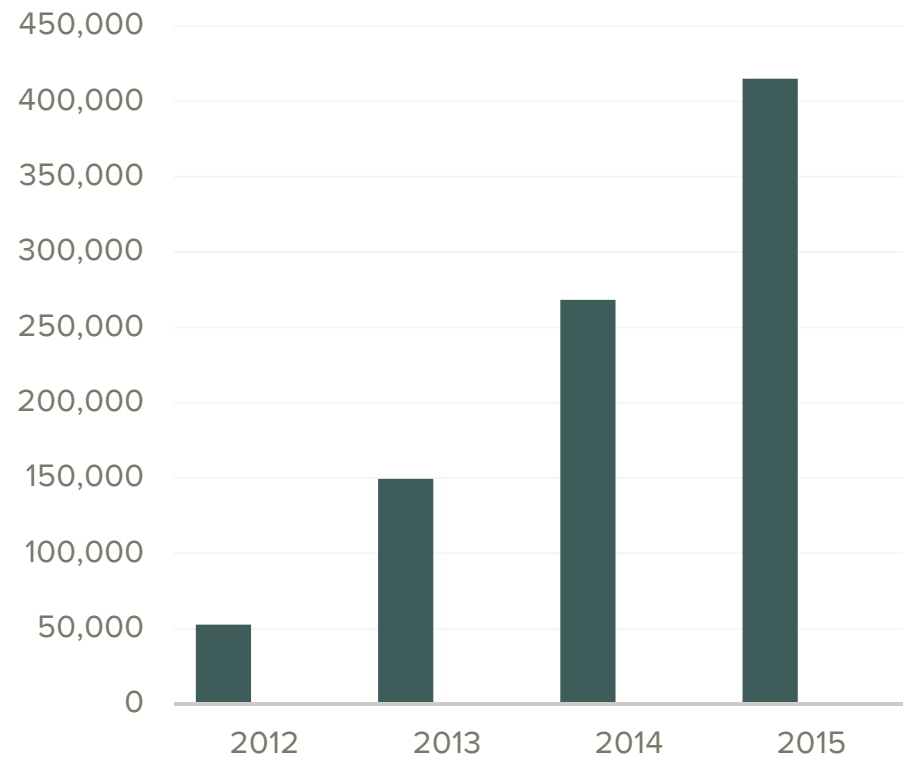
Electric Vehicle Data Source: National Renewable Energy Laboratory, R.L. Polk, 2015 (data pulled by Triangle Clean Cities Coalition)  
Charging Station Data Source: AFDC Alternative Fueling Station Locator Data, U.S. Department of Energy

# Electric Vehicle Sales

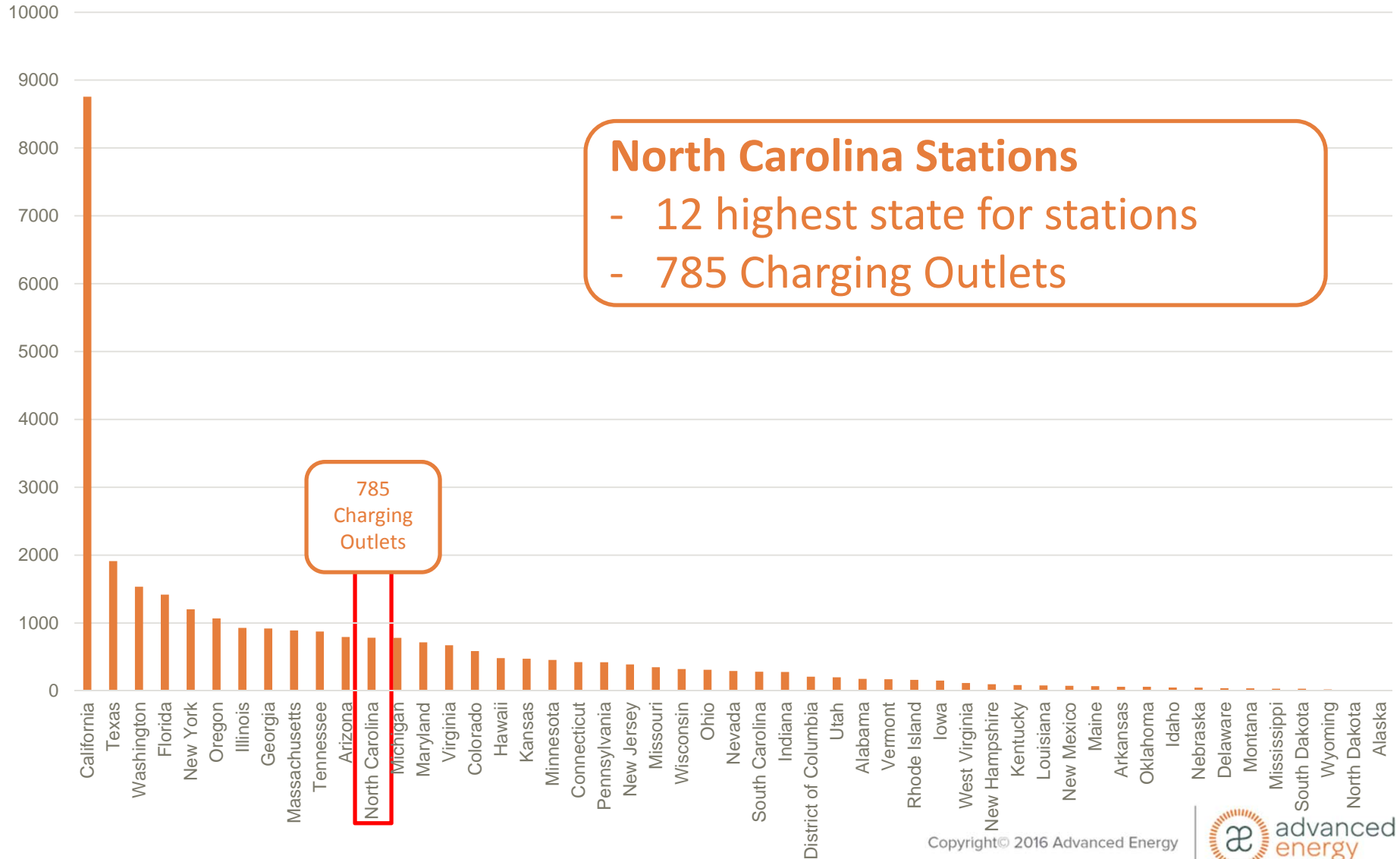
PEVs in North Carolina



PEVs in USA



# Public Charging Stations

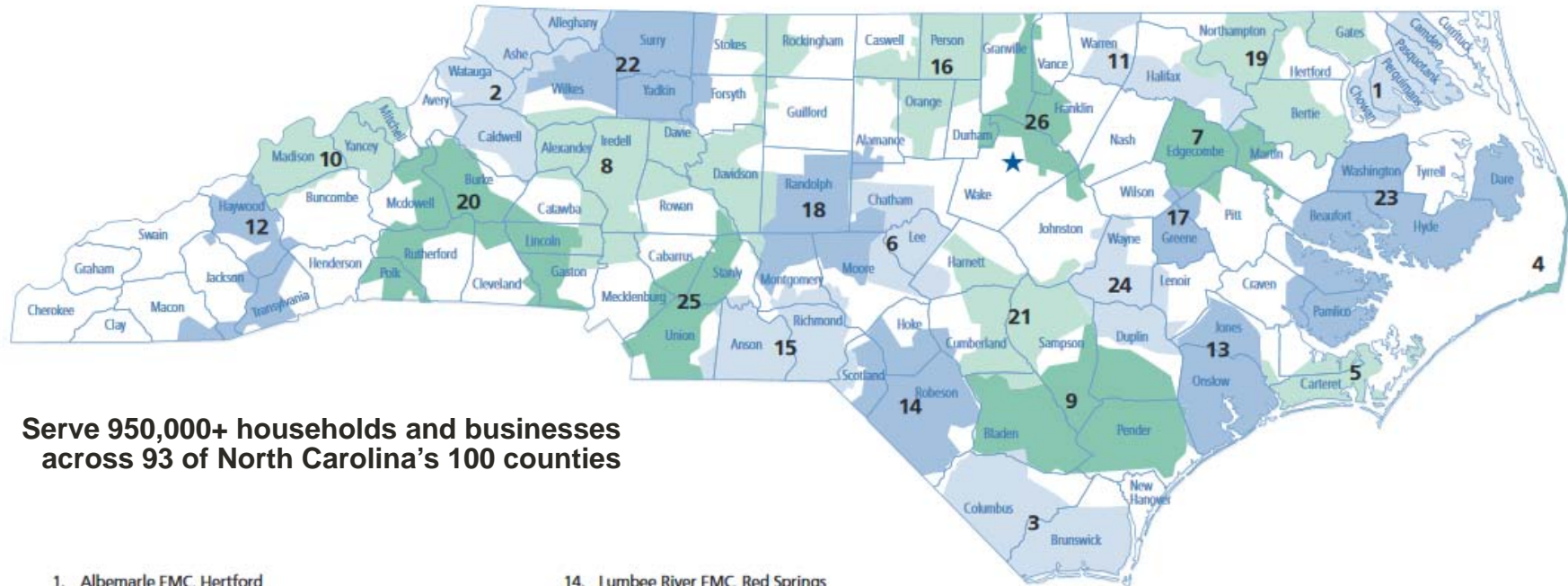


**North Carolina Stations**

- 12 highest state for stations
- 785 Charging Outlets

785  
Charging  
Outlets

# North Carolina's Electric Cooperatives



Serve 950,000+ households and businesses across 93 of North Carolina's 100 counties

- |  |   |   |
|--|---|---|
| 1. Albemarle EMC, Hertford                       | 14. Lumbee River EMC, Red Springs         | ★ North Carolina Electric Membership Corporation (NCEMC)<br>3400 Sumner Blvd., Raleigh, NC 27616          |
| 2. Blue Ridge Electric, Lenoir                   | 15. Pee Dee EMC, Wadesboro                |   |
| ● 3. Brunswick EMC, Shallotte                    | ● 16. Piedmont EMC, Hillsborough          | Tarheel Electric Membership Association Inc. (TEMA)<br>8730 Wadford Dr., Raleigh, NC 27616                |
| 4. Cape Hatteras Electric Cooperative, Buxton    | 17. Pitt & Greene EMC, Farmville          | North Carolina Association of Electric Cooperatives, Inc. (NCAEC)<br>3400 Sumner Blvd., Raleigh, NC 27616 |
| 5. Carteret-Craven Electric Cooperative, Newport | 18. Randolph EMC, Asheboro                |   |
| 6. Central EMC, Sanford                          | 19. Roanoke Electric Cooperative, Ahoskie | GreenCo Solutions, Inc. (GreenCo)<br>3400 Sumner Blvd., Raleigh, NC 27616                                 |
| 7. Edgecombe-Martin County EMC, Tarboro          | 20. Rutherford EMC, Forest City           |   |
| ● 8. EnergyUnited, Statesville                   | 21. South River EMC, Dunn                 |   |
| 9. Four County EMC, Burgaw                       | 22. Surry Yadkin EMC, Dobson              |   |
| 10. French Broad EMC, Marshall                   | 23. Tideland EMC, Pantego                 |   |
| 11. Halifax EMC, Enfield                         | 24. Tri-County EMC, Dudley                |   |
| 12. Haywood EMC, Waynesville                     | 25. Union Power Cooperative, Monroe       |   |
| 13. Jones-Onslow EMC, Jacksonville               | ● 26. Wake EMC, Wake Forest               |   |



# North Carolina Public Power Communities



- NCMPA1 Participants
- NCEMPA Participants
- Wholesale Members
- Major North Carolina Cities

**Out-Of-State Associate Members**  
**VIRGINIA** Bedford · Danville · Martinsville · Richlands  
**SOUTH CAROLINA** Abbeville · Bamberg · Bennettsville · Camden · Clinton  
 Easley · Gaffney · Greer · Laurens · Newberry · Rock Hill · Union · Westminster

# Brunswick EMC

- Installed public charging stations, including two DC Fast Charge stations
- Member education: workshop, online information



*Brunswick EMC DC Fast Charge Station  
Calabash, NC*

# EnergyUnited

- Installed public charging stations
- Owns plug-in hybrid fleet vehicles
- Offer a residential charging station rebate
- Member education – workshop, online information



*EnergyUnited – Plug-in Hybrid Fleet Vehicle  
Statesville, NC*

# Piedmont EMC

- Installed charging stations
- Owns plug-in hybrid fleet vehicles
- Member education – workshop, online information



*Piedmont EMC – Plug-in Hybrid Fleet Vehicle  
Hillsborough, NC*

# Wake EMC

- Offers residential time-of-use rate for members with electric vehicles
- Installed public charging stations
- Provides information on website



*Charging Stations at Wake EMC  
Wake Forest, NC*

# NCEMC's Strategic Plan



## ELECTRIC VEHICLE STRATEGIES

for North Carolina's Electric Cooperatives



North Carolina's  
Electric Cooperatives  
*Your Traditional Energy Cooperative*

### VEHICLE STRATEGIES

This report provided an overview of the potential opportunities they are intended to serve as a worksheet to assess for your cooperative. It includes seven strategies that electric cooperative to develop near, medium and long-term. It is for cooperatives review all seven plan that uses the strategies members. If you are interested vehicle strategic plan, please options for the development of membership.

Across the country are preparing for electric vehicles as a way to grow load, and make environmental friendly. Utility involvement with grouped into four overarching charging electric vehicles and charging owned stations, developing and rate-focused rates, and tracking charging stations.<sup>12</sup>

It has identified seven strategies can complete factors. These include:

Sharing on Website  
Member Education

Incentive and Rebate Programs

Charging Initiatives Program

Strategic Plan Template:

The strategic planning process at your cooperative, begin by completing the Strategic Plan Worksheet to assess your current activities and areas of interest. The goal is not to complete all strategies at once, but to develop a strategic plan that will identify the strategies most important to your cooperative and set goals and timelines for how these will be implemented in the immediate, intermediate and long-term.



### STRATEGIC PLAN WORKSHEET

#### INFORMATION SHARING ON WEBSITE

Include basic information about electric vehicles on your website so that members can get answers to frequently asked questions and find out how to get more information.

Do you have information about electric vehicles on your website?

Yes No TURN TO PAGE 13

#### MEMBER EDUCATION

Encourage your members, make sure that your employees are knowledgeable on electric vehicles and ready to answer questions.

Are your employees knowledgeable on electric vehicles?

Yes No TURN TO PAGE 14

#### MEMBER EDUCATION

Encourage your members, make sure that your employees are knowledgeable on electric vehicles and ready to answer questions.

Are your members educated on electric vehicles?

Yes No TURN TO PAGE 15

Vehicle data is extremely important for cooperatives. It helps to keep track of electric vehicle purchases and charging rates to help the cooperative to better manage its fleet.

Do you track electric vehicle data in your territory?

Yes No TURN TO PAGE 18

#### INCENTIVE AND REBATE PROGRAMS

Offering rebates helps you to form relationships with your members. It can also help you to encourage electric vehicle adoption.

Do you offer incentives or rebates to encourage electric vehicle adoption?

Yes No TURN TO PAGE 19

#### CHARGING INITIATIVES

Encourage electric vehicle adoption by setting the example with your own fleet. Install charging stations for your members or fleet vehicles.

Have you installed your own charging stations or added electric fleet vehicles?

Yes No TURN TO PAGE 20

#### SMART GRID PROGRAMS

Encourage electric vehicle adoption by setting the example with your own fleet. Install charging stations for your members or fleet vehicles.

Do you have an electric vehicle pilot grid program?

Yes No TURN TO PAGE 21

# Strategy 1

## Information Sharing on Website

- Address questions easily
- Provide information on incentives or programs
- Supply links or contact information to learn more
- Encourage members to reach out to let you know that they have purchased an electric vehicle

The screenshot shows the EnergyUnited website's "Electric Vehicle Programs" page. The header includes the EnergyUnited logo, contact numbers (Electric 1-800-522-3793, Propane 1-888-895-4114), and a "MY ACCOUNT" link. A search bar is located in the top right. The navigation menu includes Storm Center, Environment & Safety, Community, News, About Us, and Contact. The left sidebar features a menu with categories: ELECTRIC, PROPANE, ENERGY SERVICES (with sub-items: Renewable Energy, Renewable Energy FAQ, Interconnection Process, Forms and Standards, Rebates, PEV Programs, Energy Efficiency Rebates, Appliance Rebates, Triple Surge Guard, Why Triple Surge Guard?, Triple Surge Guard Warranty, Technical Specifications, Generators, Contact Us, Appliances/Equipment), and BUSINESS. The main content area is titled "Plug-In Electric Vehicle Programs" and includes an image of a blue plug-in electric car. The text describes the company's commitment to supporting PEVs and lists program requirements for a residential charging station rebate, such as being an active member, installing the station at the primary residence, and submitting a rebate form with a sales receipt.

*EnergyUnited Website Electric Vehicle Page*

## Strategy 2

# Employee Education

- Provide guidance language to member service representatives
- Host an employee training
- Provide online education through emails, employee newsletters, or an internal website



*Public Electric Vehicle Workshop  
Brunswick EMC*



## Strategy 3

# Targeted Member Education

- Target education efforts to specific members to meet their needs
- Share information through newsletters, trainings, guidance documents, etc.

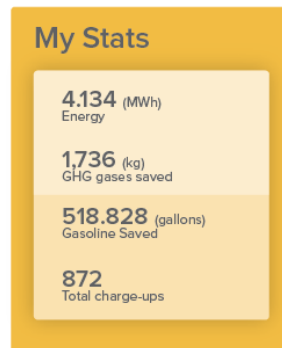


*Duke Energy Workplace Charging Workshop  
Asheville, NC*

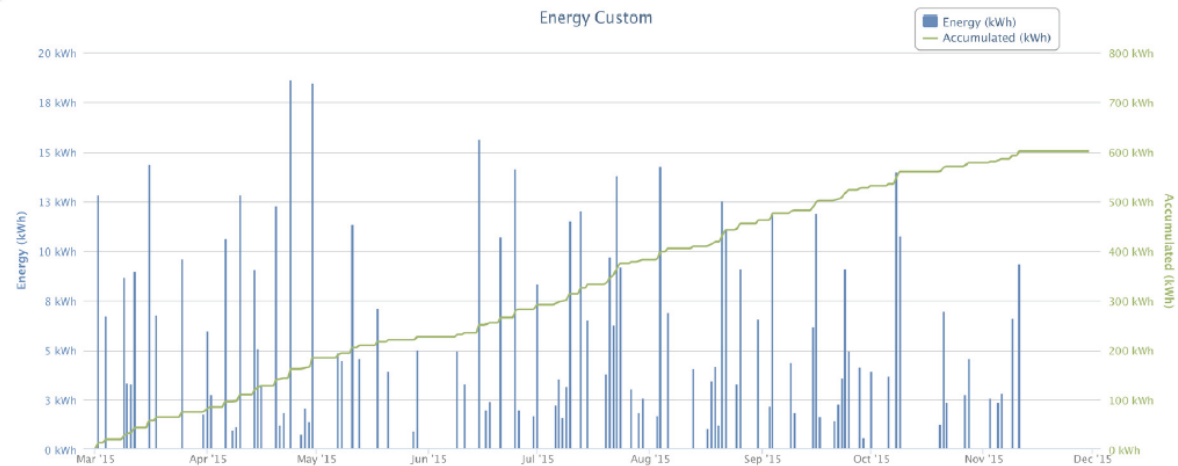
# Strategy 4

## Data Tracking

- Track electric vehicle information:
  - Charging station installation locations
  - Number of electric vehicles in territory
  - How often charging stations are being used and when



Example Charging Station Usage Data

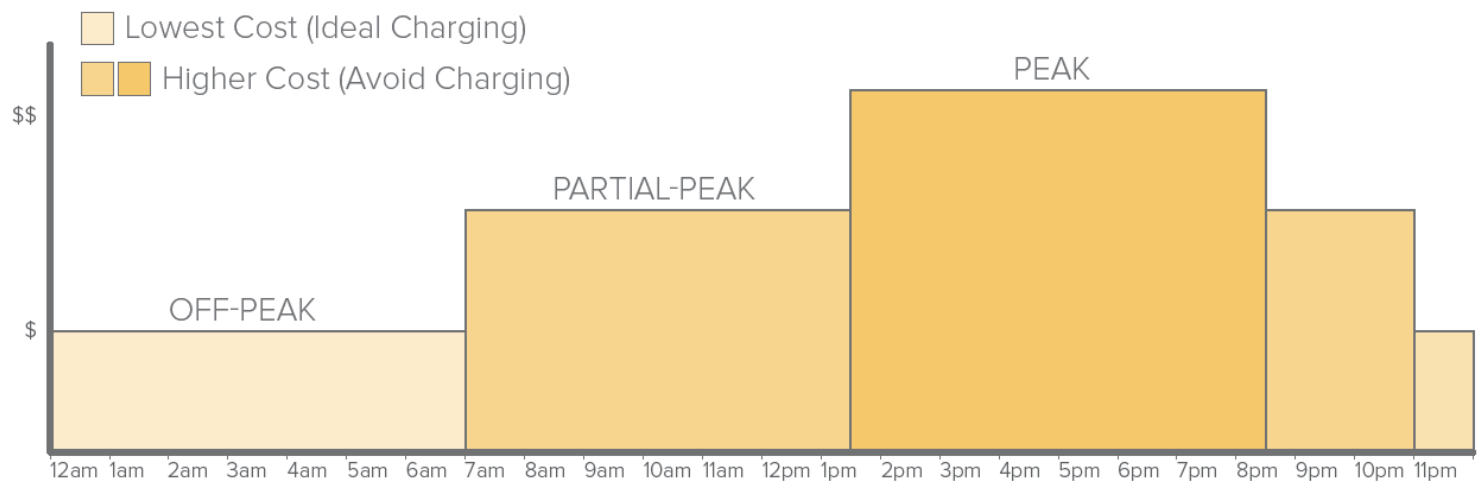


## Strategy 5

# Incentives and Rebate Programs

- EV Time-of-Use Rates
- Discount Power Rate
- Charging Station Rebate
- Financial Electric Vehicles

Example of Summer Time-of-Use Rate Schedule



# Strategy 6

## Deployment Initiatives

- Public Charging Stations
- Electric Fleet Vehicles



Duke Energy Electric Fleet Vehicle  
Kings Mountain, NC

## Strategy 7

# Pilot Grid Program

- Smart Grid Connected Charging Stations
- Vehicle-to-Grid (V2G)
- Vehicle-to-Home



Pilot Vehicle-to-Grid Program  
University of California, San Diego

# Utility EV Roadmap

## STRATEGY COMMITMENT CHECKLIST

The below checklists will help you to begin implementing an electric vehicle strategy in your territory. Check the boxes below to indicate which strategies you would like to explore further or begin applying. Remember that you do not have to go in order; choose the strategies that best fit with your cooperative's corporate strategies to pursue, assign the strategy to a specific employee and set a due date.

### Immediate Strategies:

#### Strategy 1: Information Sharing on Website

- Use the provided example website information to add an electric vehicle

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

#### Strategy 2: Employee Education

- Use the provided example guidance language to provide information to representatives about electric vehicles.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

- Host a training for your employees to educate them on electric vehicles questions from members.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

- Add information on electric vehicles to your employee newsletter or internal

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

#### Strategy 3: Targeted Member Education

- Review Strategy 3 and select which target audiences are present in your plan on how to best reach out to them to let them know that you are available

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

### Intermediate Strategies:

#### Strategy 4: Data Tracking

- Review Strategy 4 and determine a way to gather data that best fits your membership. Begin tracking data on the number and location of charging stations being installed in your territory.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

#### Strategy 5: Incentives and Rebate Programs

- Review incentive and rebate options presented in Strategy 5 to determine which option(s) would work best for your members. The possible options are time-of-use rates, discount power rate, charging station rebate and electric vehicle financing programs.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

### Long Term Strategies:

#### Strategy 6: Deployment Initiatives

- Create a plan to begin installing charging stations in your territory for public use.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

- Begin researching options to add electric vehicles to your cooperative's fleet and put together a plan to purchase one or more.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

#### Strategy 7: Pilot Grid Program

- Research and begin implementing smart grid connected charging stations.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

- Research vehicle-to-grid technologies and plan a pilot program.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

- Research vehicle-to-home technologies to see if these could be helpful in your territory.

Assigned to: \_\_\_\_\_

Due Date: \_\_\_\_\_

### Need Assistance?

If you have any questions while you are working through these strategies, please contact Advanced Energy for assistance at 919-857-9000 or [transportation@advancedenergy.org](mailto:transportation@advancedenergy.org).



### CHARGING STATION NEXT STEPS

**Congratulations on your new charging station!**

**Below are recommendations on how you can promote your new amenity.**

**Host a Ribbon Cutting**  
Let your customers, community and the media know about your new charging station by hosting a ribbon cutting event to officially open your new charging station.

**Register your Station on PlugShare and the AFDC**  
Let others know about your new station by adding it to a search database. PlugShare is the most popular website and app that drivers use to find a station. Another commonly used database is the Alternative Fuels Data Center (AFDC).

**Join Plug-in NC**  
Plug-in NC is a state-wide program to recognize locations in North Carolina that have installed charging stations or added electric fleet vehicles. The program is free to join and members benefit from being promoted through the NC PEV Taskforce's website, newsletter and social media sites.

**Add Signage**  
Signage helps others to easily find your charging station and to increase awareness of electric vehicles in your area. Signage can include the:

### ELECTRIC VEHICLE

More than 90% of fleets cannot purchase 7,000 registered electric vehicles across the high rate of adoption of EVs in North Carolina. Companies will expect to have evenly available, cost-effective charging solutions in their fleets.

What is an EV Ready Fleet?

An EV ready fleet is one that offers safe access to a dedicated green energy for the purpose of charging a plug-in electric vehicle. There are a variety of charging options that range from simple to complex. For electrical requirements, the most common are:

**120 Volt electrical outlet**

- 200V/240 outlet with dedicated circuit
- Good and correct grounded with vehicle
- Charge level is level of existing equipment of charging

**240 Volt electrical outlet**

- 200V/240 outlet with dedicated circuit
- Dedicated charging system provided by home owner
- Charge time is an issue of charging equipment of charging

PlugShare provides an easy way for electric vehicle drivers to locate a charging station and plan all electric trips to your site description on PlugShare include a note about things to do while drivers charge.

### Employee Guide for Workplace Charging

As employees continue to adopt plug-in electric vehicle technologies, they are interested in expanding range confidence by engaging with management about installing workplace charging at their place of business. This resource document provides information employees can utilize to get their company on board with workplace charging by highlighting who to talk to, talking points to use, how to address concerns, and providing resources and examples of workplace charging already in North Carolina.

**Employee Talking Points to Employers**  
Being prepared to speak to your employer about adding electric vehicle charging stations is essential to having the conversation and with an agreement to add the infrastructure at your workplace. Having a complete understanding of your company's mission and goals will help employees when they approach their management about electric vehicle charging. Below are talking points that you can use with your employer:

- Raising and securing a strong safety workforce
- Showing corporate leadership
- Embracing advanced technology
- Providing a cost effective amenity
- Supporting sustainability efforts
- Getting LED green
- Marketing opportunities
- Social responsibility
- Preparing for future needs

**Involvement of Key Stakeholders:**  
Identifying the appropriate representatives to contact is important to start a conversation about workplace charging. Examples include:

- Senior Management Representative
- Sustainability Director
- Facilities Manager
- Legal Counsel
- Human Resources Manager
- Parking Facility Operator

"DukeSolutions (DS) has a history of good stewardship of available resources, has a commitment to care to itself, good and every year receive carbon award gold. The management support for the sustainable aspects of plug-in electric vehicles was established through these programs."  
Tom Hillard, Director of the Research Triangle Park

# plug-in.nc

www.pluginnc.com

Lisa Poger

lpoger@advancedenergy.org

919.857.9037

# Questions?

## Thank You!

---

[www.advancedenergy.org](http://www.advancedenergy.org)

[www.pluginnc.com](http://www.pluginnc.com)

Copyright© 2016 Advanced Energy

