



# 2014 DOE Vehicle Technologies Office Review Presentation of Central Texas Fuel Independence Project

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Project ID #  
**TI049**

# Overview

Central Texas Fuel Independence Project 2013/2014 Activity



## Timeline

- Start: Feb, 2013
- End: Jan, 2015
- 50% complete

## Budget

- Total project funding
  - DOE share: \$500,000
  - \$100,000 in-kind share
- FY13: \$250,000
- FY14: \$250,000
- Halfway through funding schedule

## Barriers

- Develop cohesive PEV/NGV policies
- PEV/NGV Outreach, Deployment & Analysis
- PEV/NGV Safety, Training, and Workforce Development
- Accelerate EV/NGV Infrastructure Installation
- Market Development and Outreach

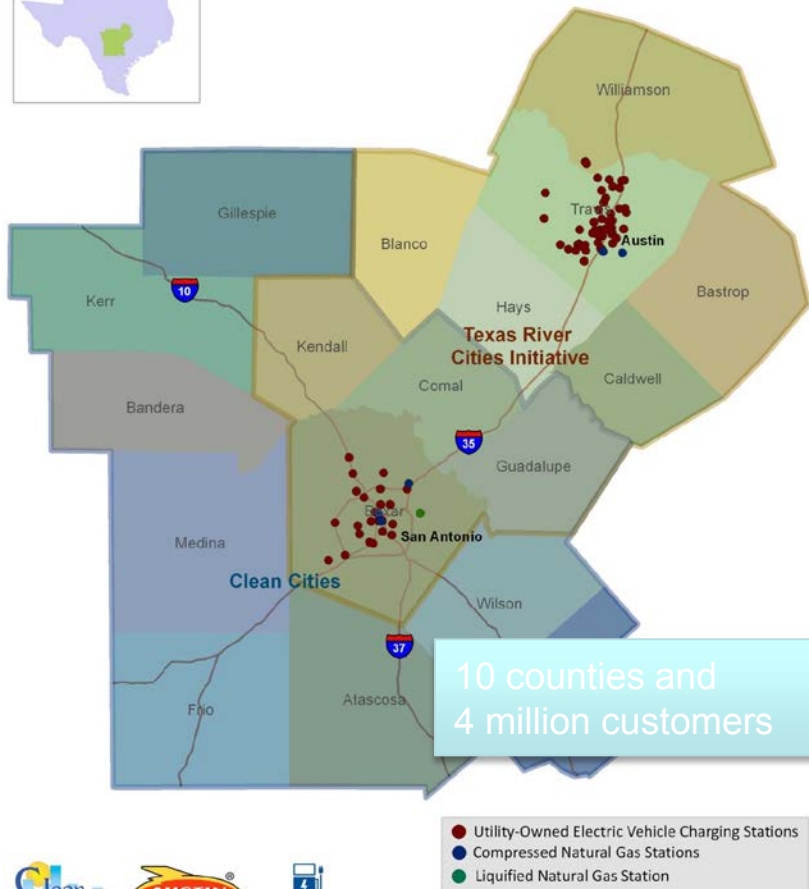
## Partners

- Austin Energy, and AACOG (Prime and Sub)
- State Agencies, ERCOT, RRC, TPUC, TxDOT
- Electric and Natural Gas Utilities
- Academia, UT, UT-SA, Austin Community College
- Regional Transportation Authorities and Transit Agencies, and government officials
- Automakers, Autodealers, Auto owners
- Fleets – commercial, public, private, transit
- Property owners – Multifamily, workplace



# CTFIP Mission

Central Texas Fuel Independence Project



## VISION

*Public-private initiative promoting accelerated adoption of local, affordable, and cleaner **electric** and **natural gas** fueled-vehicles in the **Austin and San Antonio** region.*

## BENEFITS

- Reduce petroleum imports and costs
- EV/NGV market development
- Support regional policy, transportation & economic development
- Promote infrastructure, training, and awareness
- Improve air quality
- Foster collaboration, cohesiveness & future readiness across stakeholders





# Stakeholders and Partners



# Policy Initiatives - Relevance

Central Texas Fuel Independence Project 2013/2014 Activity



## Objectives

- Expansion of Inter-local Cooperation Agreement to include development and implementation of Policy Initiatives that will Positively Impact use of Alternative Fuel Vehicles
- Convene Project Partners, Energy and Transportation stakeholders, agency, regulatory and alternative fuel vehicle stakeholders for policy forums, and assessing policies associated with the use of electric and natural gas vehicles

## Goals

- Sign Inter-local Cooperation Agreement with Austin Community College to seed-fund and catalyze the school's Advanced Vehicle Training Program, supported by the National Alternative Fuel Vehicle Training Consortium. Curriculum coursework and continuing education programs to start in 2014/2015 school year.
  - Train over 100 new full-time employees in advanced vehicles training program's first year in order to qualify for two years of program funding provided by Texas Workforce Commission
- In 2014 sign Inter-local with University of Texas Center for Electromechanics and UT-San Antonio Texas Sustainable Energy Research Institute to develop two deliverables:
  - web-based tools for fleets to evaluate vehicle performance through dynamic modeling,, laboratory and field evaluation of vehicles, and macro-economic analysis including regional economic impact
  - Database tracks avoided emissions and fuel costs from EV/NGVs purchased through Texas Commission on Environmental Quality \$2500 rebates at point of purchase. Programs
- Regular series of work-sessions to develop policies associated with use of EV/NGVs, Infrastructure, Operation and Maintenance, and Safety resulting in regionally unified and cohesive infrastructures for EV charging and NGV fueling by Summer 2015.
- Support policy advancement through convening a regional EV/NGV event in San Marcos for Fleets and Policymakers. Goal of facilitating, speaking or hosting 30 events in 2014.



# Barrier Reduction Initiatives

Central Texas Fuel Independence Project 2013/2014 Activity



## Objectives

- Implementing high-priority interoperability recommendations from Texas River Cities Roadmap related to PEV infrastructure
- Working with NG Stakeholders to serve commercial, public, private and transit fleets with support in adoption of NGV infrastructure, training, O&M and tracking the benefits.

## Goals

- Facilitate and support deploying public EV charging stations in all 10 counties of region by 2015.
- Initiate first public charging in multifamily properties in our region by 2015 with over 10 new sites
- Expand public charging to more than 10 new workplaces by 2015
- Initiate level 1 public charging in more than 10 locations by 2015 including schools and multifamily
- Convene a series of working sessions and focus groups of NGV stakeholders to produce educational material on infrastructure, standards and compliance for fueling sites, operation and maintenance, costs and benefits, rebates, training/safety/workforce development.
- Expand the number of natural gas fueling stations by 2015 through collaboration with natural gas vehicle stakeholders in fleets, utilities, transportation agencies, state agencies, policymakers, infrastructure providers and hosts, workforce training, and research interests.
- Institute a database that measures and validates the performance of vehicles purchased with Texas Commission on Environmental Quality rebates
- Establish and support three NGV events in Summer/Fall 2014 in coordination with AACOG and Railroad Commission in San Antonio, San Marcos and Austin, designed for education, outreach, and providing materials to support fleet representatives through process of applying for state EV/NGV rebate programs and infrastructure rebate programs in Central Texas.

# Safety and Training Initiatives

Central Texas Fuel Independence Project 2013/2014 Activity



## Objectives

- Host First Responder Safety Training for EV/NGVs for trainers and first responders
- Host Shared Infrastructure Issues trainings for Multi-Family Property Managers and Employers
- Facilitate Trainings for Dealerships to encourage accurate information sharing with customers on applicable services, rebates and EV/NGV knowledge among customers and market segments.

## Goals

- Goal in 2014 is to provide 5 2-day training workshops with our partner Alamo Clean Cities for the Austin, San Antonio and 10 county region, facilitated by our sub-prime, National Alternative Fuel Vehicle Training Program, and supporting Trainers, Fire Marshals, and First Responders
- Formalize the educational materials produced for supporting multi-family property manager and employer awareness and education around EVs. Continue to expand the multi-family property manager and employer outreach and education campaign. Continue in 2014 to exponentially grow the number of properties in the 10 county region that are supporting EV infrastructure, including level 1, 2 and DC charging.
- Formalize the educational materials produced for dealership awareness and education around EVs. Continue to expand the dealership education and training campaign. Continue in 2014 to grow the number of dealerships in the 10 county region that sell EVs.

# Market Development Initiatives

Central Texas Fuel Independence Project 2013/2014 Activity



## Objectives

Execute marketing & communications recommendations for EVs developed in Texas River Cities, and Bolster NGVs campaigns supported by natural gas utility partners and Clean Cities:

- Website and Social Media Launch
- Education/Outreach material developed and outreach activity
- Organize Workshops for Alamo and I-35 Corridor for potential Fleet Users
- Create Educational Materials on use of PEVs and NGVs, featured through various media outlets
- “Central Texas Fuel Independence” Campaign

## Goals

- Utilize Messaging Architecture produced by stakeholders, advisory board and Pierpont Communications in all messaging and mediums.
- Expand digital presence through development of App for regional EV users and fleets, in collaboration with advisory board and working groups, addressing specific painpoints of region
- Expand reach of our education outreach roadshow from Austin metro-region for multi-family and workplace recruitment, to whole region, assisting other utilities and providers with process design and improvements
- Expand reach of our NGV workgroup through completion of NGV education and marketing deliverables including state program overview, site and maintenance checklist, process and compliance assistance forms.
- Expand media presences of our service to region through media and campaign by aligning all activities with existing stakeholders and their subject matter expertise resulting in cross-platform promotion.



# Milestones

## Central Texas Fuel Independence Project 2013/2014 Activity



### Year 1

- CTFIP Kickoff Meeting, September 2013
- First CTFIP Advisory Board Meeting and Convening of 5 Working Groups, October 2013
  - Fleets, Electric Vehicle, Natural Gas Vehicle, Policy and Marketing Working Groups meet regularly
- Organized CTFIP UT-SA, CPS Energy Half-Day Alt Fuel Symposium in San Antonio, Dec, 2013
- Inaugural EV and NGV First Responder Training and Train the Trainer Workshops, January 2014
- Developed Education and Outreach materials, trained new Marketing Representative, and launched Multi-family and Workplace outreach, and regional Utility outreach, February, 2014
  - Secured first agreements to install EV charging through this new service, March, 2014
- Soft-launched CTFIP Website [www.texasfuelindependence.org](http://www.texasfuelindependence.org), April 2014
- Developed Messaging Architecture for our 100+ stakeholders with primary messaging, and proof points across all our organizational statement of project objectives as outlined by our agreement with VTO,

### Year 2

- Sign Inter-local Cooperation Agreement with Austin Community College to seed-fund Alternative Fuel Vehicle Training Program, June 2014
- Sign Inter-local Cooperation Agreement with University of Texas and UT-San Antonio to produce web tools for evaluating optimal fuel-mix for fleets and a database that tracks performance of EV and NGV purchased with state rebates, June 2014
- Host Regional Policy Forum and Fleets Workshops in San Marcos, July 2014
- 10<sup>th</sup> public Compressed Natural Gas Fueling Station installed in Central Texas, October 2014
- Public EV charging stations installed in all 10 counties served by CTFIP, November 2014
- Ongoing Funding Identified and Secured, January 2015

# Approach to Deployment

Central Texas Fuel Independence Project 2013/2014 Activity



## Statement of Project Objectives Tasks

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

- o Manage cost, schedule and scope of project and provide status and progress to Department of Energy in accordance with deliverables section of this document.
- o Administer and account for deliverables assigned through Inter-local with Alamo Clean Cities, and other policy initiatives with public agencies including universities, municipalities, state agencies, transportation planning organizations and public utilities from 2013 to 2015 from start to finish.

### **Task 2: Policy Initiatives**

- o Bring in industry, state, regional and local stakeholders to collaborate in regularly convening working sessions designed to address the immediate and most pertinent needs of EV and NGV adopters, the market, first responders and infrastructure hosts.
- o In 2014 add two new Inter-locals with research institutions to support statewide niche market policy initiatives that significantly impact EV and NGV adoption and support resources including infrastructure rebates.

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

- o Through access to stakeholders, resources and thought leadership, CTFIP serves as a strategic partner to utilities, state agencies, infrastructure hosts, auto dealerships and fleets, helping them more effectively adopt an optimal public charging and fueling network, vehicle choice for driving habits and optimal fuel mix for fleets.
- o Across 2013 and 2014 Routinely present EV and NGV education roadshow to audiences, providing resources developed by working groups and stakeholders.

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# Approach to Deployment

Central Texas Fuel Independence Project 2013/2014 Activity



## Statement of Project Objectives Tasks

### **Task 4: Safety and Training**

- o Collaboration with Alamo Clean Cities and NAFTC to provide critical training to first responders and safety trainers. . Free 2-Day Safety Training workshops for Trainers, Fire Marshalls and Instructors and first responders began in January 2014
- o 6 more 2-Day workshops scheduled in 2014/2015 across Austin, San Antonio, I-35 Corridor and targeted eastern and western rural locations (Bastrop and Johnson City).
- o CTFIP partners with local community colleges and training associations to develop curriculum and continuing education programs that address the specific needs and requirements for EV and NGV, including new program offerings at Austin Community College beginning in Fall 2014.

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

- o CTFIP is the go-to source of education, training and resources for car owners, car dealers, fleet managers, property owners, first responders and policy leaders shaping the future of EVs and NGVs in a 10-county region comprised of 4 million people.
- o CTFIP serves as an independent, third-party resource that provides strategic guidance and fosters collaboration among academia, government and industry.
- o In 2014, Developed Messaging Architecture that provides framework, messaging, and proof points across all our organizational statement of project objectives as outlined by our agreement with VTO.

# Project Accomplishments & Progress

Central Texas Fuel Independence Project 2013/2014 Activity



## Safety and Training

- Established inaugural free EV/NGV trainings for first responders, trainers, instructors and fire marshals. From Jan 2014 – Jan 2015, 8 2-day workshops are scheduled. Produced through inter-local with Alamo Clean Cities, and vendor, National Alternative Fuel Vehicle Training Consortium (NAFTC), in collaboration with Austin, San Antonio Fire Departments and Academies
- Producing Inter-local (in progress) to seed-fund Austin Community College's development of an Alternative Fuel Vehicle Training Program replete with curriculum development, training, equipment, establishing Industry Advisory Council and NAFTC membership. Expected to be approved by Austin City Council with commitment from ACC to cost-share by June/July 2014. Program rollout anticipated for 2014/2015 school year, and corporate education.

## Policy Initiatives

- In 2013, Established a Policy Workgroup representing plug-in electric and natural gas stakeholders, political, government, utility, regulatory municipal, academic and automaker interests. Policy workgroup outlined priorities and approach to achieving DOE grant deliverables.
- Collaboration with University of Texas Center for Electromechanics, and UT-San Antonio Texas Sustainable Energy Research Institute to develop tools that support regulators, state agencies and consumers efforts to enable EV and NGV adoption. Tools to enable user experience, measure and validate EV and NGV vehicle performance, and accessing funds for infrastructure.
- Convened a series of working sessions and focus groups of NGV stakeholders to produce educational material on infrastructure, standards and compliance for fueling sites, operation and maintenance, costs and benefits, rebates, training/safety/workforce development.
- Developing universal consensus for policies across EV and NGV infrastructure, program design and cost/benefit analysis across Austin Energy, CPS Energy, Pedernales Electric Cooperative, San Marcos/Buda/Kyle I-35 Corridor, and Bastrop Power & Light

# Project Accomplishments & Progress

Central Texas Fuel Independence Project 2013/2014 Activity



## Barrier Reduction Initiatives

- Establishing cross-utility territory Central Texas EVerywhere program that provides universal accessibility to public charging for EV owners in the 10 country region.
- Facilitating Bastrop (in progress) County and City establishing public EV network of 5-10 stations
- Facilitating Pedernales Electric Cooperative (in progress) establishing public EV network in all Nine counties of western service territory with initial siting for 20-40 level 2 stations.
- Central Texas EVerywhere App rollout (in progress)
- Convened key public, private, commercial and transit fleet leaders, and Workgroups in series of work sessions resulting in organization of comprehensive full-day event on CNG & Infrastructure in July 2014 in San Marcos for fleets and all associated stakeholders,
  - supported by Railroad Commission, OneGas, Centerpoint, Trustar, Nat-G, City of Austin, San Marcos Partnership, CPS Energy, Alamo Clean Cities, and over a dozen participants in the Fleets workgroup.
- By initiative of developing pilot demonstration of level 1 EV charging, we are enabling regional stakeholders to evaluate and capability to provide charging at a much lower cost to all. Via CTFIP support, multifamily, hotel & workplace hosts add level 1 charging as a 21<sup>st</sup> century amenity.
- Worked with four institutions applying for state grants and rebates for CNG fueling infrastructure, and aided two federal grant applications to demonstrate en-route conductive and inductive vehicle charging with CapMetro Transit Agency, and UT and UT-SA.
- Producing CTFIP education and outreach deliverables in fields where Railroad Commission and TCEQ have gaps in resources. Work with Natural Gas Working group, leading to cross-platform promotion and larger-than-anticipated attendance at workshops, training events, and education/outreach functions. Focusing educational material on applying for state incentives, fueling and maintenance site compliance, and workforce training and development leading to greater awareness across Fleets in 10 county region. Contact list of over 1000 fleet representatives.

# Project Accomplishments & Progress

Central Texas Fuel Independence Project 2013/2014 Activity



## Market Development and Outreach

- Leverage existing Texas River Cities report produced through DOE VTO funding to execute high priority recommendations particularly accessible EV charging, and bolstering CNG market adoption through collaborative efforts.
- Developed Messaging Architecture that provides framework, messaging, and proof points across all our organizational statement of project objectives as outlined by our agreement with VTO.
- Leveraged resources to employ dedicated staff to outreach in multi-family, hospitality and workplace infrastructure hosting for EV charging stations.
- To date have received commitments from over 14 properties to establish EV charging in 2014/2015 through this service, with extremely high conversion rates (on 10 first visits received commitments from all property owners after presentation at on-site visits.)
- Direct education and outreach to Pedernales Electric Cooperative, Austin Independent School District, CPS Energy and Bastrop County and City resulted in workgroups developing deliverables designed to establish EV charging networks, customer programs and incentives, and marketing, outreach, campaign and literature resources.
- This value proposition package is model-able and scalable, and the region's electric utilities are working with ERCOT, and Chargepoint EV Network to analyze feasibility of a unified regional EV rate for public charging stations across the CTFIP 10 county region, serving over 4 million people.
- Facilitated parties to collaborate on installation of new publicly accessible CNG fueling infrastructure in I-35 Corridor near Austin (in progress)
- Workgroup convened a Fleets Policy Forum in San Antonio on Dec. 3, 2013.
- To date, presented to over 5000 audience members across webinars, public presentations, speaking engagements, policy and education events



# Market Development Example

Central Texas Fuel Independence Project 2013/2014 Activity



## MultiFamily Property Owner Educational Material Sample



### Why EV Charging Stations?

'Top 4 21st Century Amenity'  
*MultiFamily Executive Magazine*



Millennium's babies are teens today. In a few years, your apartment applicants will have birth dates in the 21st Century! It's time to start preparing now for the next generations' living standards.



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# Collaboration with Partners

Central Texas Fuel Independence Project 2013/2014 Activity



All partners commit to time or resource support of project objective tasks:

**State Agencies:** Texas Department of Transportation, Electricity Reliability Council of Texas, Texas Railroad Commission

**Automakers:** General Motors, Nissan, Tesla, Ford, BMW, and over a dozen regional car dealerships and fleet dealers

*Access to over 1000 public and private Fleet contacts in Central Texas region*

**Regional Transportation Planning Organizations:** Capital Area Metropolitan Planning Organization, Alamo Area Council of Governments, Houston Galveston Area Council, North Texas COG

**Electric and Natural Gas Utilities:** Austin Energy, CPS Energy, Pedernales Electric Cooperative, Oncor, Blue Bonnet, San Marcos Utility, Bastrop Power & Light, Centerpoint Energy, Atmos Energy, and OneGas Service (formerly Texas Gas Service)

**Academia:** Austin Community College, Alamo Community College, Austin Independent School District, University of Texas, UT-San Antonio, Texas State University

**Cities** of Austin, San Antonio, San Marcos, Bastrop, Kyle, Johnson City

**Marketing:** Pierpont Communications, Chargepoint, ScanSee, Zpryme Research

**EV/NGV Vendors:** Schneider Electric, LVI, Verdek, Trustar, Nat G, Clean Energy

# Alt Fuel Market Expansion Potential

Central Texas Fuel Independence Project 2013/2014 Activity



- Expand existing EV public charging infrastructure from 310 stations regionally in 2013, to 380-400 stations, including stations every 80 miles in rural sections of 10 county region by 2016
- Based on 300% year over year growth of EV market in Austin metro, and 250% growth in San Antonio, with facilitated property manager outreach, we project EV ownership in multifamily to increase to 15% of market share of EV owners and siting for new public stations in Central Texas by 2015
- Expand existing CNG public charging infrastructure from 7 locations in 2013, to 14-16 CNG fueling stations by 2015.
- Expect 5-10 new fleets to announce conversion plans in niche markets for CNG from May 2014 to May 2015 based on data, TCEQ grant applications, and market intelligence gathered.
- Top deterrent to NGV adoption is limited access to public fueling, and we expect Central Texas to more double number of CNG stations by end 2015.
- Key challenges: Ensuring workforce is adequately trained on tools, equipment and processes, and ensuring that infrastructure and vehicles adequately operated & maintained.

# Summary

## Central Texas Fuel Independence Project 2013/2014 Activity



### Summary of Project Objectives Tasks

#### **Relevance**

- o Build regional workforce proficiency through seed-funding and catalyzing the Austin Community College's Advanced Vehicle Training Program, Curriculum coursework and continuing education programs to start in 2014/2015 school year.
- o Working across electric, natural gas, fleet, automakers, utilities and policymakers to establish a unified EV/NGV roadmap for Central Texas through market and informational resources and facilitated support. Shaping regional infrastructure.
- o Collaborating with academia to develop web-based tools for fleets and consumers and enhance the state's ability to measure and validate performance of EVs and NGVs.

#### **Approach**

- o Bring in industry, state, regional and local stakeholders to collaborate in regularly convening working sessions designed to address the immediate and most pertinent needs of EV and NGV adopters, the market, first responders and infrastructure hosts.
- o All partners commit to time or resource support of project objective tasks
- o CTFIP EV charging station set-up service includes location analysis, siting support, training & development, operation & maintenance guidance, and program design and process metrics

#### **Collaborations**

- o CTFIP serves as strategic partner to utilities, state agencies, infrastructure hosts, helping more effectively adopt an optimal public charging and fueling network, vehicle choice for driving habits and optimal fuel mix for fleets.

#### **Project Accomplishments**

- o Providing long-term solutions to critical first responder training, workforce proficiency, regional air quality measurement, EV/NGV market acceleration and .

# THANK YOU!

Central Texas Fuel Independence Project 2013/2014 Activity



Questions?

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