



The Department of Transportation and
Public Works (DPTW)
Compressed Natural Gas (CNG) Project



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DTPW Clean Project:

- Design, build, operate, and maintain the existing Central, Coral Way, and Northeast Bus Depots to accommodate CNG buses
- **Bus Fleet of 767**
 - 420 – 40 ft. Compressed Natural Gas (CNG) (New Flyer and Gillig)
 - In the process of purchasing additional 140 New Flyer CNG buses
 - Purchased 33 40ft. Proterra electric buses with the option to purchase and additional 42 (expected delivery in late 2021)
- Provision of CNG fuel by Florida City Gas Pipeline at the Central and Coral Way Bus Depots
- Provision of CNG fuel by TECO Peoples Gas at the Northeast Bus Depot
- Lease of County property for a public access CNG fueling station at the Coral Way location: Cost of lease \$42k/year and revenue sharing if sales surpass that

COMPRESSED NATURAL GAS

- Project Name: Compressed Natural Gas (CNG) Program
- Contract Number: 00096
- Vendor: Trillium Transportation Fuels, LLC
 - **Fiscal Impact:** The initial 10-year CNG Project was estimated at \$321,660,000. This amount includes a one-time cost up to \$174,867,000.00 for buses, optional components and \$39,680,000.00 to build both the Central and Coral Way Bus Depots. This amount also includes an estimated amount of \$82,049,000.00 for the purchase of natural gas and \$25,064,000.00 to operate and maintain the CNG equipment at the two (2) County CNG fueling stations.
 - The fiscal impact for Supplemental Agreement No. 1 is estimated to be \$47,587,277 which brings the CNG new project estimate to \$369,247,277. This amount includes a one-time cost up to \$18,495,365.00, to build the County's Northeast Bus Depot, a 10.00% contingency allowance account of \$1,849,537.00, and a dedicated allowance account for \$277,430.00 for Art in Public Places (1.5% of the agreed eligible project scope in accordance with Section 2-11.15 of the Code). The fiscal impact also includes estimated amounts of \$20,032,740.00 for the purchase natural gas and \$6,932,205.00 (includes annual 3% Consumer Price Index increase) to operate and maintain the CNG equipment Northeast Bus Depot. **The fiscal impact will be offset by the Renewable Natural Gas Credit, which is estimated to lower the cost of fuel by providing credits estimated to be worth \$2,866,000 for the 10-year term.**
 - Contract No. 00096 has an initial term of 10 years. The County may choose to continue the CNG Program for up to another 10 years. Such renewal would only include the provision of natural gas and the operation and maintenance of the CNG equipment estimated to be \$119,284,880.00. The renewal period may also include a continuation of the lease for the Public Access Station at the Coral Way Bus Depot with combined estimated revenue of \$1,550,250.00 during the renewal period.
 - **Funding Source:** State and Federal Grant Funds, Financing Proceeds PTP Surtax, DTPW Operating Funds

Project Contractors

Trillium Transportation Fuels, LLC brings two decades of CNG expertise to serve customers at more than 150 CNG facilities across the country. Trillium provides fuel for thousands of natural gas vehicles daily and delivers more than 70 million gasoline gallons equivalent (GGE) of CNG per year. Combined, Love's and Trillium own 65 public-access CNG facilities.



Central Bus Garage CNG – Miami, FL

Department of Transportation and Public Works
Compressed Natural Gas Facility
CNG, Diesel, Wash, Maintenance Upgrade

Scope of Work:

- Installation of a new compressed natural gas (CNG) fueling station
- Construction of a new fuel and wash building
- Includes concrete foundations, natural gas chromatograph (measures the purity of the natural gas), CNG equipment, piping, electrical conduit and cable, equipment room and paving
- 4 lane transit fueling area
- A new fuel wash and detail clean building
- Demolition of existing buildings for the fueling station
- Modifications to two existing maintenance buildings for CNG code compliance
- The estimated project cost is \$21,141,000

Project Location:

Central Bus Garage
DTPW Transit
3431 NW 31st Street
Miami, FL 33142

Coral Way Bus Garage Location – Miami, FL

Department of Transportation and Public Works
Compressed Natural Gas Facility – Contract No. 00096
CNG, Diesel, Wash, Maintenance Upgrade

Scope of Work:

- The installation of a new compressed natural gas (CNG) fueling station
- Construction of a new fuel and wash building
- Includes concrete foundations, natural gas chromatograph (measures the purity of the natural gas), CNG equipment, piping, electrical conduit and cable, equipment room and paving
- 4 lane transit fueling area
- A new fuel wash and detail clean building
- Demolition of existing fuel and wash building
- Public access fueling area (accessible from SW 72nd Avenue)
- Modification of existing maintenance building for CNG code compliance
- The estimated project cost is \$18,539,000

Project Location:

Coral Way Bus Garage
DTPW Transit
2775 SW 74th Avenue
Miami, FL 33155

Northeast Bus Garage Location – Miami Gardens, FL

Department of Transportation and Public Works
Compressed Natural Gas Facility – Contract No. 00096
CNG, Diesel, Wash, Maintenance Upgrade

Scope of Work:

- The installation of a new compressed natural gas (CNG) fueling station
- Includes concrete foundations, natural gas chromatograph (measures the purity of the natural gas), CNG equipment, piping, electrical conduit and cable, equipment room and paving
- 4 lane transit fueling area
- Refurbish and replace existing wash and detail clean building equipment
- Modifications to existing maintenance building for CNG code compliance
- The estimated project cost is \$20,622,332

Project Location:

Northeast Bus Garage
DTPW Transit
360 NE 185th Street
Miami, FL 33179



**CNG BUS
PURCHASE –
540 CNG**

- The first 300 New Flyers were delivered an average of 5 buses per week until the last bus was delivered in September of 2019.
 - **Cost estimate is \$175 million (buses and components)**
- 120 Gillig buses were delivered at an average of 5 buses per week until the last bus delivery in March of 2020.
 - **Cost estimate is \$69 million (buses and components)**

DTPW CNG BUSES





DTPW CNG BUSES

DTPW CNG Fuel Island



9/23/2020

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DTPW CNG Fuel Island





DTPW Bus Wash

DTPW ELECTRIC BUS PROJECT

BATTERY ELECTRIC BUS (BEB) FLEET:

We have purchased 33 of Proterra's 40ft low floor buses with the option to buy up to 75.

Battery-electric buses produce zero emissions, have a 12-year lifespan, include a 12-year warranty that covers the batteries and charging system, and include training, spare parts, and diagnostic tools.

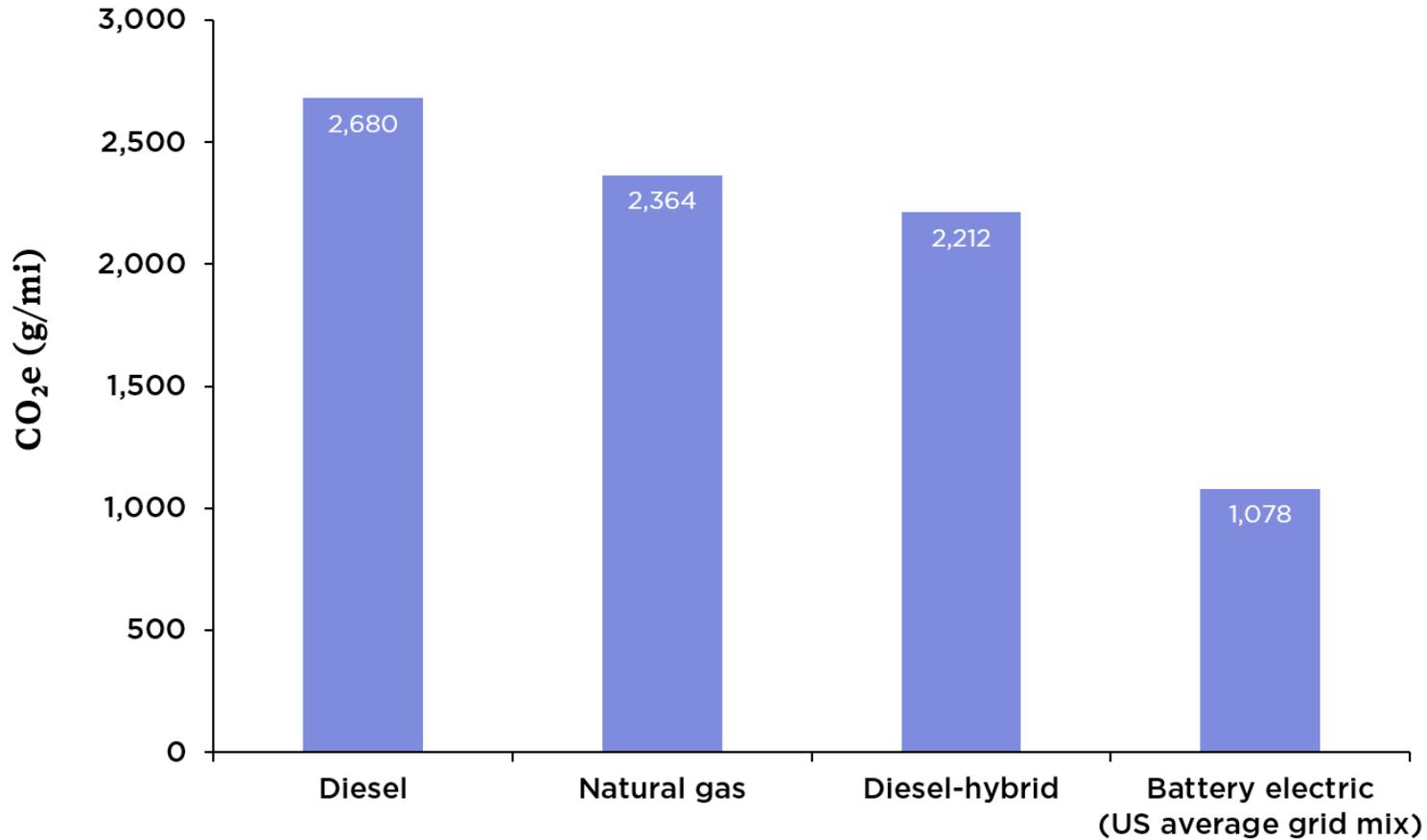
Charging System:

Installation of depot chargers (charging systems) at 3 maintenance garages.

Each charging system will fully charge a minimum of 11 battery-electric buses simultaneously within four hours to provide an operating range with full state of charge and under full GVWR and auxiliary loads to be at least 175 miles.

**Estimated Project Cost: \$30 Million
(for 33 buses and components)**

Life cycle global warming emissions from different types of transit buses



Natural gas buses have 12 percent lower global warming emissions than diesel buses.* Electric bus emissions range from 29 to 87 percent lower than diesel buses and 19 to 85 percent lower.

Analysis completed by the Union of Concerned Scientist. July 19, 2018