



# Plug-in Electric Vehicle Readiness Initiatives

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# ▶ About Advanced Energy

- A nationally recognized independent, non-profit organization, established in 1980
- Mission to create economic, environmental and societal benefits through innovative and market-based approaches to energy issues
- Provide consulting, training and testing in the following focus areas:
  - Emerging transportation initiatives
  - Applied building sciences (residential, commercial and industrial)
  - Energy efficiency
  - Renewable energy
  - Motors and drives



*Advanced Energy's office on North Carolina State University's Centennial Campus in Raleigh, NC*



## ▶ Transportation Initiatives

Advanced Energy's Transportation Initiatives team takes an ***integrated, holistic approach*** to help all stakeholders and members of the community understand, plan-for and implement ***emerging transportation initiatives.***

# ▶ NC PEV Taskforce

- Established by the **N.C. Department of Commerce** and **Advanced Energy** in 2011
- Infused with resources by **U.S. DOE** grant: “Plugging In from Mountains to Sea”

## Goals of Taskforce

1. Identify and address barriers to PEV adoption
2. Involve industry partners
3. Recruit new industry
4. Prepare N.C. to take advantage of funding
5. Create and implement a PEV roadmap for N.C.





# ▶ NC PEV Taskforce (cont.)



- ▶ **200+** participating organizations
- ▶ **150+** municipalities represented
- ▶ **450+** individual participants
- ▶ **6** Working groups / meet monthly
- ▶ Regular NC PEV Taskforce Events



# ▶ North Carolina's PEV Readiness Plans

The map highlights four regional PEV Readiness Plans:

- Greater Charlotte Plug-In Electric Vehicle (PEV) Readiness Plan**
- Greater Charlotte Plug-In Electric Vehicle (PEV) Readiness Plan**
- Piedmont Triad Plug-In Electric Vehicle (PEV) Readiness Plan**
- Greater Triangle Plug-In Electric Vehicle (PEV) Readiness Plan**

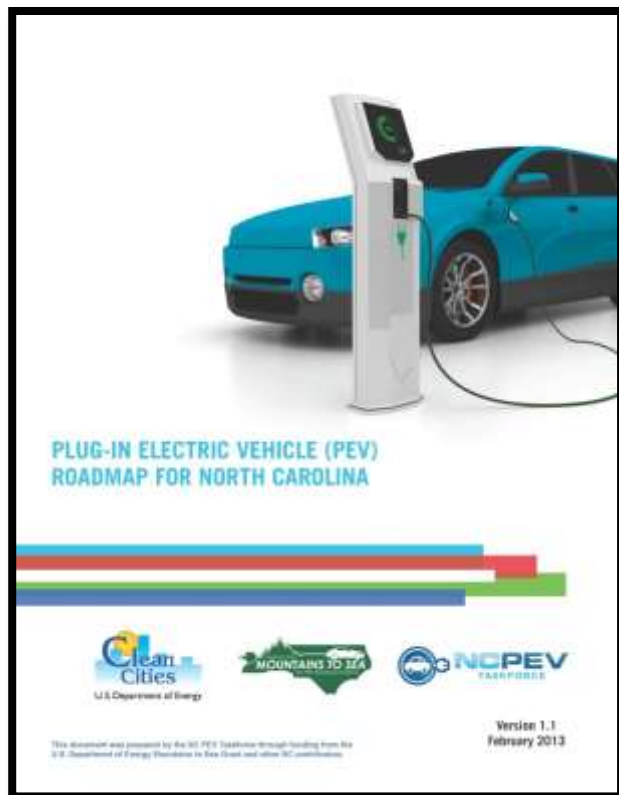
**NCPEV TASKFORCE**

**PLUG-IN ELECTRIC VEHICLE (PEV) ROADMAP FOR NORTH CAROLINA**

Partners: **CITY OF CLINES**, **PLUG-IN NORTH CAROLINA**, **NCPEV**

Version 1.1, February 2013

# ▶ NC PEV Roadmap: Highlights



NC PEV Roadmap

- ✓ More than two-thirds NC counties with registered PEVs
- ✓ EPRI Estimates – more than **750,000** PEVs in NC by 2030
- ✓ **600+** public and workplace charging stations
- ✓ Survey of incentives for fleet managers
- ✓ Review of policies, codes and standards:
  - Zoning
  - Americans with Disabilities Act (ADA)
  - Local Planning and Policy Documents
  - Historic Districts
  - Signage
- ✓ 35 NC Events, Trainings, Workshops reaching more than **2,000 people in 2012**



# QUESTIONS?



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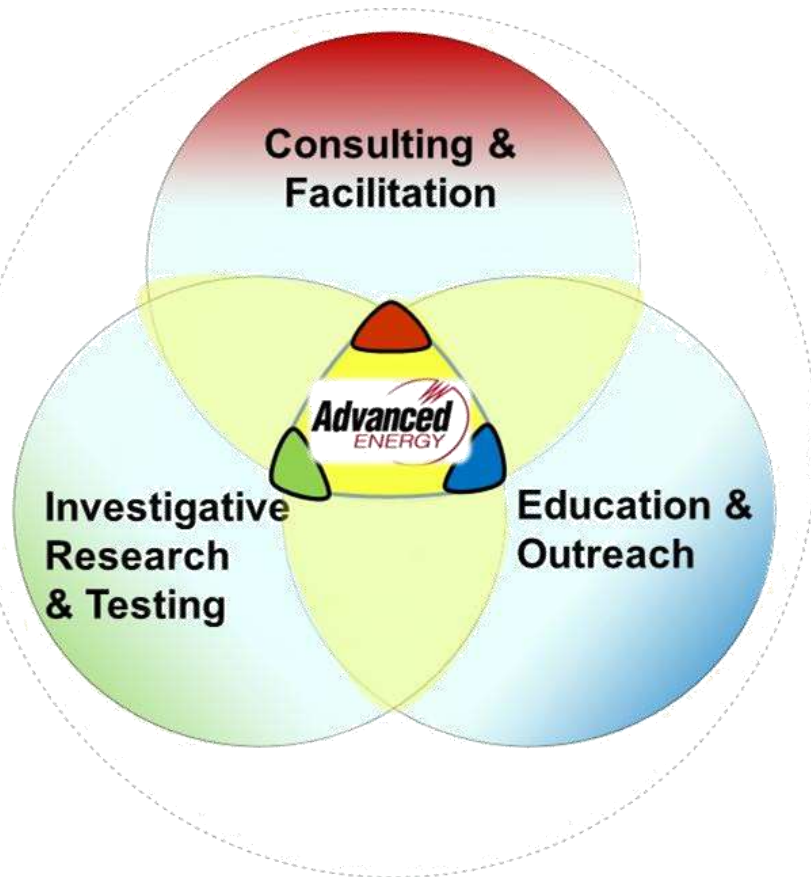




# Additional Information

# ▶ AE's Transportation Division: What we do

Advanced Energy's Transportation Team takes an *integrated, holistic approach* to help all stakeholders and members of the community understand, plan-for and implement ***emerging transportation initiatives***.



## Consulting & Facilitation

- ✓ Municipal / State PEV planning
- ✓ Utility PEV programs
- ✓ Infrastructure & vehicle support
- ✓ Workplace charging

## Education & Outreach

- ✓ Industry workshops
- ✓ Training curriculum
- ✓ Public outreach

## Investigative Research & Testing

- ✓ Technology briefs
- ✓ Case studies
- ✓ Demonstrations & testing

# ► Benefits of Plug-in Electric Vehicles

## Lower Cost



\$0.50 – \$0.75 per  
gallon equivalent,  
reduced maintenance

## Energy Security



Reduced oil imports,  
Distributed  
Infrastructure,  
Diversified Fuel  
Sources

## Fewer Emissions



Reduced Mobile  
source emissions  
Increased benefit  
with greening of  
generation

## Better Performance






PEVs will meet the  
performance  
expectations of  
Americans

# ► Why Plan for PEVs?

PEV Roadmap  
& Readiness  
Plans

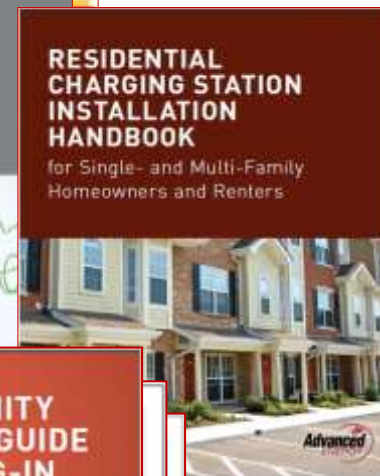


- Preparation and Good Practice
  - permitting, ordinances, inspections, best practices
  - infrastructure
- Preempt Liability Issues
  - Americans with Disabilities Act
  - Trip hazards, block walkways, etc.
- Economic Development
  - 2012- Clean Energy Sector generated **\$3.7 billion** in NC- *NCSEA Clean Industries Census*
  - The United States has a **\$1.63 billion** clean energy trade surplus with China- *Pew Charitable Trusts*
- Benefits of PEVs May Overlap with Goals of Existing Plans
  - Improved air and water quality 
  - Reduced dependence on oil
  - Lower fueling and operating costs 
  - Public Health 



# ► Resources & Readiness Plans

- Municipal / State PEV Planning Guides
- Charging Station Installation Handbooks
- Charging Station Technology Reviews
- Community PEV Initiative Templates
- Workforce Development
- Readiness Plans and Roadmaps
- Informational Handouts
- Standards and Guidelines



[www.AdvancedEnergy.org/Transportation](http://www.AdvancedEnergy.org/Transportation)