PENSKE | Rental Leasing Logistics

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Penske Truck Leasing
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Penske Truck Leasing Alternative Fuel Vehicle (AFV) Demonstration and Enhanced Driver Experience Project

This material is based upon work supported by the Department of Energy, Office of Energy Efficiency and Renewable Energy (EERE), under Award Number DE EE0007022.

Overview of Penske Truck Leasing




EXPERIENCE

20+ years maintaining CNG vehicles

600+ trucks/tractors in AFV fleet

$10M+ in government funding

35+ NGV-ready maintenance facilities

Various fuel types

STRATEGY

Monitor legislation impacting AFV funding

Improve product offerings with focus on cost, weight, and fuel efficiency

Partner with OEMs & suppliers who are expanding the alternative fuel infrastructure

Leverage rentals to generate NGV interest

Penske currently operates CNG, LNG, LPG, full electric, diesel-electric hybrid, and gas-electric hybrid vehicles.

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Overview

Timeline

Project Start Date: 7/15/2015
Project End Date: 7/14/2017
Percent Complete: (time) 87% (project) 50%

Barriers

- Consumer reluctance to purchase new technologies
- Lack of technical experience with new fuels and vehicle technologies
- Maintenance of local coalition effectiveness

Targets:

- Direct support of Clean Cities activities
- Development of targeted industry, end-user, university, and stakeholder partnership(s)
- Technical and problem solving assistance such as addressing market barriers, safety issues, technology shortfalls

Budget

Total Project Funding
- DOE: $400,000
- Penske: $414,701

Funding Received in FY 16:
- DOE: $0
- Penske: $45,589.51

Funding for FY 17:
- DOE: $280,000
- Penske: $222,042

Partners

Project lead: Penske Truck Leasing
Other partners: Gladstein, Neandross & Associates (GNA); Southeast Louisiana Clean Fuel Partnership; Louisiana Clean Fuels; Wisconsin Clean Cities; Maryland Clean Cities

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Overview (Continued)

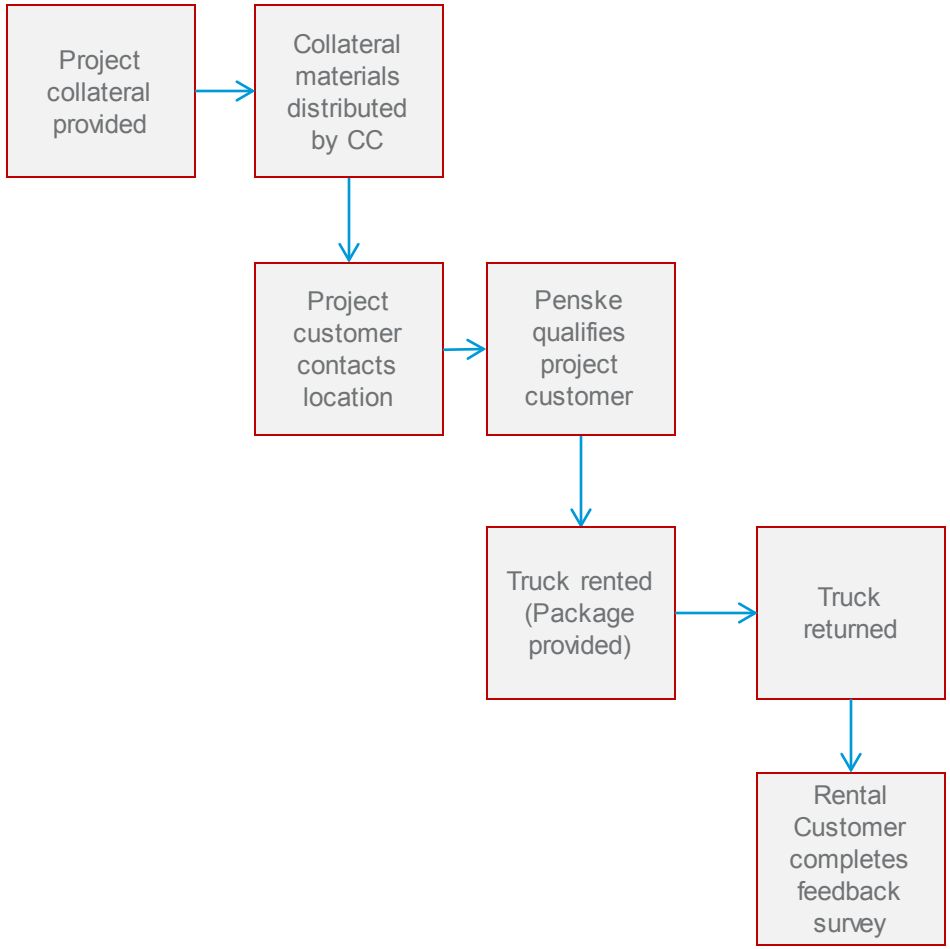
Equipment Specifications

2015 Freightliner Cascadia, 113" BBC
Cummins ISX12G – 400/1450
Allison 6-Speed Automatic Transmission
116dge Fuel Capacity = 400-500 Mile Range

High Level Overview:

- Trucks are available at three Penske Truck Rental Locations
  - 1711 Wicomico St, Baltimore, MD 21230
  - 2301 American Dr., Neenah, WI 54956
  - 6890 Pecue Lane, Baton Rouge, LA 70817
- Trucks rented at $100 per day—the same price as a comparable diesel vehicle
- Rental periods began
  - Baltimore November 2016
  - Neenah December 2016
  - Baton Rouge January 2017

Project Rental Flow



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Project Objectives

Top Objectives

1. Expose fleets to AFV operations with lower upfront costs in short term projects.
2. Increase AFV Deployments with fleets who utilize long-term leases for traditionally-fueled vehicles.
3. Increase AFV penetration in three geographic areas.
4. Conduct 60-80 demonstrations.

Supports DOE Vehicle Technologies Deployment - Multiyear Program Plan

- Outreach, Deployment, and Analysis

Specific Barriers Addressed:

- Consumer reluctance to purchase new technologies
- Lack of technical experience with new fuels and vehicle technologies
- Maintenance of local coalition effectiveness

The Why – What Were the Reasons for Penske's Involvement?

- Despite major advances in the deployment of AFVs, adoption of this technology remains challenging, especially for first-time fleets.
- Penske has seen first-hand the challenges faced by some customers to make their deployment in everyday operations a reality.
- **Most operators are unwilling to buy a vehicle to evaluate fitness for operation in their fleets given the large upfront commitment.**
- This program allows these fleets to try before buying or leasing, thus minimizing risk and cost to the operators. Especially since they get to do so at the same price as a comparable diesel vehicle.

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Project Approach & Milestones

Deployment of a data-driven approach that results in the following actions:

- develop a proactive AFV marketing plan that targets optimal fleets and geographic regions;
- reduce AFV rental rates;
- provide comprehensive technical support for short-term (30 to 90-day) AFV demonstrations;
- educate fleets about real-world, in-use AFV benefits as measured by onboard data tracking; and
- measure progress in fleet acceptance and integration of AFVs into fleets' everyday operations.

Statement of Project Objectives Tasks

- The following slide contains the milestone dates and current timeline.

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Project Objectives and Tasks

Milestone	Description	Anticipated Completion Date	Actual Completion Date
Baseline	Create baseline for fleet data	5/1/2017	TBD
Identify AFVs	Create list of AFVs to be used for the project	4/2016	4/2016
Select Fleets	Finalize selections; List submitted to DOE	4/2016	6/2016
Map	Finalize and vet local infrastructure map	1/2016	3/2016
AFV Market Assessment	Market assessment completed	3/2016	3/2016
Demonstrations	50% demonstrations complete	12/2016	TBD
Case Studies	Complete case studies based on initial demonstrations	Q1 2017	TBD
Demonstrations	100% of demonstrations complete	07/2017	TBD
Outreach	Conduct webinar/and or speak at industry event(s); Press releases issued and all content posted on website	Q2 2017	TBD

Project Accomplishments and Progress: Program Year 1

During year 1, Penske built relationships with Clean Cities coordinators in three strategically selected locations; Penske conducted preliminary research about AFVs, infrastructure, and potential users to lay the groundwork for a successful demonstration program.

Timeframe: 7/15/2015 – 7/14/2016

1. **Completed AFV Market Assessment**
   - Determine ideal operating specifications for each AFV type
   - Gather market data
   - Determine customer interest and needs
   - Conclude final mix of CNG, propane, and/or hybrid-electric vehicles
2. **Identified AFVs**
   - Coordinate with OEMs, determine AFV specifications and issue purchase order for new AFVs.
   - Review inventory at three demonstration locations (Neenah, WI; Baton Rouge/New Orleans, LA; Baltimore, MD)
3. **Assessed Customer Database**
   - Analyzed current and prospective customer data to identify fleets whose operations would be amenable to AFVs.
   - Confirmed and vetted infrastructure.

Any proposed future work is subject to change based on funding levels.

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Project Accomplishments and Progress: Market Assessment

Analysis Overview

Penske's market assessment evaluated each vehicle, determining the overall expected annual savings to the customer by subtracting the incremental annual lease and maintenance costs from the annual fuel savings. Vehicles determined to be suitable are those whose overall expected annual cost savings is greater than or equal to zero dollars.

Fuel Type	Region	Eligible Vehicles	% of Total	Offers Highest Cost Savings	Max Cost Savings	Average Cost Savings
Natural Gas	Baltimore	2,029	19%	2,022	$18,100	$1,831
	Baton Rouge	419	31%	416	$21,102	$3,479
	Neenah	890	25%	890	$20,748	$4,131
Propane	Baltimore	546	5%	287	$7,183	$796
	Baton Rouge	87	6%	26	$5,616	$769
	Neenah	180	5%	37	$5,616	$801
Hybrid	Baltimore	45	0.4%	40	$2,015	$595
	Baton Rouge	12	1%	12	$782	$413
	Neenah	25	1%	24	$1,933	$385

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Project Accomplishments and Progress: Infrastructure Assessment

CNG

Penske has verified a list of CNG stations that can accommodate a heavy-duty tractor trailer combination (note: these sites are Penske verified to accommodate specified needs, which vary from the AFDC site from DOE).

- Baltimore: 24 verified CNG stations.
- Baton Rouge: 9 verified CNG stations.
- Neenah: 45 verified CNG stations.

Additional analysis must take place in order to ensure that the identified vehicles in each region are located in close proximity to one of these fueling stations.

Propane

Penske has determined that it will be easier to have a temporary tank dropped at each domicile where propane rental trucks are stationed.

Hybrid Electric

The hybrid trucks recommended do not require the ability to plug-in.
No additional fueling infrastructure is necessary for the hybrid trucks.

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Project Accomplishments and Progress: AFV Identification

At the beginning of the program, Penske had approximately 30 CNG trucks as part of its national rental fleet (this does not include those that are used as part of leases), some of which could be used at any given time for this project. These trucks include the following:

Vehicle	Quantity	MPG (DGE)	Range (miles)	Range (DGE)	GVW (lbs)	Engine
2015 Freightliner Cascadia 113": Compressed Natural Gas Tandem Axle Day Cab	15	5.0-5.5	490 – 539	115	80,000	Cummins ISX 12G
2015 Freightliner Cascadia 113": Compressed Natural Gas Single Axle Day Cab	15	5.0-5.5	490 – 539	115	65,000	Cummins ISX 12G

Priority will be placed on utilizing Penske's existing rental units.

Considerations for Use of Penske's Rental Fleet:

1. **Existing rental units that meet the AFV demonstration criteria were only CNG**. Should there be interest in propane or hybrid electric by a customer, Penske may need to procure vehicles to meet this need. This will only be done if demand warrants the procurement.
2. **These units are actively being rented out today**. When customers indicate interest in participating in the demonstration, Penske will first need to determine the unit availability from current assets. Should demand far exceed expectations, additional CNG vehicles may be procured to meet this need.
3. **These units are deployed throughout the country** today and not just in these three targeted regions for this demonstration. This requires travel time to get the vehicle to the customer.

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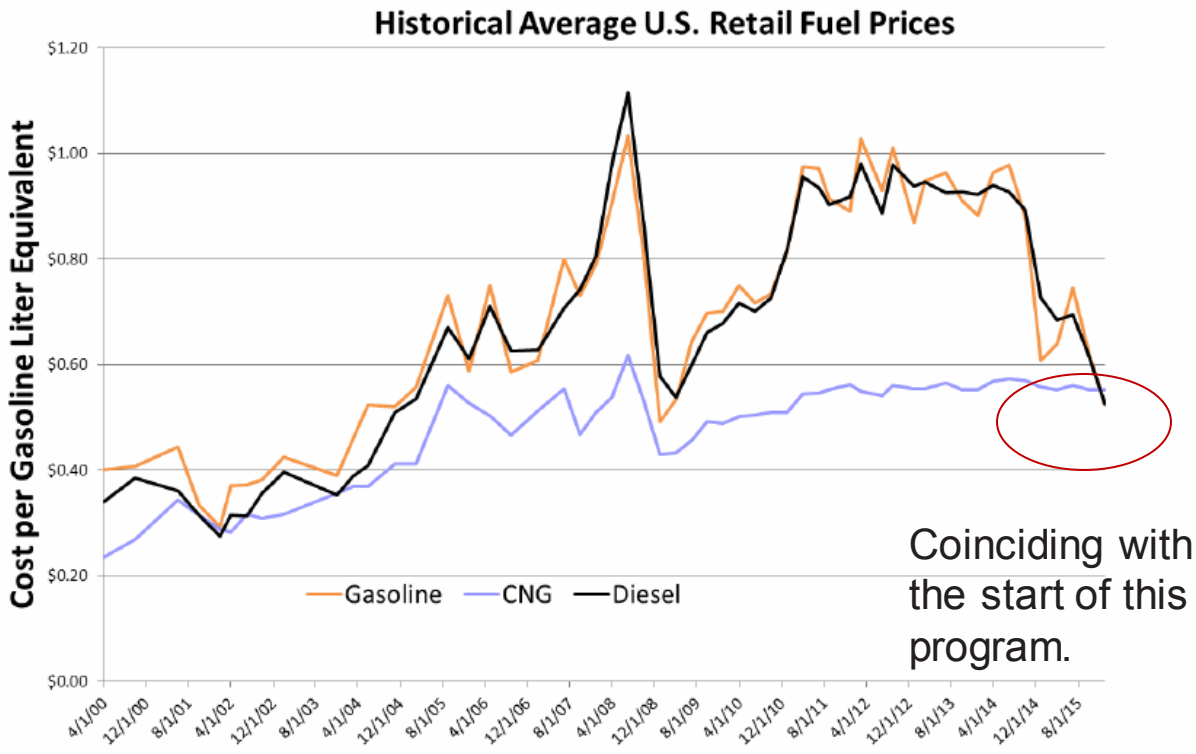
Program Year 1 – Market Conditions

HISTORICAL AVERAGE U.S. RETAIL FUEL PRICES



Coinciding with the start of this program.

Source: US Energy Information Administration.

- Diesel and gasoline are coupled and highly variable over time.
- CNG relatively stable; particularly since 2009 when the 'Shale Gas Revolution' resulted in far greater natural gas production in the U.S.

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Project Accomplishments and Progress: Program Year 2

Timeframe: 7/15/2016 – 7/14/2017

1. **Targeted Fleet Outreach**
   - **Development of Outreach Materials**
     - Program Flyer
     - Standard PPT
     - Draft emails
     - Participant packets
   - **Clean Cities Partnerships**
     - Partnerships with Clean Cities to engage in outreach
   - **Train Local Sales Team**
   - **Secure Fleets to Participate**

2. **Hands-on AFV Demonstration**
   - Pre-Surveys
   - Training
   - Deploy and Monitor
   - Data Collection

3. **Marketing**
   - Website
   - Case Studies
   - Press Releases
   - Webinar with Results

For each area during year 2, Penske created materials to introduce consumers to AFVs and equipped them with information to ensure a successful rental experience; Penske utilized several channels externally and internally to increase program awareness with consumers and to train local sales at each branch.

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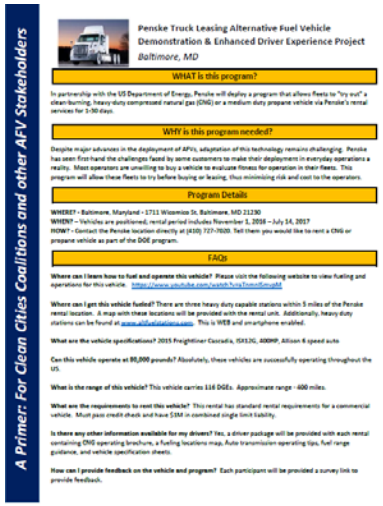
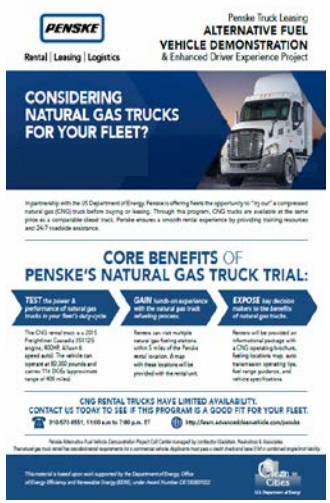
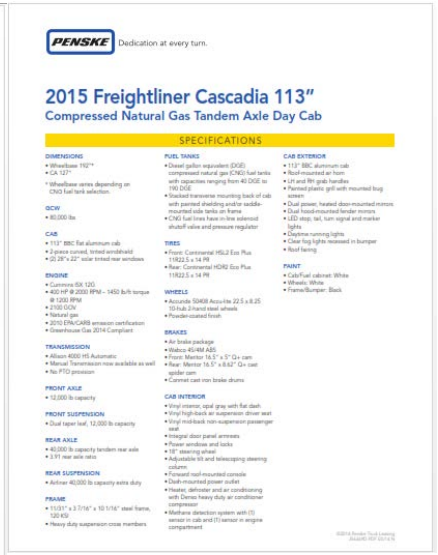
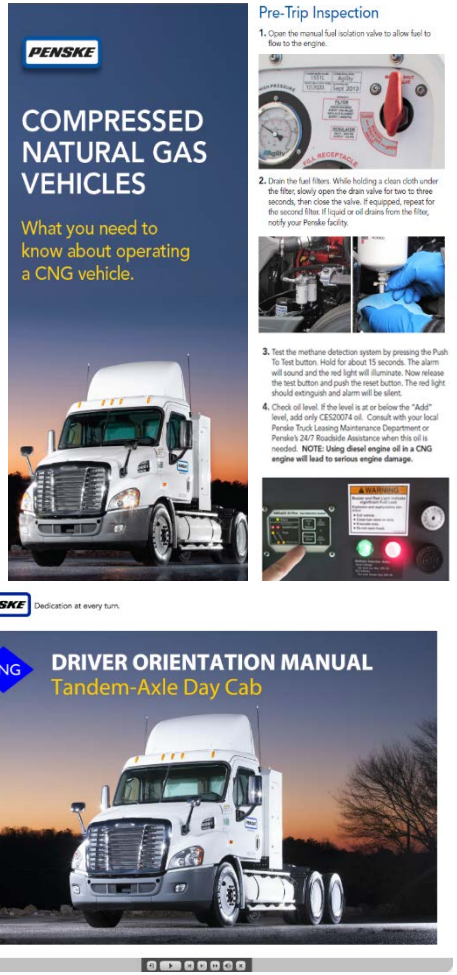
Project Accomplishments and Progress: Collateral Materials







Marketing Materials + Driver Training Support



https://www.youtube.com/watch?v=aTnmnISmvpM

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Project Accomplishments and Progress: Post-Demonstration Survey

PENSKE

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Dear JoAnne,

Our records indicate that you recently participated in the trial rental program for Penske on alternative fuel vehicles. As part of this program, we are gathering information on customer experience to improve the program going forward. Please take this short survey—no more than 5 minutes—on your experience with this program, the alternative fuel vehicle you chose, and any overall comments you had about your experience trying out the vehicle.

START SURVEY

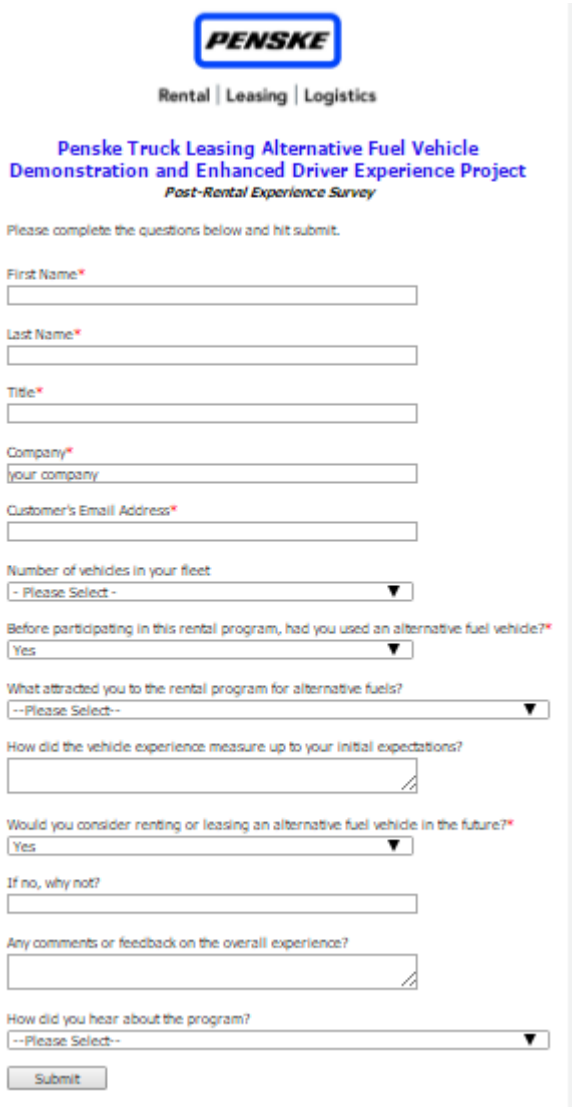
Thank you for your participation in this program and your rental business.

Sincerely,

Dean Stapleton

Manager of Alternative Fuels

Penske Truck Leasing



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Penske Truck Leasing Alternative Fuel Vehicle Demonstration and Enhanced Driver Experience Project

Post-Rental Experience Survey

Please complete the questions below and hit submit.

First Name*

Last Name*

Title*

Company*
your company

Customer's Email Address*

Number of vehicles in your fleet
- Please Select -

Before participating in this rental program, had you used an alternative fuel vehicle?*
Yes

What attracted you to the rental program for alternative fuels?
--Please Select--

How did the vehicle experience measure up to your initial expectations?

Would you consider renting or leasing an alternative fuel vehicle in the future?*
Yes

If no, why not?

Any comments or feedback on the overall experience?

How did you hear about the program?
--Please Select--

Submit

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Project Accomplishments and Progress: Results from First Quarter Deployments

Baltimore – Demonstrations began November 2016
Neenah – Demonstrations began December 2016
Baton Rouge – Demonstrations began January 2017

Unit	Location	Out	In
CNG150	Neenah	1/4/2017	1/6/2017
CNG150	Neenah	1/10/2017	1/12/2017
CNG150	Neenah	1/31/2017	2/3/2017
5 new CNG units	Neenah	Came in for rentals and instead chose to lease units (first time Penske AFV customer); 1 is being leased for 3 years and 4 are being leased for 4 years.	
CNG166	Baltimore	None	None
CNG147	Baton Rouge	None	None

*as of 4/10/2017

Top Lessons Learned

1. Relying solely on branch location outreach and Clean Cities support will not yield the results needed for this program.
2. Relying on rental vehicles has logistical challenges of vehicle positioning, especially as some renters do not return vehicles on time.
3. An unanticipated outcome was achieved that resulted in a long-term lease rather than a short-term rental for the program.

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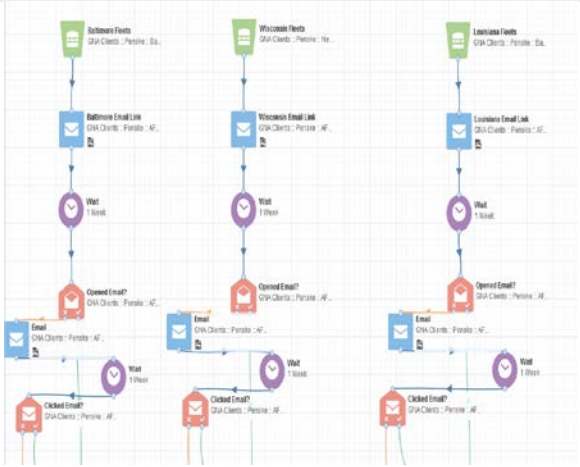
Project Accomplishments and Progress: Phase 2 Marketing – Automated Email Campaign

Recognizing the limits of branch location outreach and Clean Cities only support, Penske worked with its contractor GNA to expand outreach capabilities to increase fleet demonstrations.

- FleetSeek database was used to gather fleets within a 200 mile radius of each location.
- Resulted in over 58,000 real contacts of fleet owners and operators after excluding generic email addresses, such as sales@ and info@.
- GNA started a highly automated email campaign utilizing Eloqua that encourages responses by:
  - Emailing again with a different subject line if an email was never opened/deleted – within 5 days of first email.
  - Emailing again if the email was opened with a different subject line and same content – within 5 days of first email.
  - Emailing again if the email was opened and the contact us form was clicked on but not filled out – within 5 days of first email.



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Collaboration & Coordination Among Project Team

Penske initially identified two primary ways of working with fleets as part of this demonstration:

- Using existing Penske customer database (highlights summarized below) to identify new fleets for AFV deployment.

  Baltimore, MD Fleets

  542 customers with identifiable cost savings in either CNG, propane or hybrid electric.

  Baton Rouge, LA Fleets

  110 customers with identifiable cost savings in either CNG, propane or hybrid electric.

  Neenah, WI Fleets

  245 customers with identifiable cost savings in either CNG, propane or hybrid electric.

- Working with Clean Cities, NAFA and other partners to spread the word to non-Penske customers. Outreach is conducted by our partners on behalf of this project with the following mechanisms:
  - Webinars
  - Onsite events
  - Emails/Newsletter inclusion
  - One-on-one outreach
  - We hold monthly calls with Clean Cities Coordinators on this project to coordinate outreach efforts.
- GNA manages the project for Penske Truck Leasing and Penske and GNA have weekly (or more frequently) calls to discuss the project.

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Market Impact and Sustainability

Existing Contribution to Sustainable Alt Fuel Market – What We've Learned

- High degree of interest exists in markets outside of pilot areas
- Having the price of the rental/lease competitive with diesel is important
- Some individual Penske branch locations have more interest in AFVs than others and interest helps drive conversions.
- Customer analysis provided a great look at cost effectiveness of vehicles for Penske customers but a good ROI did not guarantee participation in program
- Penske built some incredible relationships with Clean Cities organizations as well as individual branch locations and fleets that never existed before.
- Targeted outreach is important but traditional channels were not key in getting new customers for AFV market under this program—we needed to cast a wider net.

Sustaining Impacts

- Penske has already begun conversations with other locations to kickstart AFV rentals as this program laid the groundwork for easy replication in other parts of the U.S.
- Penske will be offering pricing assistance to offer vehicles are comparable rates to diesel across the US.
- Penske will leverage existing interest to improve AFV penetration in key markets and will provide additional support to locations who need it.
- Customer analysis tool is now a tool in Penske's AFV toolbox to assist in making the case for AFVs, but Penske will continue to cast a wider net beyond their customer base to garner additional interest in AFVs.
- These relationships will continue beyond this program and Penske is convinced it will lead to additional AFV growth.
- Penske will continue to utilize data and resources gained from this program to expand AFV market potential by reaching out to those beyond Penske's traditional customer base.

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Market Impact and Sustainability

FY 2017 Remaining Plans and FY 2018 (if granted)	Remaining Challenges and Barriers
• Continue demonstrations to achieve at least 60-80.	• Largest challenge is time; with the project starting later than originally intended, Penske does not have enough time within this project to meet this goal. However, with an additional 6 months, Penske is confident this number will increase substantially. • The other main challenge has to do with the length of time for demonstrations. Unfortunately customers do not seem to have as much of an interest in renting units for longer than a few days at a time so ensuring that we can accept customers as part of this program without the 30-60-90 day restriction would be ideal to get more people exposed to AFVs.
• Continue widespread communication to garner new interest, including social media integration.	• Largest challenge is creating a new pathway for Louisiana, which has not seen much interest. Baltimore and Neenah appear on track.
• Engage in additional support with local motor carriers.	• Largest challenge remains time.
• Support Clean Cities in one-on-one outreach.	• Largest challenge remains time as budget is already allocated.
• Develop case studies and finalize project analysis.	• Ensuring a good level of customer responsiveness.
• Conduct final webinar and issue press release.	• None.

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Summary

- Project began in July 2015 and is expected to end on July 14, 2017 (extension has been requested).
- **Key Challenges:**
  - Slow start due to market conditions and technical analysis.
  - Deployments began at end of 2016 but there was a lack of interest in taking the units out for longer than a few days at a time.
  - Relying on branch locations and Clean Cities support alone was insufficient to drive interest to the program.
- **Key approach changes:**
  - Change marketing tactics to automated email campaign to generate interest.
  - Centralize intake process.
  - Allow for rentals at less than 30 day period.
- **Continue collaboration** with Clean Cities and broaden to also include Local Motor Carriers and automated email campaign efforts.
- **Project Accomplishments/Progress:**
  - Key data analysis and relationships have been completed.
  - Project is now in full swing but we are running up against a time challenge.
  - 3 demonstrations secured with an additional full conversion to long-term lease in Neenah, Wisconsin.
  - Over 15 people have indicated interest in the program through the first trial of the automated email campaign.
- **Expected outcomes:**
  - 60-80 demonstrations at 30-60-90 day periods.
  - Customer survey information will allow Penske to aggregate data on customer experience with propane and natural gas vehicles.
  - Case studies with specific fleets, documenting experience. These will be distributed for marketing purposes.
  - Final report to DOE on project, documenting challenges and opportunities for future AFV deployments.
  - Final webinar to all Clean Cities and project participants documenting the program and its outcomes.

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Questions?

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