



Rental  
Leasing  
Logistics

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**Penske Truck Leasing**

**Project ID:** TI072

4/10/2017

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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%

## 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

## 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

## 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

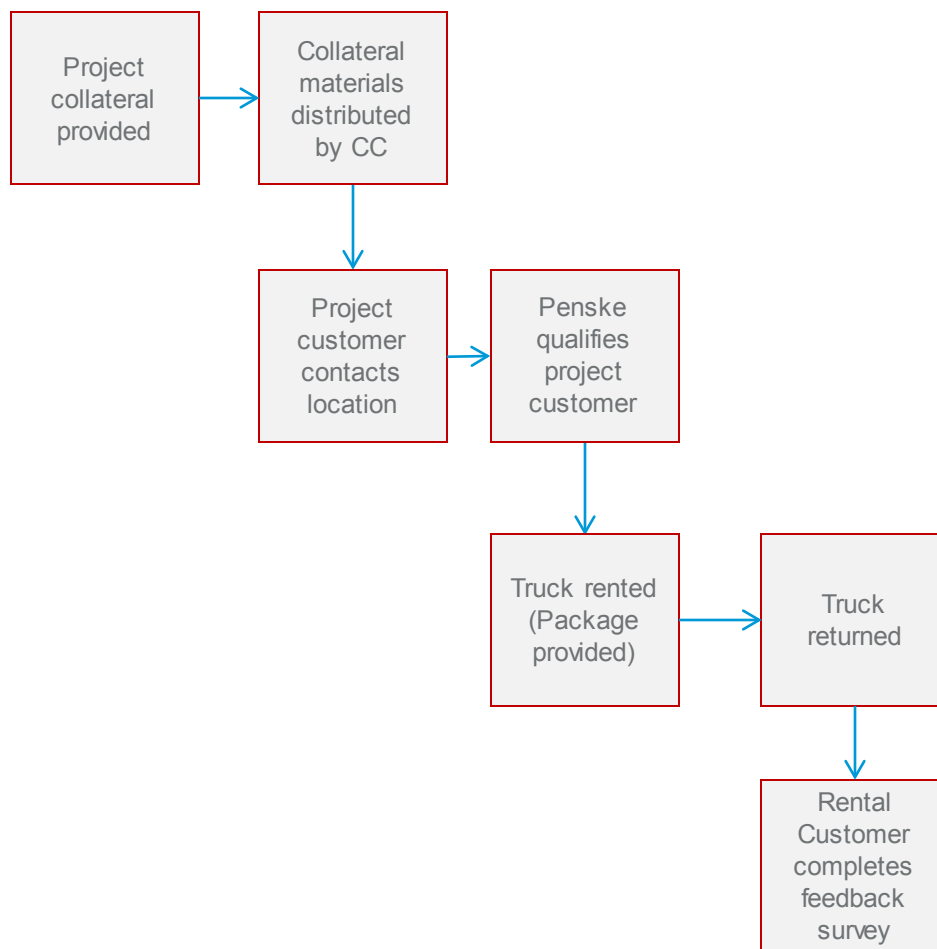


2015 Freightliner  
Cascadia, 113" BBC  
Cummins ISX12G –  
400/1450  
Allison 6-Speed  
Automatic Transmission  
116dgc Fuel Capacity =  
400-500 Mile Range

## 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.

# 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 Savings Cost	Average Cost Savings
Natural Gas	Baltimore	2,029	19%	2,022	\$18,100	\$1,831
				416		
	Baton Rouge	419	31%		\$21,102	\$3,479
	Neenah	890	25%	890	\$20,748	\$4,131
Propane	Baltimore	546	5%	287	\$7,183	\$796
				26		
	Baton Rouge	87	6%		\$5,616	\$769
	Neenah	180	5%	37	\$5,616	\$801
Hybrid	Baltimore	45	0.4%	40	\$2,015	\$595
				12		
	Baton Rouge	12	1%		\$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.

# 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.**

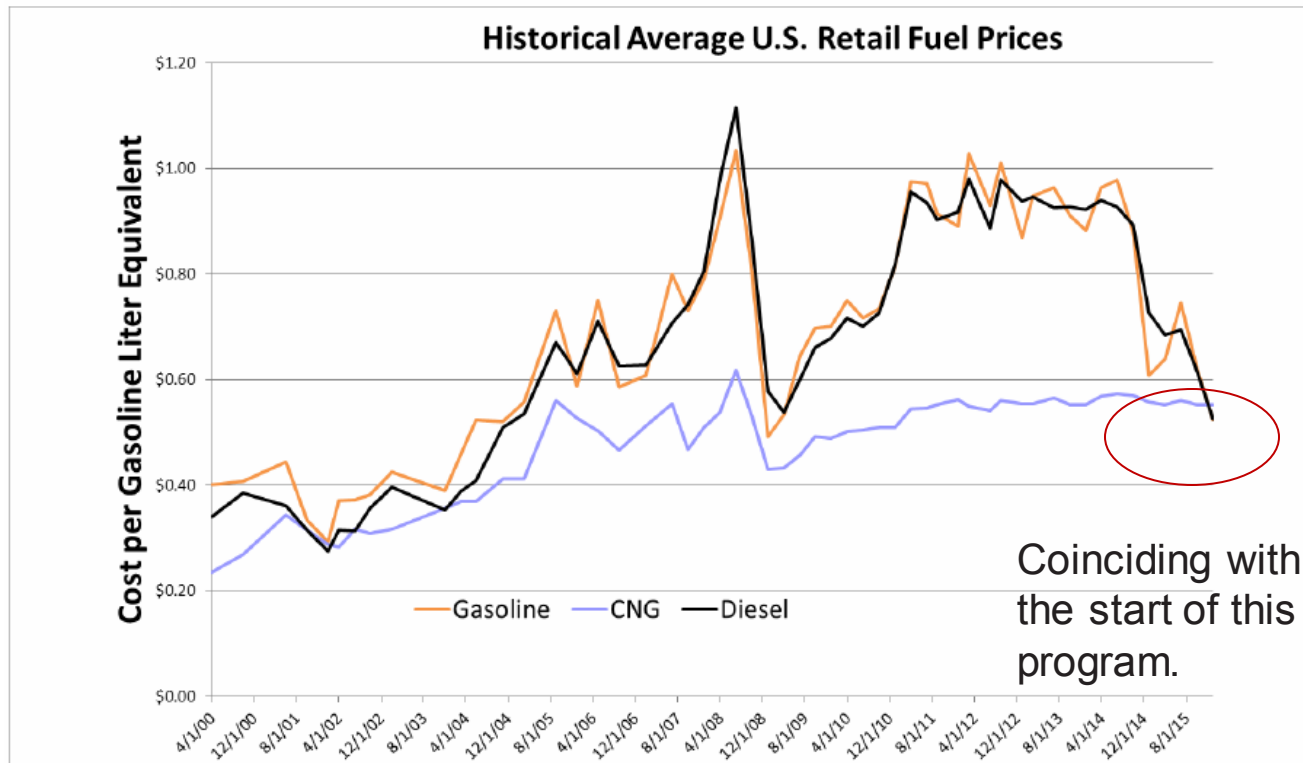
## Considerations for Use of Penske's Rental Fleet:

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



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



## Penske Truck Leasing Alternative Fuel Vehicle Demonstration & Enhanced Driver Experience Project Baltimore, MD

### WHAT is this program?

In partnership with the US Department of Energy, Penske will display a program that allows fleets to "try out" a clean-burning, heavy duty compressed natural gas (CNG) or a medium duty propane vehicle via Penske's rental services for 3-300 days.

### WHY is this program needed?

Despite major advances in the deployment of AFVs, adoption of this technology remains challenging. 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 ensure fitness for operation in their fleets. This program will allow these fleets to try before buying or leasing, thus minimizing risk and cost to the operators.

### Program Details

**WHERE?** - Baltimore, Maryland - 1711 Wisconsin St., Baltimore, MD 21230  
**WHEN?** - Vehicles are positioned, rental period includes November 3, 2008 - July 14, 2009  
**HOW?** - Contact the Penske location directly at (410) 727-0800. Tell them you would like to rent a CNG or propane vehicle as part of the DOE program.

### Facts

Where can I learn how to fuel and operate this vehicle? Please visit the following website to view fueling and operation for this vehicle: <http://www.clean-cities.com/watch/333/landfill0808>

Where can I get this vehicle fueled? There are three heavy duty capable stations within 5 miles of the Penske rental location. A map with these locations will be provided with the unit. Additionally, heavy duty stations can be found at [www.clean-cities.com](http://www.clean-cities.com). This is WEB and smartphone enabled.

What are the vehicle specifications? 2015 Freightliner Cascadia, 5513G, 400HP, Allison 6 speed auto

Can this vehicle operate at 80,000 pounds? Absolutely, these vehicles are successfully operating throughout the US.

What is the range of this vehicle? This vehicle carries 110 GGS. Approximate range - 400 miles.

What are the requirements to rent this vehicle? This rental has standard rental requirements for a commercial vehicle. Must pass credit check and have 2000+ combined single liability.

Is there any other information available to my driver? Yes, a driver package will be provided with each rental containing CNG operating brochure, a fueling location map, Auto transmission operating tips, fuel range guidance, and vehicle specification sheets.

How can I provide feedback on the vehicle and program? Each participant will be provided a survey link to provide feedback.



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## Penske Truck Leasing ALTERNATIVE FUEL VEHICLE DEMONSTRATION & Enhanced Driver Experience Project

### CONSIDERING NATURAL GAS TRUCKS FOR YOUR FLEET?



In partnership with the US Department of Energy, Penske is offering fleets the opportunity to "try out" a compressed natural gas (CNG) truck before buying or leasing. Through this program, CNG trucks are available at the same price as a comparable diesel truck. Penske ensures a smooth rental experience by providing training resources and 24/7 roadside assistance.

### CORE BENEFITS OF PENSKE'S NATURAL GAS TRUCK TRIAL:

#### TEST the power & performance of natural gas trucks in your fleet's day-to-day

The CNG engine was a 2015 Freightliner Cascadia 5513G engine, 400HP, Allison 6 speed auto. To which gas engine added. To which gas engine added. To which gas engine added. To which gas engine added.

#### GAIN hands-on experience with the rental & get real-world feedback

Fleets can test multiple natural gas trucks within 5 miles of the Penske rental location. To which gas engine added. To which gas engine added. To which gas engine added. To which gas engine added.

#### EXPLORE key decision factors to the benefits of natural gas trucks

Fleets can be provided an informational package with CNG operating brochure, fueling location map, auto transmission operating tips, fuel range guidance, and vehicle specification sheets.

**CNG RENTAL TRUCKS HAVE LIMITED AVAILABILITY. CONTACT US TODAY TO SEE IF THIS PROGRAM IS A GOOD FIT FOR YOUR FLEET.**  
1-800-850-1100 or 1-800-850-1100

For more information, visit our website: [www.clean-cities.com/watch/333/landfill0808](http://www.clean-cities.com/watch/333/landfill0808). For more information, visit our website: [www.clean-cities.com/watch/333/landfill0808](http://www.clean-cities.com/watch/333/landfill0808). For more information, visit our website: [www.clean-cities.com/watch/333/landfill0808](http://www.clean-cities.com/watch/333/landfill0808).

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Dedication at every turn.



## 2015 Freightliner Cascadia 113<sup>®</sup> Compressed Natural Gas Tandem Axle Day Cab



The Freightliner Cascadia 113<sup>®</sup> CNG compressed natural gas tandem axle day cab offers distinctive benefits to meet a wide range of operational requirements.

### Equipment Comparison Chart

	Natural Gas	Diesel Alternative
MPG	10.5 - 15.5	8.0 - 11.0
Class Weight	17,500 lbs	17,500 lbs
Range	400 - 500 miles, 115 GGS*	140 - 160 miles, 140 gallons of fuel
Engine	Cummins ISX 120 11.9L, 400HP 1,600-hp torque	Cummins ISX 120 11.9L, 400HP 1,600-hp torque
Transmission	Allison 6-speed automatic 600RTE 10-speed or manual	Allison 6-speed automatic 600RTE multiple options
Steering	10:1	10:1
Turning Radius	20' 8"	20' 8"
Overall loaded length	207" for back of cab tank mounting	n/a

\* Fuel range - approximately 90 percent of the tank capacity is available. At a fuel economy of 8.5 MPG, the maximum range of a vehicle is about 300 miles. Many factors such as vehicle speed, terrain, weather, and load weight influence MPG. We strongly recommend traveling no further than 400 miles before refueling to increase tank life.



Dedication at every turn.

## 2015 Freightliner Cascadia 113<sup>®</sup> Compressed Natural Gas Tandem Axle Day Cab

### SPECIFICATIONS

#### DIMENSIONS

- Wheelbase 102"
- CA 127"
- 18-wheel drive depending on CNG fuel tank selection
- 80,000 lbs

#### CAB

- 113<sup>®</sup> BCC, flat aluminum cab
- 2-paneled, tinted windshield
- 20.25" x 22" water-tight rear window

#### ENGINE

- Cummins ISX 120
- 402 HP @ 2200 RPM - 1450 lb-ft torque
- 1700 RPM
- Natural gas
- 2015 EPA/CACARB emissions certification
- CleanPower Gas 2015 Compliance

#### TRANSMISSION

- Allison 600RTE Automatic
- Manual Transmission now available as well
- No PTO position

#### FRONT AXLE

- 12,000 lb capacity

#### FRONT SUSPENSION

- Dual spring leaf, 12,000 lb capacity

#### REAR AXLE

- 40,000 lb capacity tandem rear axle
- 137 mm axle width

#### REAR SUSPENSION

- Airline 40,000 lb capacity extra duty
- 10.5" x 3.75" x 10.5" steel frame, 100,000 lbs
- Heavy duty suspension core members

#### FUEL TANKS

- Diesel/gallop separator (DGS) compressed natural gas (CNG) fuel tanks with capacities ranging from 40 GGS to 110 GGS
- Standard transmission mounting back of cab with parallel mounting and/or available mounted side tanks on frame
- CNG fuel lines from frame extend ahead of cab and pressure regulator

#### TIRES

- 4000 Commercial HS2 Eco Plus 1100 22.5 x 14 PR
- 4000 Commercial HS2 Eco Plus 1100 22.5 x 14 PR
- 4000 Commercial HS2 Eco Plus 1100 22.5 x 14 PR

#### WHEELS

- Aluminum 3000R Axles 22.5 x 8.25
- 1100 22.5 x 14 PR
- 1100 22.5 x 14 PR

#### BRAKES

- Air brake package
- Electric 4000R ABS
- Front Monitor 10.5" x 17" 24" can
- Rear Monitor 10.5" x 17" 24" can
- 10.5" steering wheel

#### CAB INTERIOR

- Vinyl interior, steel gray with flat dash
- Vinyl high-back air suspension driver's seat
- Vinyl mid-back non-suspension passenger seat
- Integral door panel armrests
- Power windows and locks
- 10" steering wheel
- Adjustable tilt and telescoping steering column
- Dash-mounted power outlet
- Heating, defroster, and air conditioning with Denso heavy duty air conditioner
- 10.5" steering wheel
- 10.5" steering wheel

#### PAINT

- 113<sup>®</sup> BCC, flat aluminum cab
- 113<sup>®</sup> BCC, flat aluminum cab
- 113<sup>®</sup> BCC, flat aluminum cab

## Marketing Materials + Driver Training Support



## COMPRESSED NATURAL GAS VEHICLES

What you need to know about operating a CNG vehicle.



Dedication at every turn.

### Pre-Trip Inspection

1. Open the manual fuel isolation valve to allow fuel to flow to the engine.



2. Drain the fuel filter. While holding a clean cloth under the filter, slowly open the drain valve for two to three seconds, then close the valve. If equipped, repeat for the second filter. If liquid or oil drains from the filter, notify your Penske facility.



3. Test the methane detection system by pressing the Push To Test button. Hold for about 15 seconds. The alarm will sound and the red light will illuminate. Now release the test button and push the reset button. The red light should extinguish and alarm will be silent.
4. Check oil level. If the level is at or below the "Add" level, add only CE30074 oil. Consult with your local Penske Truck Leasing Maintenance Department or Penske's 24/7 Roadside Assistance when this oil is needed. NOTE: Using diesel engine oil in a CNG engine will lead to serious engine damage.



## DRIVER ORIENTATION MANUAL Tandem-Axle Day Cab



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

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# Project Accomplishments and Progress: Post-Demonstration Survey



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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\*

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-- ▼

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

Considering natural gas trucks for your fleet?

In partnership with the US Department of Energy, Penske Truck Leasing is offering fleets the opportunity to "try out" a compressed natural gas (CNG) truck before buying or leasing. Through this US DOE program, the CNG trucks are available at the same price as a comparable diesel truck.

**Core benefits of Penske's natural gas truck trial:**

- 1. Test the power and performance of natural gas trucks in your fleet's duty cycle.**  
The trial rental truck is a 2013 Freightliner Cascadia (3500 engine, 400-hp, Allison 6 speed auto). The vehicle can operate at 80,000 pounds and carries 116 CNG (approximate range of 400 miles).
- 2. Gain hands-on experience with the natural gas truck refueling process.**  
There are multiple natural gas fueling stations within 5 miles of the Penske rental location. Fueling stations can be located using Penske's [Alternative Fuel Station Locator](#) tool.
- 3. Expose key decision makers to the benefits of natural gas trucks.**  
Renters will be provided an informational package with a CNG operating brochure, fueling locations map, auto transmission operating tips, fuel range guidance, and vehicle specifications.

**CNG rental trucks have limited availability.**  
Contact us today to see if this program is a good fit for your fleet.

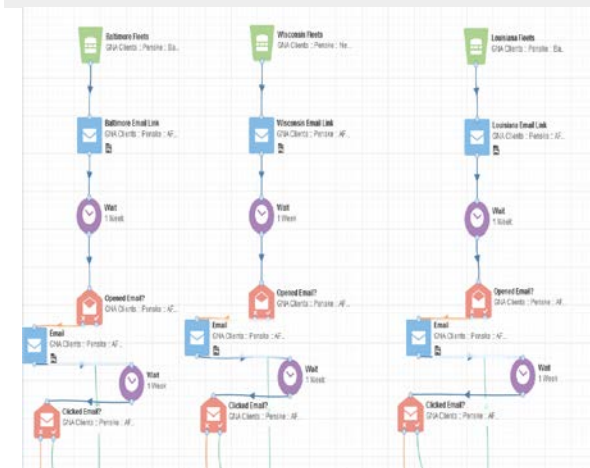
**CONTACT US**

*The natural gas truck rental has standard rental requirements for a commercial vehicle. Applicants must pass a credit check and have \$1M in combined single limit liability.*

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**Clean Cities**  
U.S. Department of Energy

Penske Alternative Fuel Vehicle Rental Program. Learn more from this link.



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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 at 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.

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

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# Market Impact and Sustainability

## FY 2017 Remaining Plans and FY 2018 (if granted)

- Continue demonstrations to achieve at least 60-80.
- Continue widespread communication to garner new interest, including social media integration.
- Engage in additional support with local motor carriers.
- Support Clean Cities in one-on-one outreach.
- Develop case studies and finalize project analysis.
- Conduct final webinar and issue press release.

## Remaining Challenges and Barriers

- 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.
- Largest challenge is creating a new pathway for Louisiana, which has not seen much interest. Baltimore and Neenah appear on track.
- Largest challenge remains time.
- Largest challenge remains time as budget is already allocated.
- Ensuring a good level of customer responsiveness.
- None.

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

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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.

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

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# Questions?

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Dedication at every turn.

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