

# Alternative Fuels Implementation Team (AFIT) for North Carolina



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Project ID #  
TI053

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## Timeline

- Start: February 1, 2013
- End: January 31, 2015
- 58% Complete

## Budget

- Total Project Funding
  - DOE: \$500,000
  - Cost Share: \$69,000
- FY13 Funding: \$290,000
- FY14 Funding: \$210,000
- 44% Spent to Date

## Barriers

- Barriers addressed
  - Availability of AFVs
  - Consumer reluctance to purchase new technologies
  - Lack of technical experience with new fuels and vehicle technologies

## Partners

- Project lead: NCSC/NCSU
- Collaborators:
  - Clean Cities Coalitions (8)
  - Utilities (1)
  - Alt fuel providers (5)
  - Alt fuel vehicle industry reps (4)
  - Non-profits (1)
  - State Agency (1)

## **Objective: Target and remedy obstacles to alternative fuel vehicle (AFV) adoption and use in regional and/or statewide sectors and niche markets.**

- Through the collaboration of designated Clean Cities Coalitions in NC, SC, GA, TN, KY, and VA, this project will work with stakeholders to advance the use of alternative fuel vehicles (AFV) by focusing on policies, barrier reduction strategies, safety and training programs, and market development and outreach efforts.

## **Support of VTP Deployment Goals:**

- By 2020, to achieve a petroleum reduction of over 2.5 billion gallons per year through voluntary adoption of alternative fuel vehicles and infrastructure.
- To ease market introduction of alternative fuels and new electric drive vehicle technologies through voluntary efforts in partnership with local communities
- To provide technical and educational assistance to support local communities and partnerships that promote better understanding of the benefits of these new technologies.

## Year 1 - FY 2013

- ✓ Set up subcontractor & vendor agreements – 8 Clean Cities coalitions, Advanced Energy (non-profit) & ICF (consultant).
- ✓ Conduct quarterly AFIT meetings and monthly planning calls.
- ✓ Develop and publicize calendar of state AFV purchasing bids & contracts.
- ✓ Assess state road signage policies in NC, SC, GA, TN, KY, VA.
- ✓ Report on AFV Incentives in NC, SC, GA, TN, KY, VA.
- ✓ Conduct planning charrette – 1 each for CNG, LPG, Biodiesel & E85; begin implementation of barrier reduction activities.
- ✓ Conduct fleet interviews to inform development of Petroleum Displacement (PD) Toolkit.
- ✓ Conduct biofuel retailer needs assessment.
- ✓ Develop template for PD Toolkit & fleet recognition program.

## Year 2 - FY 2014

- Continue quarterly AFIT meetings & planning calls.
- Report on AFV road signage coordination efforts.
- Implement barrier reduction tasks (1-2 per alt fuel).
- Support alt fuel retailers (based on charrette & needs assessment).
- Finalize PD “How to Implement” Toolkit.
- Consult with fleets (one on one) to develop fleet specific PD plans using toolkit.
- Conduct SE Alternative Fuels Conference & Expo.



**Southeast Alternative Fuels  
Conference & Expo**

## **Task 1: Project Management/Administration**

- Provide overall management of the cost, schedule and scope of the project and provide status and progress reports to the Department.

## **Task 2: Policy Initiatives and Activities**

- Document & assist with state purchasing policies to expand alt fuel offerings.
- Communicate & coordinate alt fuel road signage policy with neighboring states.
- Assess effectiveness of alt fuel incentives in NC, SC, GA, TN, KY, VA.

## **Task 3: Barrier Reduction Initiatives and Activities**

- Conduct planning charrettes to prioritize barrier reduction strategies.
- Conduct individual fleet meetings to implement petroleum displacement planning and support biofuel retailers with needs assessment & activity.

## **Task 4: Training Initiatives and Activities**

- Plan and conduct SE Alternative Fuels Conference & Expo.

## **Task 5: Market Development/Outreach Initiatives and Activities**

- Develop & administer recognition program.
- Establish and conduct quarterly Alternative Fuel Implementation Team meetings.
- Develop a database of alt fuel users.
- Develop Petroleum Displacement Toolkit- “how to implement” specific to North Carolina.

## Task 2: Policy Initiatives and Activities

- Document & assist with state purchasing policies to expand alt fuel offerings
  - ✓ NGVs, conversions, fueling infrastructure & fuel now on state contract, contracted companies report major uptick in order volume.
  - ✓ LPG school buses now on state contract, several counties expressed interest in next purchase being propane.
  - ✓ LPG vehicle conversions, fuel infrastructure & fuel on state contract by summer 2014
  - ✓ User-friendly bid calendar & contracts document (AFVs on state contract) on-line.
- Communicate & coordinate alt fuel road signage policy with neighboring states
  - ✓ Documented in draft report information on federal road signage policy & individual state AFV signage activities & procedures in NC, SC, TN, KY, & VA.
  - ✓ Draft recommendations to enhance road signage opportunities and assessment of next steps underway.
- Assess effectiveness of alt fuel incentives in NC, SC, GA, TN, KY, VA
  - ✓ Report complete & posted online.
  - ✓ Distribution and promotion plan under development.

## Task 3 Barrier Reduction Initiatives and Activities

- Conduct planning charrette to prioritize barrier reduction strategies
  - ✓ 116 attendees to 4 ½ day events – 1 ea. for CNG, LPG, Biodiesel, E85.
  - ✓ Principle partners identified and began work on barrier reduction tasks.
- Support alt fuel retailers
  - ✓ Conducted survey of biofuel distributors, retailers & users with 55 responses.
  - ✓ Planning underway for 1 month E85 postcard promotion includes collaboration of 3 retailers & 1 distributor (providing \$.30/gal discount); Growth Energy (providing postcard design & printing). Postcard designed, NCSC has requested mail addresses from NC DMV for 14,000 FFV owners within 5 mi radius of 3 E85 stations.
- Conduct individual fleet petroleum displacement meetings
  - ✓ Conducted 9 interviews with fleets to inform development of PD Toolkit.
  - ✓ Developed templates for toolkits based on feedback.



## Task 4 South East Regional Alternative Fuels Conference

- ✓ Convened conference planning committee.
  - 8 CC coalitions from 6 states
- ✓ Contracted with conference planners.
  - East TN Clean Fuels & ICF
- ✓ Date and Venue set: October 22-24, 2014.
- ✓ Raleigh Convention Center, Raleigh NC.
- ✓ Conference website.
  - Developed [www.altfuelsconference.org](http://www.altfuelsconference.org), 399 website hits Mar15-Apr16: average visit length of 3 minutes each.
- ✓ Sponsors (18 sponsors to date), Exhibitors and Ride-and-Drive participants signing up.
- ✓ Registration opened April 23. Early bird rates only \$100-\$150.
- ✓ Keynote and Plenary speakers secured/invited.



## Task 5 Market Development/Outreach Initiatives and Activities

- **Recognition program:**
  - ✓ Conducted discussions with NC, SC, GA TN, KY, VA & industry partners.
  - ✓ Developed draft templates for regional awards.
  - ✓ Developed plan to present awards as part of SE Alt Fuels Conference.
- **Quarterly AFIT meetings:**
  - ✓ 5 meetings conducted with total of 83 attendees representing: CC coalitions, state agencies, university, biofuel retailer/distributors, utilities, non profits, vehicle & refueling technology providers.
  - ✓ Industry partner review of toolkit and “how to implement” documents such as NC NGV Refueling Infrastructure Planning & Installation Guide.
- **Develop alt fuel users database:**
  - ✓ Displays information about a sampling of fleets across North Carolina that are using alternative fuels, allowing site visitors to locate and connect with other similar fleets using fuels they are interested in.
  - ✓ 53 fleets.

## Task 5 Market Development/Outreach Initiatives and Activities (continued)

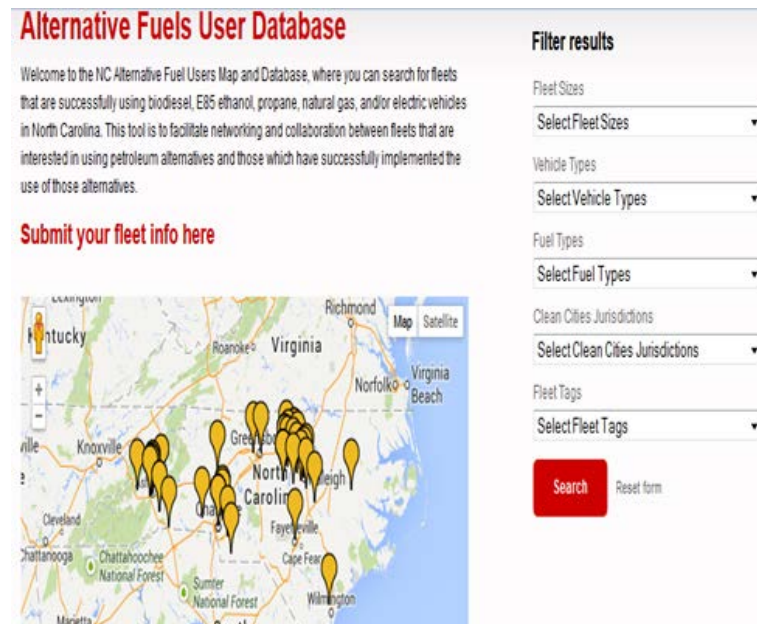
### • Develop Petroleum Displacement Toolkit

- ✓ Introduction, Alt Fuels Information Matrix (2 pg summary table on best applications & benefits of each alt fuel) & Fleet Survey Template (to conduct individual fleet assessments and PD planning) reviewed/ approved by NREL and on website.
- ✓ Technical review of chapter templates complete. Each chapter includes: Fuel Introduction, Various Applications, Available Vehicles Vendors in NC Market; Fuel & Infrastructure Providers, NC Case Study, Trends Looking Ahead.
- ✓ Technical review of Individual “ chapters” on E85, Electric Vehicles, CNG complete.
- ✓ With only 44% of planned toolkits documents on [www.cleantransportation.org](http://www.cleantransportation.org) website and no promotion, had 17 page views in Mar with average visit of 2 minutes each.

## Task 5 Market Development/Outreach Initiatives and Activities (continued)

- **Develop alt fuel users database:**

- ✓ Web-based map displays information about a sampling of fleets across North Carolina that are using alternative fuels, allowing site visitors to locate and connect with other similar fleets using fuels they are interested in.
- ✓ 53 fleets utilizing natural gas, propane, electricity, biodiesel and/or E85 currently in data base. Additional fleets may be added directly by user (after review/approval by NCSC).



**Alternative Fuels User Database**

Welcome to the NC Alternative Fuel Users Map and Database, where you can search for fleets that are successfully using biodiesel, E85 ethanol, propane, natural gas, and/or electric vehicles in North Carolina. This tool is to facilitate networking and collaboration between fleets that are interested in using petroleum alternatives and those which have successfully implemented the use of those alternatives.

[Submit your fleet info here](#)

**Filter results**

Fleet Sizes  
Select Fleet Sizes

Vehicle Types  
Select Vehicle Types

Fuel Types  
Select Fuel Types

Clean Cities Jurisdictions  
Select Clean Cities Jurisdictions

Fleet Tags  
Select Fleet Tags

The screenshot shows a map of North Carolina with numerous yellow location pins indicating the presence of alternative fuel users. The map includes labels for major cities like Charlotte, Raleigh, and Winston-Salem, as well as geographical features like the Appalachian Mountains and the Atlantic coast. The interface is clean and user-friendly, with clear navigation and filtering options.

## Prime contractor: NC Solar Center/NC State University

### Sub-recipients:

- Principal partners: Centralina Clean Fuels (Charlotte), Triangle Clean Cities (Raleigh-Durham), Land of Sky Clean Vehicles (Asheville), Advanced Energy (non-profit)
  - Participate in monthly planning calls.
  - Host/Facilitate Charrette (all except Advanced Energy).
  - Conduct 1-2 barrier reduction activities each.
  - Contribute to development of Toolkit components.
  - Participate on conference planning committee & comment on materials with regional impact (Incentives and Signage reports).
- Other partners: 5 Clean Cities Coalitions from neighboring states (East Tennessee Clean Fuels, Clean Cities Georgia, Kentucky Clean Fuels, Palmetto State Clean Fuels (South Carolina), Virginia Clean Cities)
  - Conference planning committee.
  - Support policy related activities (AFV state/local incentives & AFV road signage collaboration).

- SE Alternative Fuels Conference Contractors:
  - East TN Clean Fuels Coalition – website design & management, conference invitation postcard design & conference on site manager
  - ICF International – support in recruiting sponsors, tracking speakers confirmation, materials and developing conference planning document for conference site manager follow-up.
- 12 AFIT industry members representing all five alternative fuels (industry stakeholders including utilities, state agencies, tech providers) provide cost share contribution to project through:
  - Participation quarterly AFIT meetings.
  - Review and comment on materials and activities.

**The NC Solar Center, Clean Cities Coalitions & Industry partners are providing a total of \$69,000 in cost share contributions**

## Remaining Funded Project Activities:

- Complete, distribute, and publicize Alt Fuel Road Signage Report.
- Continue to enhance state bid and contract opportunities for alt fuels.
  - Work with vendors and fleets to ensure success of Propane Vehicle Conversion Bid/Contract.
  - Work to get plug in electric vehicles back on state contract.
- Complete barrier reduction activities ( i.e. E85 postcard promotion, biodiesel educational materials, LPG financing models & tech training “database”).
- Southeast Alternative Fuels Conference & Expo: October 22-24, 2014, Raleigh Convention Center.
  - Secure speakers, additional sponsors & 400-500 attendees.
  - Recognize fleets & industry leaders through regional recognition.
- Alt Fuel Toolkit completion, fleet consultations.
- Add more fleets to alt fuel users database.

- **Challenges and barriers to meeting project objectives**
  - Alt Fuel road signage opportunities largely influenced by federal policies present challenge to enhancing state opportunities.
  - Recruiting additional sponsors & meeting goal of 400-600 attendees to SE Alt Fuels Conference & Expo.
- **Current and future potential to contribute to alt fuel market expansion**
  - Opportunity to transition statewide AFIT quarterly meeting to industry-supported group providing statewide platform and financial stability.
  - Potential to work with NCDOT on “EV Charging Highway” signage project.
  - Potential to integrate AFIT toolkit use with NCSC CMAQ-supported NC Smart Fleet Initiative.
  - Provide AFIT toolkit template for other Clean Cities Coalitions to replicate where appropriate.
  - State Contract Bid Calendar: continued focus on expanding State Contract alt fuel/vehicle offerings and purchases.
  - Expansion in NC Alt Fuel Users database will continue to give new fleets confidence in exploring options for their fleets.



## Relevance:

- “How to Implement” PDToolkit and fleet consultations to expand alt fuel use.
- Regional Alt Fuels Conference to train/inform fleets on alt fuel options.
- Alt fuel station highway signage focus to improve public awareness of alt. fuels.
- Alt fuel users database and NC PD Toolkit provide NC specific information to facilitate adoption.

## Approach:

- Leveraging state and regional partners (Clean Cities, alt fuel industries).
- Collaborative identification of priority barriers (via “charrettes”).
- Barrier reduction activities, resource development.

**Collaborations:** 8 state & regional Clean Cities Coalitions, 12 state & industry partners.

## Project Accomplishments/Progress:

- A wide range of resources make it easier for fleets in NC and throughout the Southeast to implement alt. fuels: 115 AFIT-related webpage views in March 2014.
- Toolkit components & Incentives Report complete, Barrier reduction activities underway, increased alt fuel options on the state contract.
- Growing Interest in SE Alt Fuels Conference: 18 sponsors to date, 399 website visits averaging 3 minutes in length from Mar-15 through Apr 16, 2014.