

City of Nashua

CNG PROJECT

April 2012 to Present

CNG Fleet

34 CNG Vehicles for the DPW

▶ **Solid Waste**

7 Rear Load Packers

5 Automated Auto Reach

3 Recycle Side Load

1 Front Load Packer

1 F650 Rack Body

▶ **Street Department**

2 F550 Dump

2 Freightliner Sweepers/Dual Engines

CNG Fleet

- ▶ **Wastewater Department**

 - 1 Freightliner Rolloff

 - 1 F550 Crane Body

- ▶ **Park and Recreation**

 - 5 F350 Pickups

 - 1 F550 Dump

- ▶ **Administration**

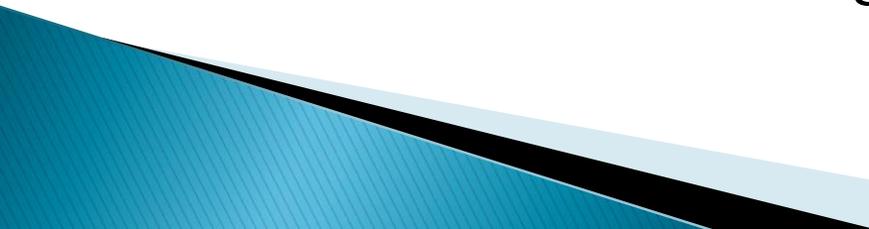
 - 1 Honda Civic

 - 2 F250 1Crew Cab, 1 Regular Cab

CNG Fleet Mechanic Training

- ▶ The Fleet Mechanics attended a CNG familiarization course at Nashua Community College in June 2012.
 - ▶ In October of 2013 the Fleet Mechanics attended another course at Nashua Community College in preparation for the CNG Fuel Inspectors License exam.
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CNG Fleet Findings

- ▶ Doing research it was found that the CNG trucks were getting about the same fuel MPG as their diesel or gasoline counterparts.
 - ▶ Using actual CNG fuel records from FY13 Nashua's fuel cost for the CNG was \$180,365.
 - ▶ The same fuel cost if compared to gas and diesel at \$2.18 GGE and \$2.30 GDE would have been \$256,951.
 - ▶ In FY13 CNG fuel usage saved Nashua \$76,586.
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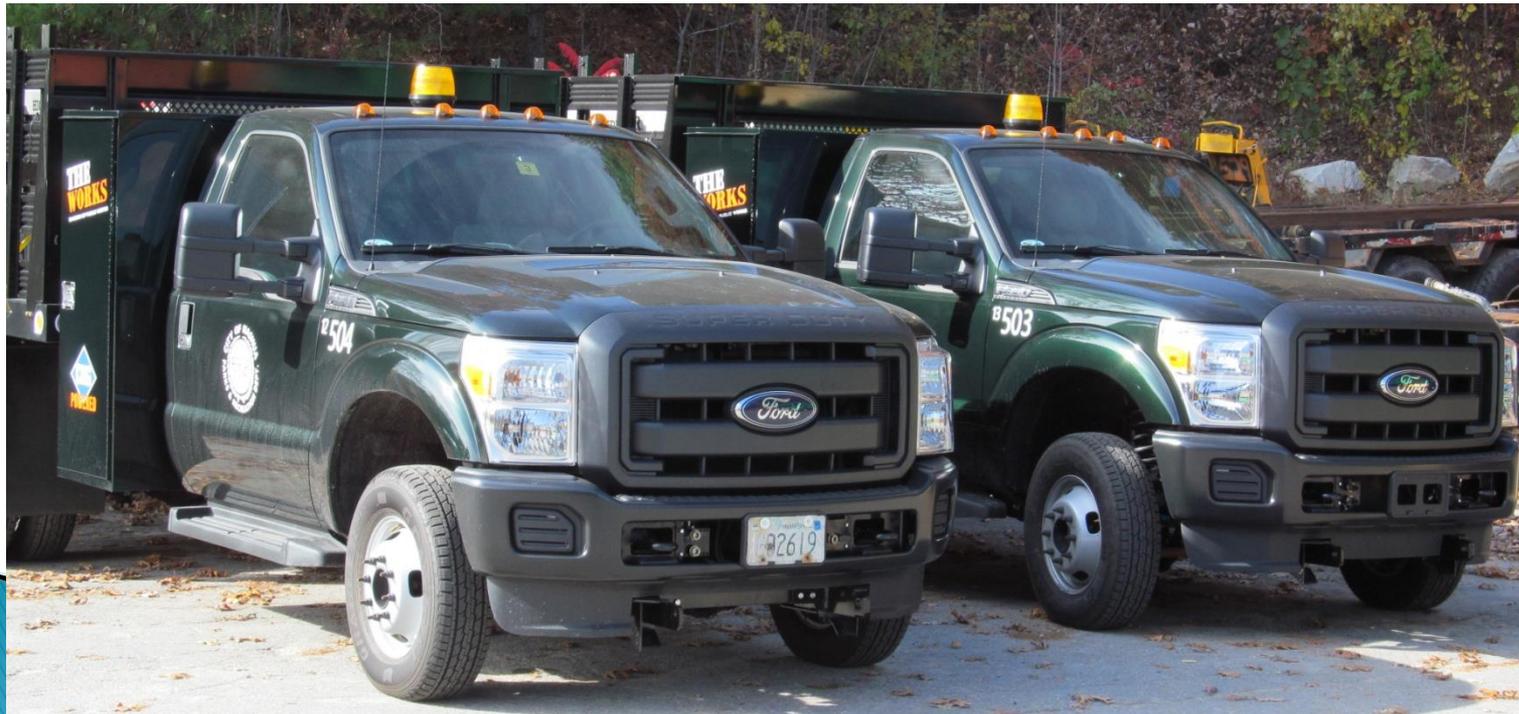
CNG Fleet Findings

- ▶ FY14 Nashua is on track for a fuel savings of \$88,846.
- ▶ In FY14 the last diesel Automated Truck is being replaced with an Autocar CNG fueled truck.
- ▶ Other city departments such as Pennichuck Water and Nashua Transit are now getting on board with CNG in their fleets.

CNG FACTS

- ▶ To date, the City CNG truck fleet has consumed approximately 160,000 gallons of CNG from June 2012 to May 2014.
- ▶ The combined CNG fleet has traveled approximately 350,000 miles.
- ▶ Fleet averages 2.2 MPG.
- ▶ 20 Heavy duty refuse trucks average 2.1 mpg
- ▶ 13 Medium duty F250–F550 average 7.1 mpg
- ▶ 2 Light duty Honda and Van average 29 mpg
- ▶ Heavy duty CNG engines are quieter.

Fleet sample



Fleet sample



Things to consider

- ▶ Facility modification could be necessary to park and or work on CNG vehicles in your facility.
 - ▶ Modifications include lowering electrical fixtures, explosion proof lighting and electric door operators, gas monitoring system.
 - ▶ Mechanic training for diagnostics and repair of the CNG fuel system and engine.
 - ▶ Educating everyone about the myths and rumors that CNG is inherently dangerous.
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Things to consider

- ▶ Some increased costs to maintain the CNG engines.
 - On the Cummins ISL G spark plugs at 1500 hrs at \$70.00 each. Takes about 90 minutes.
 - Gasoline conversions have reported a half life on the spark plugs.
- ▶ The Cummins ISL G engines require an oil that meets their oil spec CES 20074. Increased cost and another oil to inventory.
- ▶ **Maintenance Free Exhaust Aftertreatment**
- ▶ **NO DIESEL EXHAUST FLUID !**
- ▶ **NO REGEN !**

CNG is a safe fuel

- ▶ Lighter than air.
 - ▶ Rises and doesn't accumulate in low places.
 - ▶ Ignitable in a 5–15% mixture gas in air.
 - ▶ Rich mixture burns off slowly.
 - ▶ Ignites at temperatures of approx. 600 °C / 1112 °F.
 - ▶ Non-toxic and odorless: a detection fragrance is added.
 - ▶ Dissipates quickly.
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