



Clean Energy[®]

North America's leader in clean transportation

Columbia City Officials

Meeting – February 6, 2012

Company Profile



- **Largest provider of vehicular natural gas (CNG & LNG) in North America**
 - More than 260 stations nationwide
- **Full service**
 - Design, Build & Operate Stations
 - Marketing
 - Grant Dept (awarded over \$250 million)
 - 24/7 Maintenance Support by Employees
 - Clean Energy Finance
 - IMW Compressors
 - NorthStar Industries
 - BAF Conversions
- **Publicly-traded as **CLNE** on NASDAQ**
 - Fueling over 20,000 customer vehicles daily
- **Focus on return-to-base fleets**
 - Transit
 - Refuse
 - Municipalities
 - Regional Trucking
 - Airports





Why Do Fleets Use CNG?

- Cheaper
- Cleaner
- Domestic
- Abundant
- Proven
- National Security



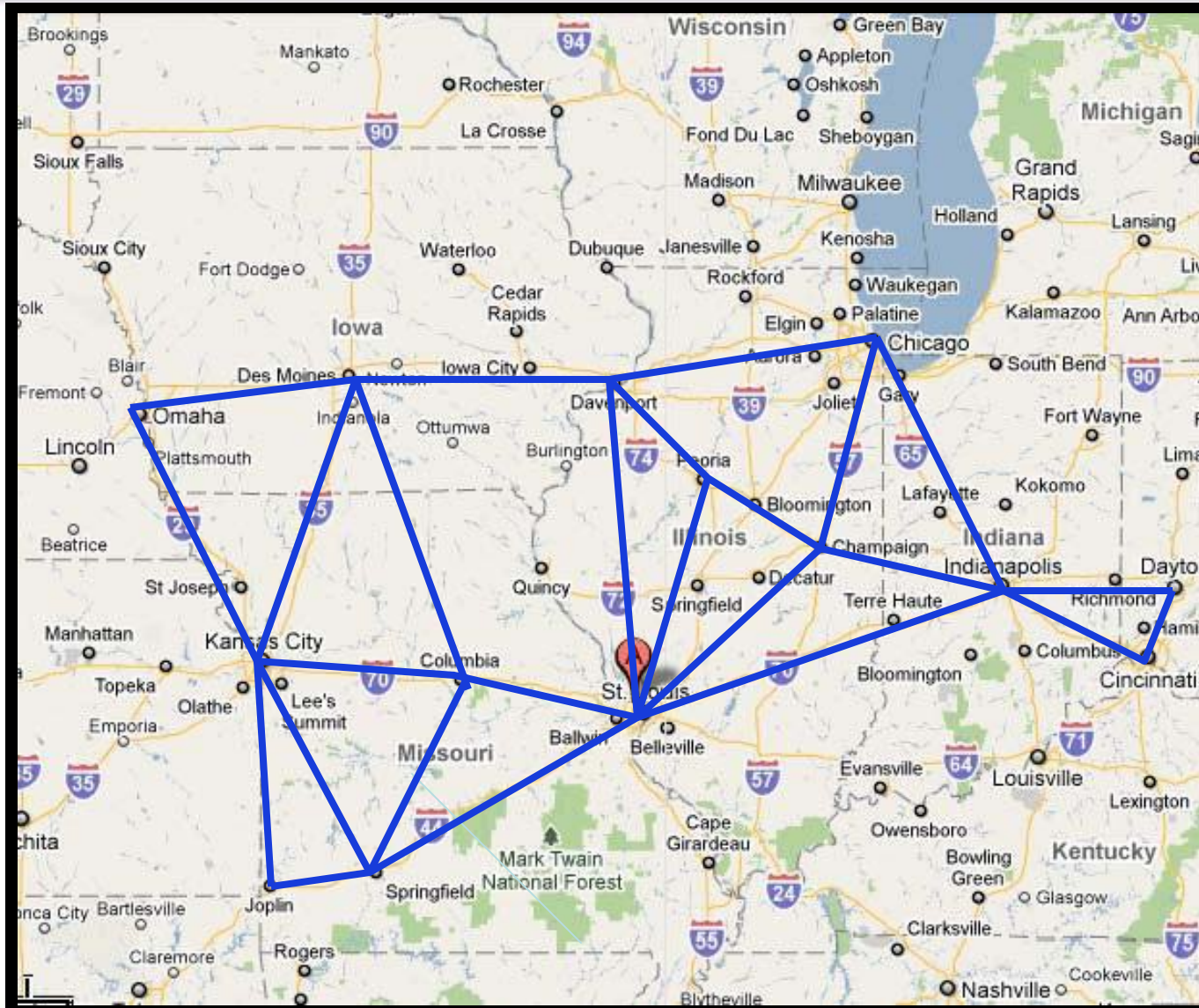
The City of KC Uses CNG



St. Louis CNG Station



The Big Picture





Example Pricing

Example Pricing*

| | |
|-------------------------|--------------------|
| Commodity | \$0.38/DGE |
| Federal/State Tax | \$0.28/DGE |
| Other-Gas/Electric Fees | \$0.25/DGE |
| <u>Compression Fee</u> | <u>\$1.40/DGE</u> |
| Total | \$ 2.31/DGE |

*Commodity Price from January 2012 Southern Start Central Index (\$3.02/MMBtu) – Other cost examples taken from common industry pricing

Estimated Savings – 40' Transit Buses

| 40' Transit Buses | | | | |
|--|--------|---------------------|-------------------|--------------------|
| Example - CNG Savings | | | | |
| <u>Bus Procurement and Fuel Cost</u> | | | | |
| | No. of | Cost Per Diesel Bus | Cost Per CNG Bus | CNG |
| | Buses | Local Match @ 20% | Local Match @ 20% | Local Match |
| Bus Procurement | | | | Savings |
| Local Match Per Bus | | \$ 78,000 | \$ 88,000 | \$ (10,000) |
| Initial Bus Purchase | 4 | \$ 312,000 | \$ 352,000 | \$ (40,000) |
| Next Bus Purchase | 3 | \$ 234,000 | \$ 264,000 | \$ (30,000) |
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| Total Buses | | \$ 1,716,000 | \$ 1,936,000 | \$ (220,000) |
| Fuel Costs (Flat Line) | | | | |
| | | Diesel | CNG | CNG Savings |
| Estimated Fuel Cost Per Gallon | | \$ 3.24 | \$ 2.31 | \$ 0.93 |
| Estimated Fuel Consumption Per Bus | | 9,000.00 | 9,000.00 | |
| Annual Fuel Cost Per Bus | | \$ 29,160 | \$ 20,790 | \$ 8,370 |
| Year 1 | 4 | \$ 116,640 | \$ 83,160 | \$ 33,480 |
| Year 2 | 7 | \$ 204,120 | \$ 145,530 | \$ 58,590 |
| Year 3 | 10 | \$ 291,600 | \$ 207,900 | \$ 83,700 |
| Year 4 | 13 | \$ 379,080 | \$ 270,270 | \$ 108,810 |
| Year 5 | 16 | \$ 466,560 | \$ 332,640 | \$ 133,920 |
| Year 6 | 19 | \$ 554,040 | \$ 395,010 | \$ 159,030 |
| Year 7 | 22 | \$ 641,520 | \$ 457,380 | \$ 184,140 |
| Year 8 | 22 | \$ 641,520 | \$ 457,380 | \$ 184,140 |
| Year 9 | 22 | \$ 641,520 | \$ 457,380 | \$ 184,140 |
| Year 10 | 22 | \$ 641,520 | \$ 457,380 | \$ 184,140 |
| Year 11 | 22 | \$ 641,520 | \$ 457,380 | \$ 184,140 |
| Year 12 | 22 | \$ 641,520 | \$ 457,380 | \$ 184,140 |
| 12 Year Total Fuel | | \$ 5,861,160 | \$ 4,178,790 | \$ 1,682,370 |
| 12 Year Fuel Savings - Includes | | | | |
| Incremental Cost of CNG Vehicle | | \$ 7,577,160 | \$ 6,114,790 | \$ 1,462,370 |

Proposed CNG Vehicle Deployment Schedule

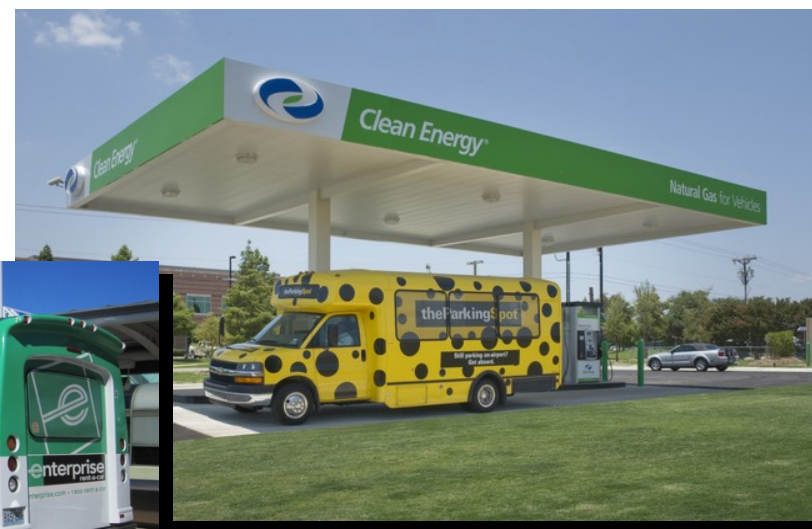


| Cumulative NGV deployment (# of NGV's in Fleet per Year) | | | | | | | | | | | | |
|--|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 |
| 40' Buses | 4 | 7 | 10 | 13 | 16 | 19 | 22 | 22 | 22 | 22 | 22 | 22 |
| 30'-35' Buses | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Cutaways | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 12 | 12 | 12 | 12 |
| Refuse Trucks | 13 | 16 | 19 | 22 | 25 | 28 | 31 | 34 | 37 | 40 | 43 | 44 |
| Light-Duty Vehicles | 27 | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 267 | 267 | 267 |
| Total NGV's in Fleet | 52 | 87 | 122 | 157 | 192 | 227 | 261 | 292 | 322 | 349 | 352 | 353 |



Clean Energy

National Relationships – Revenue Potential



Discussion for a Potential Partnership

- ✓ Station Ownership – City or Clean Energy
- ✓ Vehicle replacement schedule and fuel usage
- ✓ Potential long-term protected fuel rate
- ✓ Consideration for a public/private CNG station
- ✓ Potential for revenue sharing opportunity
- ✓ Clean Energy has full time employees based in Missouri to market and maintain the stations



Dallas County CNG Station, Dallas TX

Questions?



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What Do CNG Stations Look Like



- CNG Time-Fill Station
- CNG Fast-Fill Station
- Public Access Option (All Stations)



CNG – Station Components



Private-Public Access



Time Fill Station



CNG for Para-Transit & Shuttle Services



VPG MV-1



Ford E350 Van



Ford Transit Connect



Ford E450 Cutaway



Chevrolet C4500/C5500 Cutaway

Proven Powerplant Options

- Cummins-Westport ISL G Natural Gas Engine
 - Logged millions of miles with superior performance
 - Exceeds emissions standards
 - 22% of all new transit bus orders include the ISL G
 - Over 10,000 in operation since 2007
 - No particulate traps, filters or diesel emissions fluid
 - No selective catalytic reduction (SCR)
 - Strong performance and fuel economy
 - 250-320 hp and up to 1,000 lb-ft of torque
- Coming Soon – 11.9L HD Engine (2013)



Maintenance Intervals – CNG vs Diesel

[Home](#) > On-Highway > Urban Bus & Shuttle > EPA 2010 ISL G (Natural Gas)

| Maintenance Item | Miles/Kilometers | Hours | Months |
|------------------|------------------|-------|--------|
| Oil and Filter | 7,500 mi | 500 | 6 |
| Fuel Filter | 15,000 mi | 1,000 | 12 |
| Coolant Filter | 7,500 mi | 500 | 6 |
| Spark Plugs | 22,500 mi | 1,500 | 18 |
| Coolant Change | 30,000 mi | 2,000 | 24 |
| Valve Adjustment | 30,000 mi | 2,000 | 24 |

[Home](#) > On-Highway > Urban Bus & Shuttle > EPA 2010 ISL9 (Diesel)

| Maintenance Item | Hours | Months |
|-----------------------------------|---------|---------|
| Oil and Filter* | 500 | 5 |
| Primary Fuel Filter** | 500 | 6 |
| Secondary Fuel Filter | 1,000 | 12 |
| Coolant Filter | None*** | None*** |
| Overhead Adjustment | 5,000 | 48 |
| Standard Coolant Change**** | 2,000 | 24 |
| Coalescing Filter | 2,000 | - |
| Diesel Exhaust Fluid (DEF) Filter | 6,500 | - |
| Particulate Filter Cleaning | 6,500 | - |

*Assuming normal duty cycle. **OEM-Supplied; intervals may vary. ***If engine is equipped with an optional coolant filter, it will need to be replaced at the same intervals as the oil filter, SCA/DCA additive levels must be checked according to the interval listed in the Owners Manual. ****Extended coolant drain/flush/fill intervals may be followed when certain requirements are met. For more information on these requirements, refer to the Cummins Coolant Requirements and Maintenance Service, Bulletin 3666132. See Owners Manual for complete details.

Bus Manufacturers Have Embraced CNG

- OEM's Available Today 29'-65'
 - Gillig
 - New Flyer
 - NABI
 - Orion
 - Motor Coach Industries (MCI)
 - Designline
 - El Dorado
 - Foton



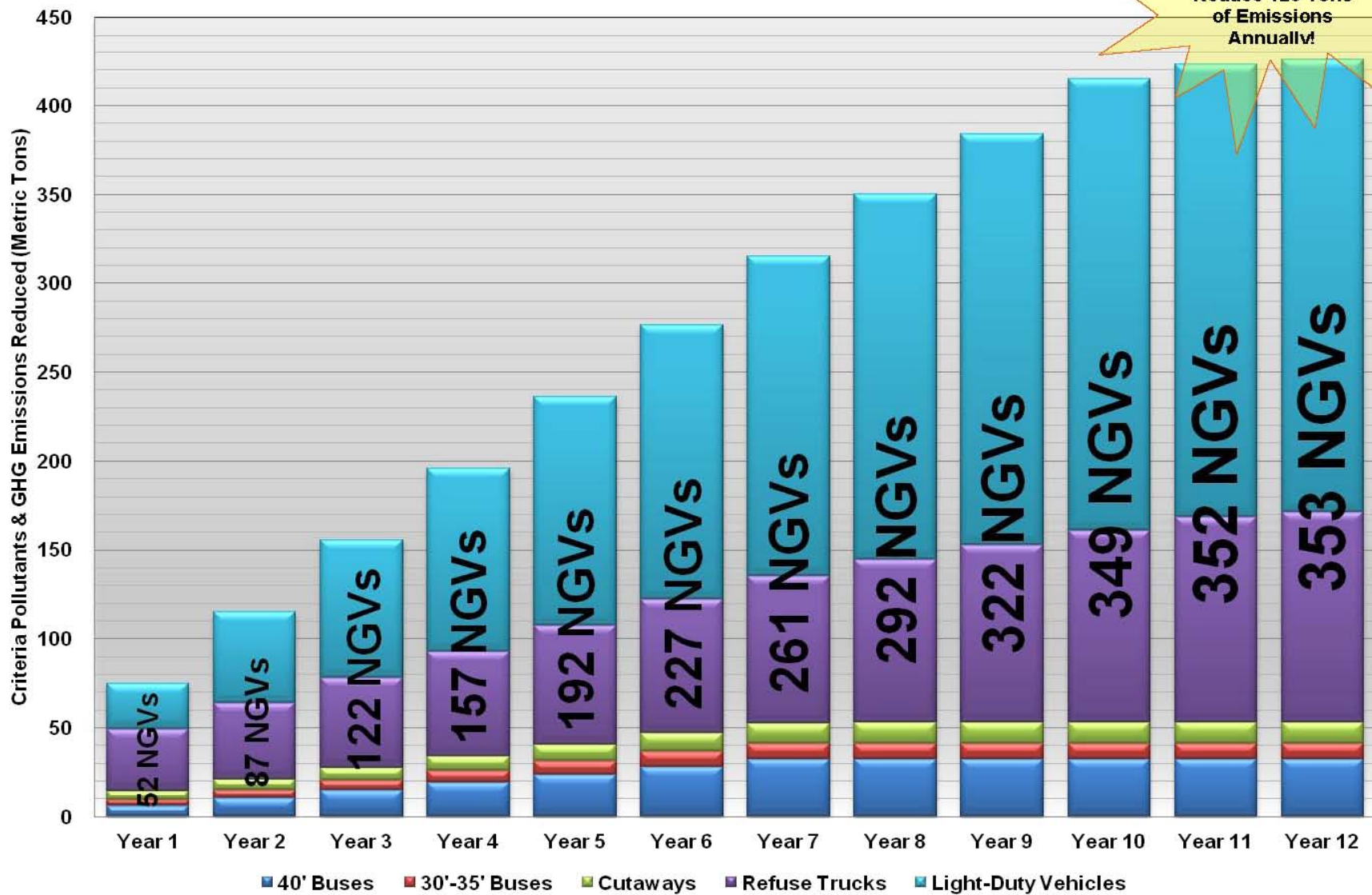
Clean Energy & CNG for Transit

- Industry leader in natural gas transit fueling
- Over 53 million gallons of natural gas annually
- Over 5,600 natural gas buses fueled daily
- Clean Energy Finance is available to assist

- | | |
|------------------------|---------------------------------|
| – DART, Dallas, TX | – Boston MBTA, MA |
| – Akron, OH | – Oklahoma State University, OK |
| – New York MTA | – Los Angeles MTA, CA |
| – Foothill Transit, CA | – City of Phoenix, AZ |
| – OCTA, CA | – City of Mesa, AZ |
| – Omnitrans, CA | – City of Tempe, AZ |
| – Montebello, CA | – Translink, Vancouver, BC |
| – Sun Metro, TX | – Montgomery Co, MD |
| – Big Blue Bus, CA | – Albuquerque, NM |
| – Denver RTD, CO | – Santa Fe, NM |
| – Las Vegas RTC, NV | – Elk Grove, CA |
| – UCLA | – Santa Cruz, CA |
| | – Santa Clarita, CA |
| | – Univ of CA, San Diego, CA |



Columbia, MO NGV Fleet Implementation Strategy: Annual Emission Reduction Growth



Columbia, MO NGV Fleet Conversion: *Emission Reductions*

Natural gas is the cleanest choice of fuel available today for this market. Natural gas powered vehicles produce up to 23% fewer greenhouse gas emissions (GHG)¹ than comparable diesel models². By replacing existing diesel & gasoline buses with new CNG buses, Columbia would significantly reduce their carbon footprint—if this fleet of 353 diesel & gasoline vehicles was converted to compressed natural gas (CNG), 426 metric tons of criteria pollutant & greenhouse gas emissions would be reduced per year of operation, nearly *4,256 metric tons of criteria pollutant & greenhouse gas emissions would be reduced over a 10-year operational life!*³

| Columbia, MO 100% NGV Fleet Conversion: Annual Emission Reductions (Metric Tons) | | | | | | | |
|--|------------|----------------------|---------------------------------|----------------------|---------------------------------|--|---|
| Fleet Group | # of Units | Carbon Monoxide (CO) | Volatile Organic Compound (VOC) | Nitrogen Oxide (NOx) | Fine Particulate Matter (PM2.5) | Greenhouse Gas (GHG) Emission Reductions | Total Emission Reductions (Criteria Pollutants & GHG) |
| 40' Buses | 22 | 1.63 | 0.18 | 8.47 | 0.11 | 21.82 | 32.21 |
| 30'-35' Buses | 8 | 0.45 | 0.05 | 2.32 | 0.03 | 5.97 | 8.82 |
| Cutaways | 12 | 0.62 | 0.07 | 3.21 | 0.04 | 8.26 | 12.20 |
| Refuse Trucks | 44 | 5.99 | 0.67 | 31.09 | 0.40 | 80.08 | 118.24 |
| Light-Duty Vehicles | 267 | 10.65 | 0.91 | 1.62 | 0.00 | 241.05 | 254.22 |
| Total | 353 | 19.34 | 1.87 | 46.71 | 0.58 | 357.18 | 425.69 |

| Columbia, MO: Current Fleet Usage Statistics | | | |
|--|------------|-------------------------|--------------------------------|
| Fleet Group | # of Units | Annual Gallons/ Vehicle | Average Annual Mileage/Vehicle |
| 40' Buses | 22 | 9,205 | 31,000 |
| 30'-35' Buses | 8 | 7,200 | 23,200 |
| Cutaways | 12 | 3,529 | 21,600 |
| Refuse Trucks | 44 | 7,000 | 57,120 |
| Light-Duty Vehicles | 267 | 750 | 8,153 |

¹ "Detailed California-Modified GREET Pathway for Compressed Natural Gas (CNG) from North American Natural Gas" California Air Resources Board, January 12, 2009.

² "Detailed California-Modified GREET Pathway for Ultra Low Sulfur Diesel (USLD) from average Crude Refined In California" California Air Resources Board, January 12, 2009.

³ Emissions reductions were determined utilizing the Department of Energy Clean Cities Area of Interest 4: Alternative Fuel and Advanced Technology Vehicles Pilot Program Emissions Benefits Tool. Using Columbus' current fleet usage statistics