TECO Energy is an S&P 500 energy company headquartered in Tampa, Florida. (TE NYSE)

Tampa Electric has supplied the Tampa Bay area with electricity since 1899. Covers 2,000 square miles, including all of Hillsborough County and parts of Polk, Pasco and Pinellas counties. 672,000 residential, commercial and industrial customers depend on Tampa Electric for reliable power and value-added energy services.

Founded in 1895, Peoples Gas is Florida’s largest natural gas distribution company. The company serves nearly 336,000 residential, commercial and industrial customers through more than 9,200 miles of system infrastructure.

TECO Clean Advantage Corporation (TCAC) was formed to provide solutions to the energy market with an initial emphasis on providing products and services to the growing natural gas vehicle industry.

TECO Partners provides marketing and sales services for a number of energy–related clients.
North Florida Clean Cities Coalition

- General Information on CNG
- Conversion Calculations & CNG Pricing
- Vehicle Technology
- CNG Stations
- Snapshot of Florida
• **NGV** – a vehicle that uses CNG or LNG fuel
• **CNG** – natural gas @ 3600 psi, 70°F
• **LNG** – natural gas @ 3.6 psi, -260°F
• **Bi-Fuel** – uses natural gas or gasoline/diesel
• **Dual Fuel** – uses both natural gas and gasoline/diesel
• **GGE** – gasoline gallon equivalent (1.25 therms)
• **DGE** – diesel gallon equivalent (1.40 therms)
# Fuel Energy Content Comparisons

<table>
<thead>
<tr>
<th></th>
<th>Gasoline</th>
<th>Diesel</th>
<th>Bio 20</th>
<th>Bio 100</th>
<th>Propane</th>
<th>CNG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volume/(Gal. of Gasoline)</strong></td>
<td>1.00 gal.</td>
<td>0.88 gal.</td>
<td>0.90 gal.</td>
<td>0.96 gal.</td>
<td>1.35 gal.</td>
<td>126.67 cu. ft.</td>
</tr>
<tr>
<td><strong>Energy (BTU/Vol.)</strong></td>
<td>114,000/ gal.</td>
<td>129,500/ gal.</td>
<td>127,500/ gal.</td>
<td>118,300/ gal.</td>
<td>84,300/ gal.</td>
<td>900/cu. ft.</td>
</tr>
</tbody>
</table>

## Heat Energy for CNG

<table>
<thead>
<tr>
<th>Cubic Ft.</th>
<th>Mcf</th>
<th>BTU</th>
<th>mmBTU</th>
<th>DecaTherm</th>
<th>Therms</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0.10</td>
<td>100,000</td>
<td>.10</td>
<td>.10</td>
<td>1</td>
</tr>
</tbody>
</table>
Price of Natural Gas vs. Unleaded Gasoline

Even if NG doubled in price, future NG / Gasoline spread should be adequate and sustainable to incent more fleet conversions.

Sources: PIRA Energy Group, Henry Hub
## PGS Tariff Rates

<table>
<thead>
<tr>
<th>Rate Class</th>
<th>Annual Volume (Therms)</th>
<th>Annual Volume (DGE)</th>
<th>Monthly Customer Charge</th>
<th>Rate/Therm</th>
<th>Rate/DGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGV</td>
<td>&lt; 50,000</td>
<td>&lt;35,700</td>
<td>$45.00</td>
<td>$0.19886</td>
<td>$0.27840</td>
</tr>
<tr>
<td>GS-3</td>
<td>&lt;250,000</td>
<td>&lt;178,500</td>
<td>$150.00</td>
<td>$0.21156</td>
<td>$0.29618</td>
</tr>
<tr>
<td>GS-4</td>
<td>&lt;500,000</td>
<td>&lt;357,100</td>
<td>$250.00</td>
<td>$0.16500</td>
<td>$.23100</td>
</tr>
<tr>
<td>GS-5</td>
<td>&gt;500,000</td>
<td>&gt;357,100</td>
<td>$300.00</td>
<td>$0.12452</td>
<td>$0.17432</td>
</tr>
</tbody>
</table>
NGV America (www.ngvamerica.org)

According to NGV America:

- 30 different manufacturers produce 100 models of light, medium and heavy-duty vehicles and engines for retrofit.

- 2011 list available
NGVs Under 14,000 Pounds

- Honda
- Chevrolet
- Ford
- Mitsubishi Motors
- GMC
- Pontiac
- Buick
- Isuzu
- Lincoln
- Mercury
- Vehicle Production Group
NGVs Over 14,000 Pounds
## Natural Gas Vehicles - Dedicated

<table>
<thead>
<tr>
<th>Class</th>
<th>Vehicle Type</th>
<th>Premium or Conversion Diff Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Duty</td>
<td>Refuse, transit, distribution and school buses</td>
<td>$35,000 - $50,000 per vehicle</td>
</tr>
<tr>
<td>Medium Duty</td>
<td>Shuttle, cargo van, pick-up, utility</td>
<td>$12,000 - $25,000 per vehicle</td>
</tr>
<tr>
<td>Passenger</td>
<td>Sedan</td>
<td>$3,000 - $10,000 per vehicle</td>
</tr>
</tbody>
</table>

There is an increased amount of dedicated NGVs from OEMs rather than after market conversion kits.
• 112,000 NGVs on roads
• 1,000 fueling stations (nearly half public)
• In 2010, about 44 billion cubic feet (bcf) of natural gas was used for vehicle fuel
NGV Applications in Florida

- Solid Waste Refuse
- Municipal/Private Fleet Operations
- Airport
- Transit
- Distribution
CNG Stations in Florida

Existing
In Service 2012
PGS
31 stations total

City of Milton

City of N. Miami

WM (Pompano Beach)
PGS Miami

City of Hollywood

Travis Career Center (Polk Co)
Veolia

Clear Energy (Choice Environmental)
Quality Transportation (Wise Gas)

Key West

WM (Venice)

PGS Channelside

Clean Energy (TIA)

Clearwater Gas (City of Clearwater)

PGS St. Pete

Saddle Creek

Leon Co. Schools

Republic - Volusia Co.
Waste Pro (Port Oran City of Apopka

Republic

FL City Gas (Rockledge)

Waste Pro Ft. Pierce

PGS St. Pete

Leon Co. Schools

PGS Ocala

PGS Orlando

PGS Ft. Myers

PGS Jax

Jax Naval

Mayport Naval

City of Milton

CNG Stations in Florida

15
Currently, only 3 stations in Florida open to the public. Lack of fueling infrastructure is a major inhibitor to fleet conversions.

Public CNG Stations in Florida
Saddle Creek Transportation

• Located in Lakeland, FL
• Provides third-party logistics operations for customers across the United States
• 120 CNG Tractor Trailers by 2014
• 2.5 Million EAT by 2014
• Commercial Operation December 30, 2011
Recent Announcements

• HART Earns Phase III TIGER Grant for $2.3M

• GM Announces Bi-Fuel Pickup for 2013

• Ford Announces CNG F-350 for 2012

• CNG in PGS Territory up to 146,000 therms/mth.
Natural Gas Vehicles

Natural Gas Vehicles (NGVs) are driving real change in America.

There are many benefits to using NGVs. Vehicles fueled with natural gas are cost efficient, safe and dramatically better for the environment than gasoline-powered vehicles. And, just as important, the use of natural gas for transportation helps the United States reduce its dependence on foreign oil.

About Natural Gas Vehicles
Check out some basic facts about NGVs.

Benefits
Learn why NGVs are a great choice in alternative fuel vehicles.

Commercial Use
Research the types of vehicles available for businesses and fleets.

Residential Use
Determine if an NGV is the right choice for your personal vehicle.

Our Green Fleet
Peoples Gas is taking energy efficiency to the streets. Kick the tires on our green fleet.

NGVs in Florida
Find out what's going on with NGVs around the state.

Frequently Asked Questions
Need answers? Check out our list of frequently asked questions.

More Information
View our list of related sites or contact us for more information.

www.peoplesgas.com/ngv
Questions

Natural Gas Fueled Vehicle

Drive Green
Natural Gas for Transportation: The Secret is out

Mason Ecker, Business Development Manager
February 24, 2012
Agenda

- Who is Clean Energy            Slides 3-7
- CNG Station Types              Slides 8-11
- CNG Ownership Options          Slides 12-14
- CNG Design Considerations      Slides 15-17
- Questions                      Slide 18
Clean Energy Profile

- **Largest in North America**
  - Founded in 1997 as Pickens Fuel Corp.
  - Publicly-traded, CLNE: NASDAQ
  - In 2010, sold 120+ million gallons
  - Operate over 240 Stations nationally

- **Primary Business**
  - Design, Build & Operate Nat Gas Fueling Stations
  - IMW: CNG Compressor Manufacturer
  - Northstar: LNG Station Construction
  - BAF: CNG Vehicle Conversions
  - Bio-Methane Production at Landfills
  - NGV Financing & Leasing
  - Grant Department (Awarded over $234 Million in Federal and State Grants)
  - Full Service Natural Gas Provider
Leading Provider of Natural Gas As a Transportation Fuel

Largest Alternative Transportation Fuel Provider

500+ Fleet Customers
23,000+ Natural Gas Vehicles
240+ Natural Gas Fueling Stations

Why focus on fleets?
High fuel volume per vehicle – Return to base or regular routes – Require less infrastructure

Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) Applications

- Taxis
- Government Vehicles
- Refuse Hauling
- Regional Trucking
- Public Transit
Pilot acquisition of Flying J creates the dominant fuel stop company for over-the-road trucking
- Over 500 locations

Presence in all major markets

Relationships with all major fleets

Clean Energy has the exclusive right to build NG fueling stations with P-FJ Sites
36 Stations Opened in Less than 1 Year
Clean Energy, The Proven Operator

- Nationwide Operation
- Full service natural gas fuel provider
- CE Technicians maintain all CNG & LNG Stations
- Station Remote Monitoring
- Web access for customer, operation managers and technicians
- Improved Trending, Alerts (warnings) and Fault tracking & notification
- Customizable to fit the customer business needs
- Over $3 Million in Parts Inventory
### CNG Station Types - Fast Fill vs. Time Fill or Combo

<table>
<thead>
<tr>
<th>FAST FILL</th>
<th>ADVANTAGES</th>
<th>TIME FILL</th>
<th>ADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorter fill times</td>
<td>Lower initial cost driven by compressor size &amp; absences of storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodates vehicles not stored on site</td>
<td>Lower maintenance cost due to lack of compressor cycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public vehicles can be served</td>
<td>Minimal labor to fuel vehicles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suited to peak load</td>
<td>Modular construction suited for fleet expansion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DISADVANTAGES</th>
<th>MAJOR COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>High initial cost and frequency of maintenance</td>
<td>Gas Dryer</td>
</tr>
<tr>
<td></td>
<td>Compressor/Motor Assembly (Redundancy)</td>
</tr>
<tr>
<td></td>
<td>Control System</td>
</tr>
<tr>
<td></td>
<td>Dispenser/Card Reader</td>
</tr>
<tr>
<td></td>
<td>Storage</td>
</tr>
<tr>
<td>Vehicle remains on site while fueling (~ 8 hours)</td>
<td>Gas Dryer</td>
</tr>
<tr>
<td>Typically excludes public use</td>
<td>Compressor/Motor Assembly (Redundancy)</td>
</tr>
<tr>
<td></td>
<td>Control System</td>
</tr>
<tr>
<td></td>
<td>Dispenser Set Up</td>
</tr>
</tbody>
</table>

### Combo Fill Capability

Comprises both Time Fill and Fast Fill

Good for fleets that can fuel on Time Fill but need occasional “top off” or want/need the ability to provide public access
CNG Fast Fill
Dispenser

FASTFILL

TIMEFILL

Dispenser
Outsource station development, ownership, O&M to independent fuel provider

• **Turnkey Operation** – All capital investment and O&M risks are with independent fuel provider while fleet focuses on core competencies

• Fleet serves as anchor for independent operator’s station, contracts long term fuel agreement with set price(s) and expected throughput for duration

• Fleet usually provides low-cost lease for property

• Can allow fuel provider option to create public access as well – a “royalty” paid back to fleet for retail sales from premises
Fleet owns/leases station but contracts out operations for a fee (e.g., monthly fee or GGE basis)

- Option used by many large fleets that need/desire ownership of their own station equipment but want to reduce risk, assure best O&M practices, etc.
- Contract is often awarded to the firm that builds station.
- Some fleets that initially Own & Operate their own stations decide that they want to delegate to others – put out RFP for O&M contract.
- Decision weighs on the pros/cons of potential downtime risks, maintaining parts inventories, updated training of techs, etc.
Fleet Owns & Operates Station

• Fleet takes responsibility for building and operating its own station. Fleet works with vendors or design consultant, manages build-out and takes responsibility for PM (parts, etc)

• Sometimes applies to small-to-mid sized fleets b/c their fuel use does not meet the threshold required by most independent developers to invest in developing
CNG Station Design Considerations

- **Size of property**
  - Required space for equipment footprint
  - Required space for vehicle traffic (including # of islands, vehicle entry/exit)

- **Site Development**
  - Remediation of existing fueling site
  - Permits, Codes & Regulations

- **Ask yourself - “How Much Fuel in How Much Time?”**

- **Projected # of vehicles per day & what is the required fuel per vehicle?**
  - **Fueling patterns?**
    - Are all fueled at once?
    - Can they be staggered throughout the day?
  - **What is the max daily flow & max hourly flow?**
    - This affects equipment selection and/or storage amount
  - **Is redundancy required?**
CNG Station Considerations & Equipment Needs

- **Compression**
  - Electric drive or gas engine drive
    - Size of electric service
    - Inlet gas psi and peak flow rates
  - Enclosures for sound

- **GGE/ hr = 0.5 x SCFM (@ rated inlet psi)**
  - Ex: 200 SCFM compressor = ~100 GGE/hr
  - Ex: 750 SCFM compressor = ~350 GGE/hr

- **CNG Storage**
  - Is it needed? If so, what is balance between compression capacity and storage needs?
  - Peak storage requirements and dispensing projections
  - Available space
CNG Station Considerations & Equipment Needs

- **Natural gas dryers**
  - Projected volume and flow rates
  - Inlet gas pressure and potential variance from spec
  - Moisture content (gas analysis)
  - Manual vs. automated regeneration
  - Single tower versus dual towers

- **Dispensers and Fuel Management**
  - Time fill posts? Fast Fill dispensers? Both?
  - Number and type to meet expected vehicle types/counts
  - Fuel metering/data capture, payment system?
  - CCs/pmt cards, training video?
“Many a false step is made STANDING STILL.” Chinese Proverb
North Florida Clean Cities Coalition

ANDRIKK FRAZIER
Manager Business Development
Alternative Fuel Vehicles
TECO Clean Advantage | TECO Partners

ALFRAZIER@TECOENERGY.COM
PHONE: (813) 228-1075
MOBILE: (813) 299-6468
Overview

- US/FL Natural Gas Infrastructure
- Environmental Impacts of CNG vs. Diesel
- Economic Impacts of CNG
- Shale Gas
- Natural Gas Act Update
- NGV Support Groups
Natural Gas Production
FGT Delivery Points
# Impact on Environment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VOCs reductions</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>CO reductions</td>
<td>11%</td>
<td>1%</td>
</tr>
<tr>
<td>NOx reductions</td>
<td>54%</td>
<td>20%</td>
</tr>
<tr>
<td>PM 10 reductions</td>
<td>42%</td>
<td>9%</td>
</tr>
<tr>
<td>Air toxics*</td>
<td>99-100%</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>Petroleum reductions</td>
<td>100%</td>
<td>99%</td>
</tr>
</tbody>
</table>

Based on information prepared for the U.S. Department of Energy and California Energy Commission. The estimates compare new natural gas vehicles with new gasoline and diesel powered vehicles. The emission results include criteria pollutants and greenhouse gas emissions.

*Most Air Toxics (CEC- California Energy Commission, GREET-Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation)
### Impact on Environment (continued)

<table>
<thead>
<tr>
<th>Heavy Duty Bus (Full Fuel Cycle)</th>
<th>TIAX- CEC Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOCs reductions</td>
<td>46%</td>
</tr>
<tr>
<td>CO reductions</td>
<td>6%</td>
</tr>
<tr>
<td>NOx reductions</td>
<td>8%</td>
</tr>
<tr>
<td>PM 10 reductions</td>
<td>27%</td>
</tr>
<tr>
<td>Air toxics*</td>
<td>99-100%</td>
</tr>
<tr>
<td>GHG</td>
<td>23%</td>
</tr>
<tr>
<td>Petroleum reductions</td>
<td>100%</td>
</tr>
</tbody>
</table>

## Today’s Fuel Costs Public Stations

### CNG vs. FL Petroleum

<table>
<thead>
<tr>
<th>Rate Schedule</th>
<th>Cost/GGE</th>
<th>Cost/DGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNG FL Avg. 1</td>
<td>$2.123</td>
<td>$2.378</td>
</tr>
<tr>
<td>CNG US Avg. 2</td>
<td>$2.090</td>
<td>$2.340</td>
</tr>
<tr>
<td>Unleaded 3</td>
<td>$3.716</td>
<td></td>
</tr>
<tr>
<td>Mid 3</td>
<td>$3.865</td>
<td></td>
</tr>
<tr>
<td>Premium 3</td>
<td>$3.983</td>
<td></td>
</tr>
<tr>
<td>Diesel 3</td>
<td></td>
<td>$4.015</td>
</tr>
</tbody>
</table>

1 - www.cngprices.com
2 - Clean Cities Alternative Fuels Price Report (October 2011)
3 - FL average fuel prices. AAA Fuel Gauge Report (February 24, 2012)
### Today’s Fuel Costs Private Stations

**PGS Territory CNG vs. FL Petroleum**

<table>
<thead>
<tr>
<th>Rate Schedule</th>
<th>Cost/Therm</th>
<th>Cost/GGE</th>
<th>Cost/DGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NG NGV(^1)</td>
<td>$0.8027</td>
<td>$1.003</td>
<td>$1.123</td>
</tr>
<tr>
<td>NG GS-4(^2)</td>
<td>$0.7265</td>
<td>$0.908</td>
<td>$1.017</td>
</tr>
<tr>
<td>NG GS-5(^3)</td>
<td>$0.6989</td>
<td>$0.874</td>
<td>$0.9785</td>
</tr>
<tr>
<td>Unleaded(^4)</td>
<td>$3.716</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid(^4)</td>
<td></td>
<td>$3.865</td>
<td></td>
</tr>
<tr>
<td>Premium(^4)</td>
<td></td>
<td>$3.983</td>
<td></td>
</tr>
<tr>
<td>Diesel(^4)</td>
<td></td>
<td></td>
<td>$4.015</td>
</tr>
</tbody>
</table>

---

1 – Assumes 50,000 Therms or 40,000 GGE annually
2- Assumes 250,000 Therms or 200,000 GGE annually
3- Assumes 500,000 Therms or 400,000 GGE annually
4- FL average fuel prices. AAA Fuel Gauge Report (February 24, 2012)
Shale Production Bcfd

Source: Wood Mackenzie (North America Gas Service)
Area of Focus – Market Area Demand Factors & Trends

• What will influence future demand?
  – Electric Generation additions/modernizations/fuel conversions
  – Impacts of gas/alt fuel price differential
  – Impacts of EPA regulations; Clean Water Act 316b, MACT, CASPR
  – Renewable energy policy
  – NGV

• How much incremental demand will occur in the next 10 years?
  – Cases can be made for 600,000 – 1,000,000 MMBtu/day
  – What is the timeline of future requirements?
  – What are the demand characteristics (base-load or peaking)?

• How much alternate fuel, renewable resources, and demand side management can be relied upon to shave peak load?
Incentives and Legislation

• Current Legislation for Medium Heavy Duty AFVs
  – A tax credit is allowed for fuel-cell vehicles purchased before 2015. The credit is $20,000 for vehicles weighing more than 14,000 pounds but not more than 26,000 pounds and $40,000 for vehicles weighing more than 26,000 pounds. There is no other tax incentive for vehicles weighing more than 14,000 pounds.
Proposed Legislation

• The proposal would allow a tax credit for dedicated alternative-fuel vehicles weighing more than 14,000 pounds.

• The credit would be allowed for vehicles placed in service after December 31, 2012, and before January 1, 2019. For vehicles placed in service in calendar year 2018, the credit would be limited to 50 percent of the otherwise allowable amount.

<table>
<thead>
<tr>
<th>Weight Class</th>
<th>Max. Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 26,000 lbs.</td>
<td>$25,000</td>
</tr>
<tr>
<td>Over 26,000 lbs.</td>
<td>$40,000</td>
</tr>
</tbody>
</table>
Florida NGV Associations and Organizations

• SE NGV Corridor Committee
• Clean Cities
  – Gold Coast Clean Cities Coalition
    • Miami-Dade, Broward, Palm Beach, Martin, and Monroe counties
  – Space Coast Clean Cities Coalition
    • Brevard, Flagler, Indian River, Lake, Osceola, Okeechobee, Orange, Seminole, St. Lucie and Volusia counties
Florida NGV Associations and Organizations

• Clean Cities
  – Emerald Coast Clean Cities Coalition
    • Escambia, Santa Rosa, Okaloosa, Walton, Bay, Washington and Gadsden counties
  – North Florida Clean Cities Coalition
    • Currently seeking designation (Duval, Clay, Nassau, and St. Johns counties)
  – Suncoast Region
    • Currently in planning (Hernando, Pasco, Hillsborough, Pinellas, Polk, Manatee, Sarasota, Charlotte, Lee, and Collier counties)
Questions