

Building a Sustainable Future



NJNG Fleet Carbon Reduction Initiative_s

NEGA Spring Conference

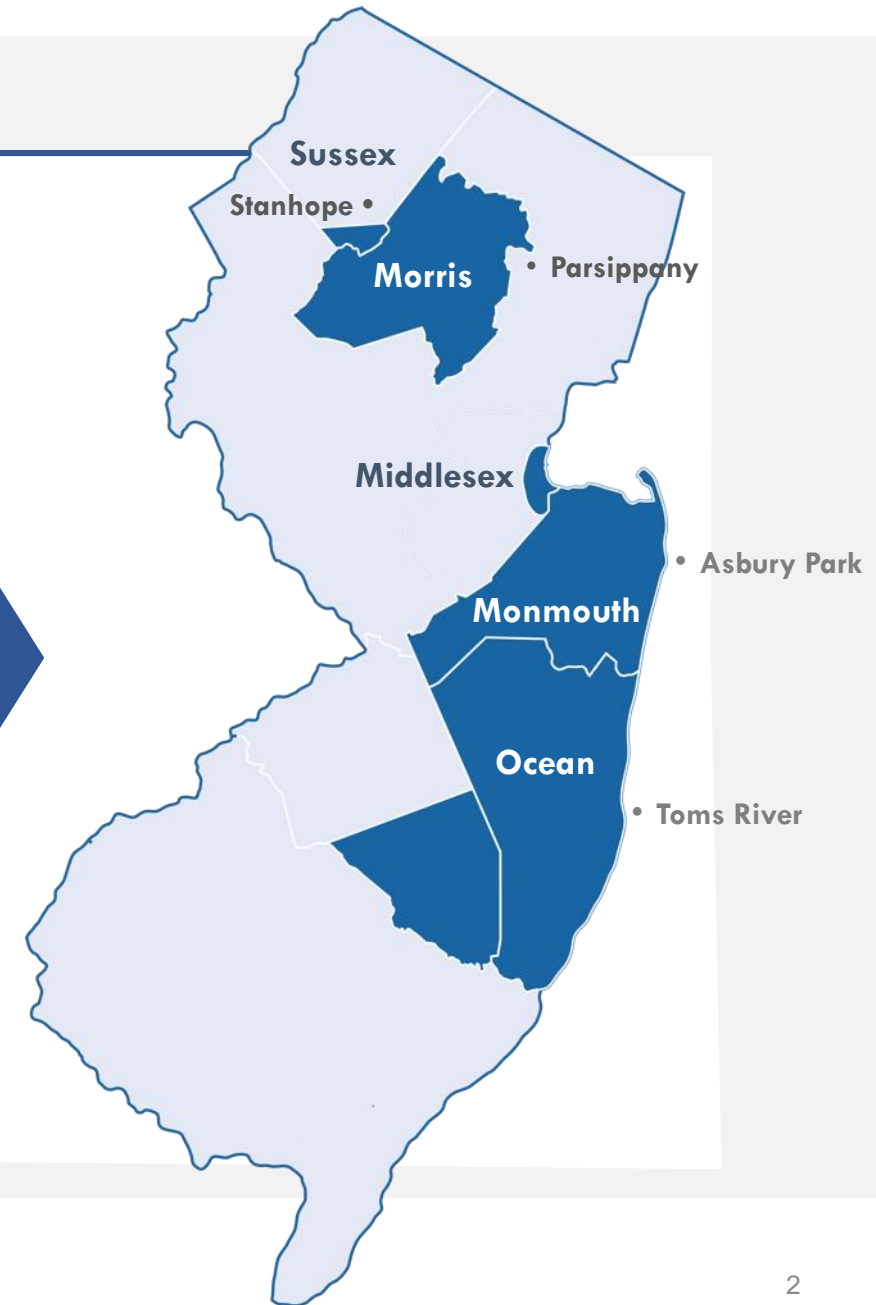
April 4, 2024

Overview

- NJNG Fleet Inventory
- Past Initiatives
- Current Initiatives

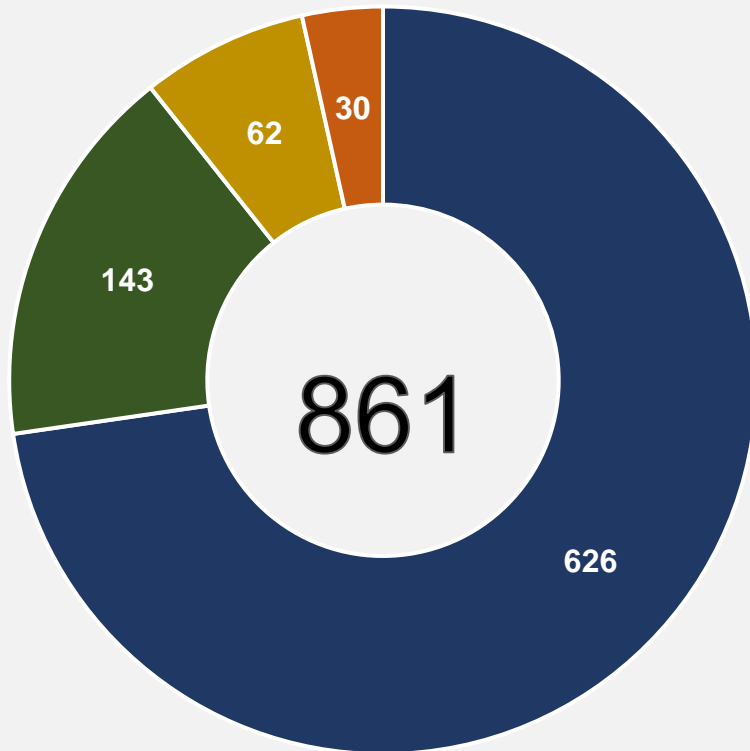
New Jersey Natural Gas

- Largest stand-alone natural gas utility in New Jersey
- Over 572,500 customers, 90% residential
- Over 7,850 miles of distribution and transmission pipeline
 - System is 100% Plastic/Protected
 - 200 miles of transmission main, more than the other 3 NJ LDCs Combined



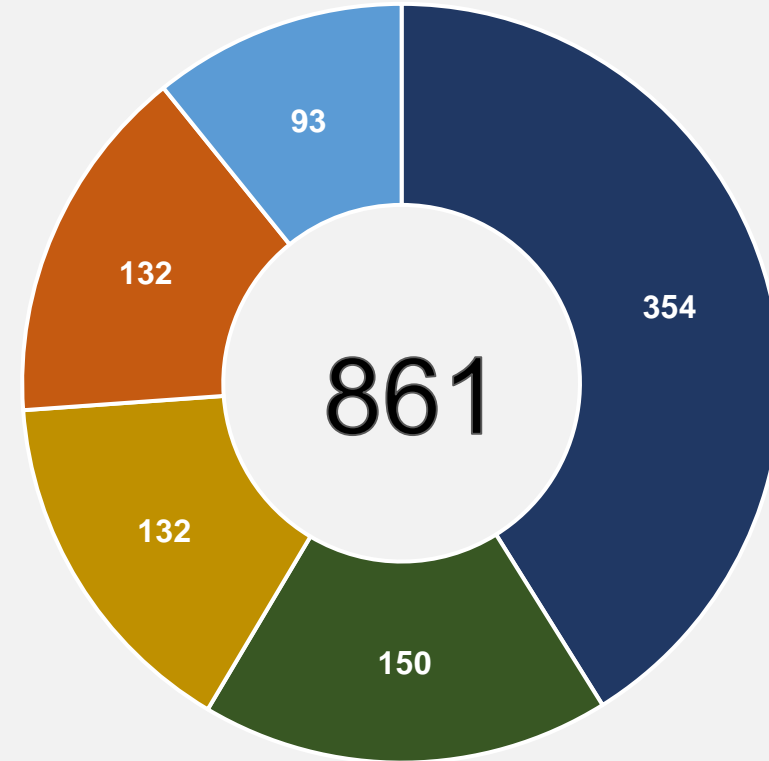
NJR Fleet Inventory

Vehicles by Business Unit



■ NJNG ■ NJRHS ■ NJR/CEV/EE ■ S&T

Vehicles by Type

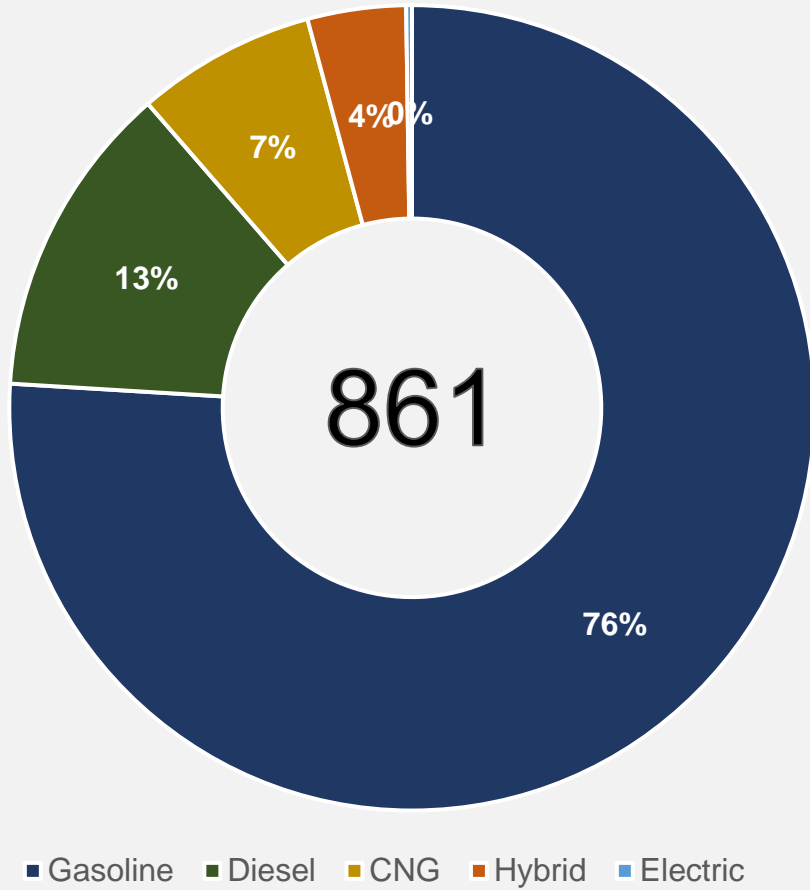


■ Light Truck ■ Van ■ SUVs/Pickups ■ Cars ■ Medium Duty

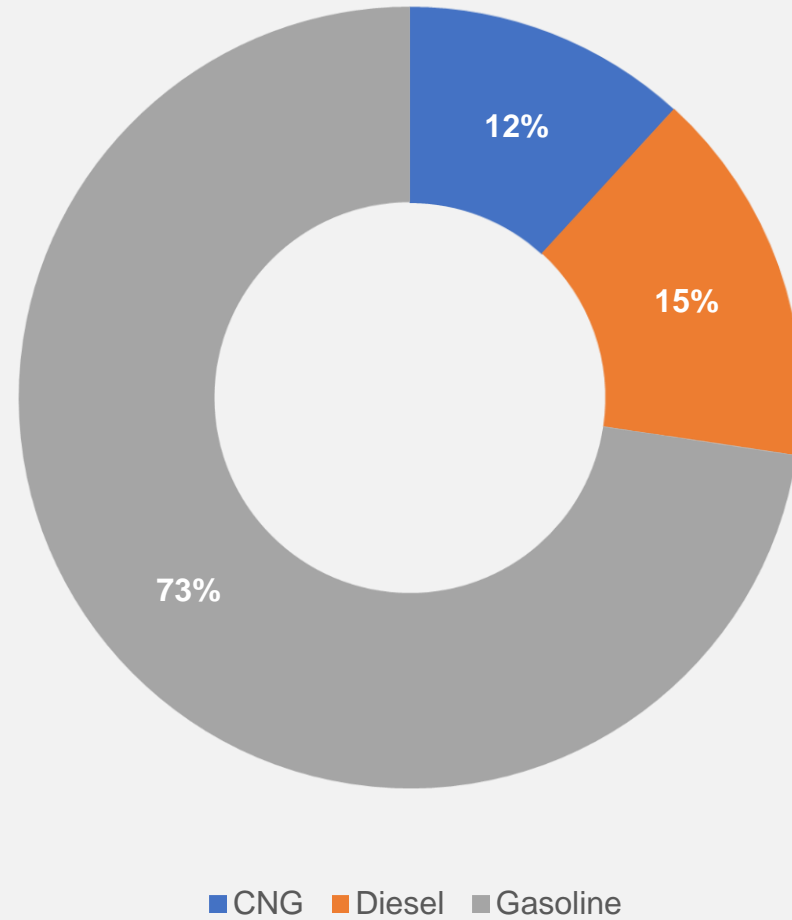
* The above Fleet Inventory does not include equipment (ie backhoes, vemeers, trailers), emission are deiminase

NJR Fleet Inventory

Vehicles by Fuel Usage



FY 23 Emissions by Fuel Type



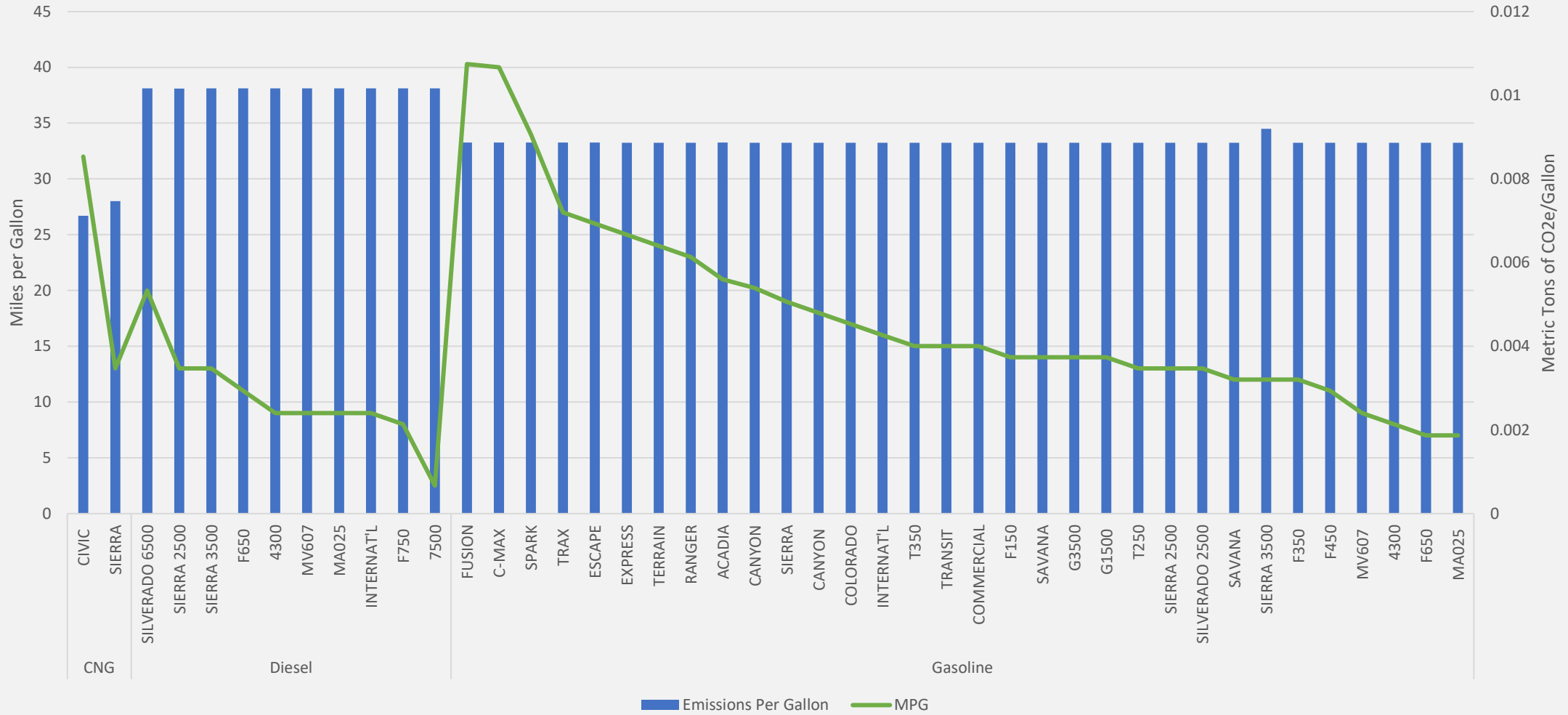
NJNG Fleet Operations

- Five garages operational throughout service territory, 3 manned with one employee, other two garages have 8-4 and 4-12 shifts
- Majority of maintenance and repairs are done in-house with union labor
 - Body work, transmissions and other major repairs done by outside vendors
- Utilize fleet maintenance software to track workload, productivity and customer issues
- Use ASE certification for hiring and position advancement
- Purchase a variety of make and model vehicle types
- No CDL's needed



Emissions by Vehicle Type

Fleet Summary



Fleet GHG Reduction Initiatives

- All Aluminum Bodies on medium duty vehicles, switched to composite bodies – *2009 - 2017*
 - Lighter GVW has equated into better MPG usage
 - Have switched to composite bodies on some trucks which is lighter than aluminum
- Installed 5 CNG Stations
 - 2 Stations used solely for NJNG vehicles Wall & Lakewood - *2012*
 - 3 Public Stations in Middletown, Freehold, & Toms River - *2015*
- Converted 48 First Responder vehicles to CNG - *2012*
 - Utilizing CNG technology for over a decade
- Converted 1 Stores truck to CNG - *2017*
 - No major issues with larger sized vehicle

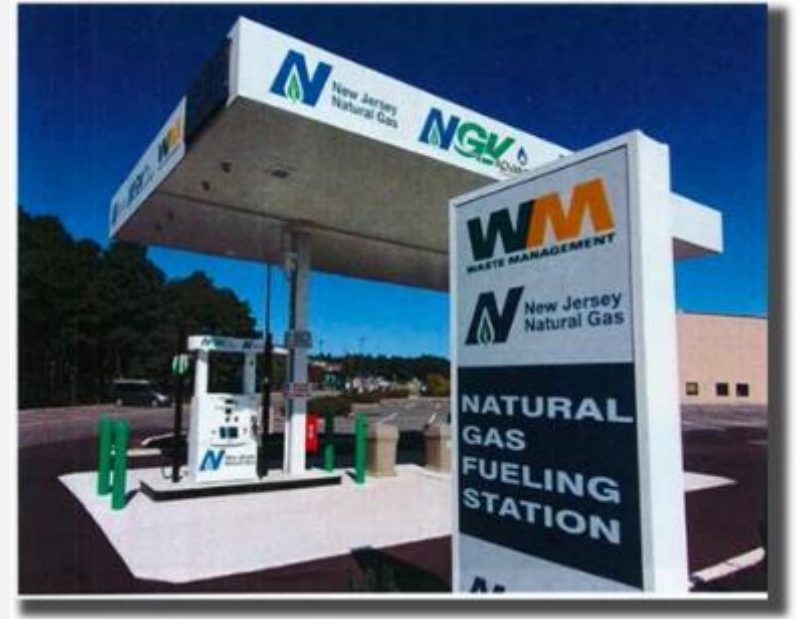


Fleet GHG Reduction Initiatives – 2024 Ongoing Initiatives



CNG Stations

- Constructing **3** new CNG stations
 - 2 stations in Morris County and 1 station in southern Ocean County
- Once completed, all First Responder vehicles converted to CNG (from gasoline) and begin possible conversion of medium duty trucks
- For company use only
- Discussion needs to take place if CNG, RNG or renewable diesel is the better route for NJNG gasoline vehicles



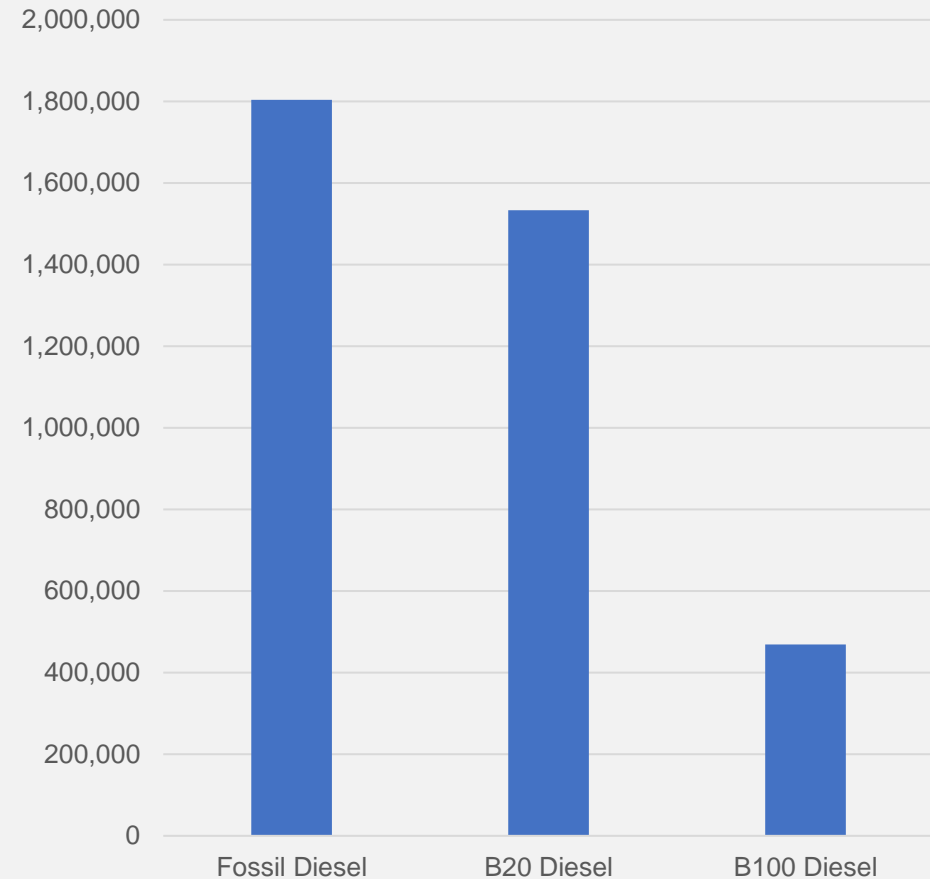
Fleet GHG Reduction Initiatives – 2024 Ongoing Initiatives



100% Renewable Diesel Fuel (R99)

- Began using 100% renewable diesel fuel in 40 medium duty trucks in Central & Ocean divisions
- Goal to have all diesel vehicles and equipment using R99 with the next year
- Currently used in CA, price is similar to fossil diesel fuel, testimonial for CA vendors show less engine wear
- Entered into agreement with Neste/Rastoil for renewable diesel supply
- Cost Breakdown – Higher than fossil diesel at the moment, as more volume is used on east coast price variance will reduce

* NJNG Diesel Usage CO2 Emissions (lbs)



* Only for onsite fuel consumption

Fleet GHG Reduction Initiatives – 2024-2025 Initiatives



Idle mitigation technology

- Pilot program of independent unit to beginning within a few months
- Idle report distributed to management/supervision weekly



Electric Vehicle Purchases

- Exploration of all non-field options to utilize electric vehicles, installing charging station at General Office
- While models are limited, NJNG will purchase hybrid vehicles when available



Conversion of medium duty trucks to CNG

- Pending analysis of CNG vs. renewable diesel costs and benefits



Hydrogen Filling Stations

- Pilot a hydrogen filling station with four hydrogen vehicles
- Fueling station to be located at local Regulator Station or headquarters parking lot
- Team working hydrogen fueling station for commercial customer in preliminary stage

Medium Duty Trucks CNG vs Renewable Diesel

	Fossil Diesel	CNG Conversion	Renewable Diesel (R99)
Upfitting Costs	\$0	\$30,000 - \$35,000	\$0
Maintenance Costs	\$15,000 - \$20,000	Research has shown that maintenance costs are lower	Unknown, but less than fossil diesel
Engine Life	Approximately 8 years	Greater life compared to fossil diesel	Unknown at NJNG – other companies have seen extended engine life with usage
Fuel Costs – 1,000 gallons/yr	\$3,500 at current diesel price	\$1,250 fossil CNG Investigating RNG ppg	\$3,900 at current price
Yearly Fuel Costs	\$344,113	\$115,000	\$383,685
* CO2e annual average	12.9 tons	26% reduction when using fossil CNG/9.5 tons 67% reduction when using RNG/4.25 tons	67% reduction or 4.25 tons

* Based off an annual miles driven of 10,000 miles

* CO2e tonnage varies based on miles driven, which varies based on work group (ie PMT has more miles driven annual than Distribution, C&R has the least miles)

Long Range Plans

- Mix of alternative fuel usage
- Continually evaluate new technology for carbon emissions reduction, reliability and cost savings
- Periodical review vehicle specs to reduce GVW

