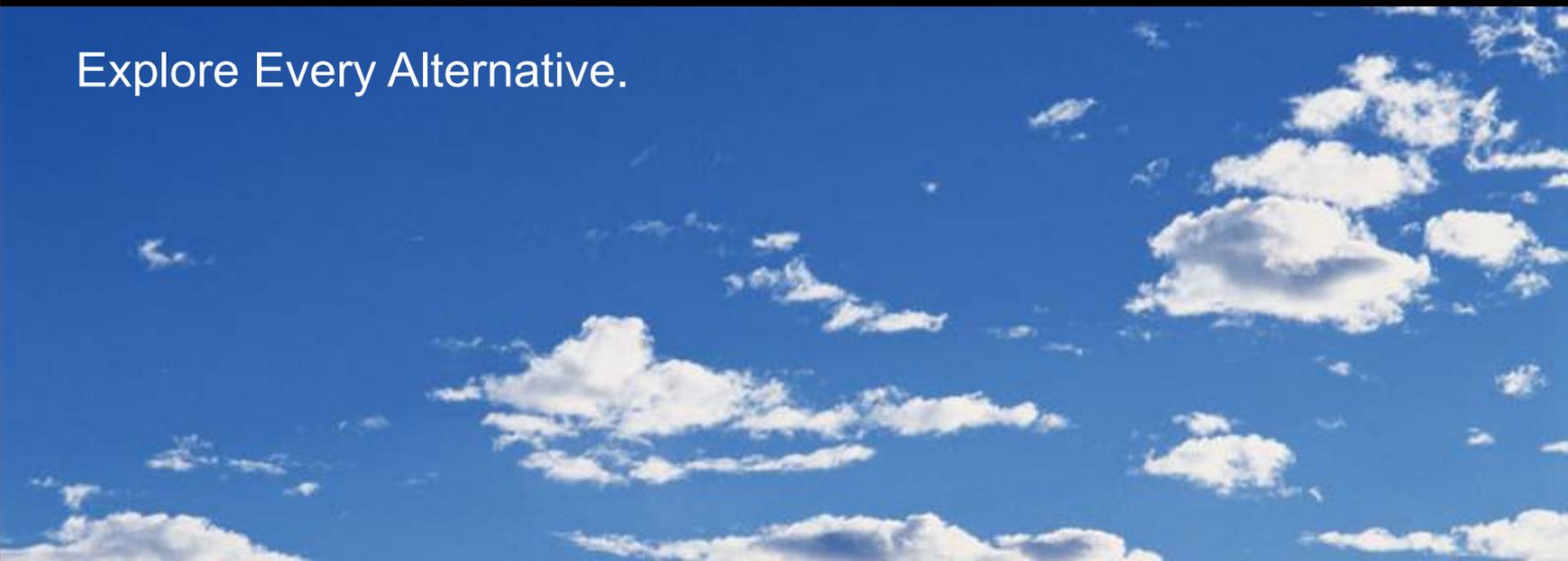




# Cummins Westport Inc.

September, 2009

Explore Every Alternative.



# Cummins Westport Inc. (CWI)

A Cummins JV Company

- CWI is a 50:50 joint venture company based in Vancouver, BC
  - Cummins Inc. - world's largest builder of commercial diesels,
  - Westport Innovations Inc. - world leader in gaseous fuel engine technology
- CWI offers 6 to 9 litre alternative fuel automotive engines. (CNG, LNG, LPG)
- Engines are manufactured by Cummins.
- Over 20,000 engines delivered worldwide
- Local parts and service support through Cummins Distributor network.



# Customer Experience-Diesel vs. NG

Just Like Cell Phones, Natural Gas Engines have Continued to Improve



	L 10 G	C 8.3	C Plus	'07 ISL G
Emissions	Better	Better	Better	Better
Reliability	Worse	Worse	Similar	Similar
Fuel Cost/Mile	Worse	Worse	Similar	Better*
Durability	Worse	Worse	Similar	Similar
LCC	Worse	Worse	Worse	Better*
Timeline	1989	1996	2001	2007

\* Must Have Fuel Price Differential to be lower



# Market Drivers

## Natural Gas Engines for Buses

### Emissions Leadership

- Meets Regulated 2010 EPA/Euro EEV
- Lower greenhouse gas emissions



### Economic Benefits

- Improved Reliability
- Improved Efficiency
- Lower total fuel costs

### Energy Security

- Reduced reliance on oil
- Biomethane capable
- Pathway to hydrogen



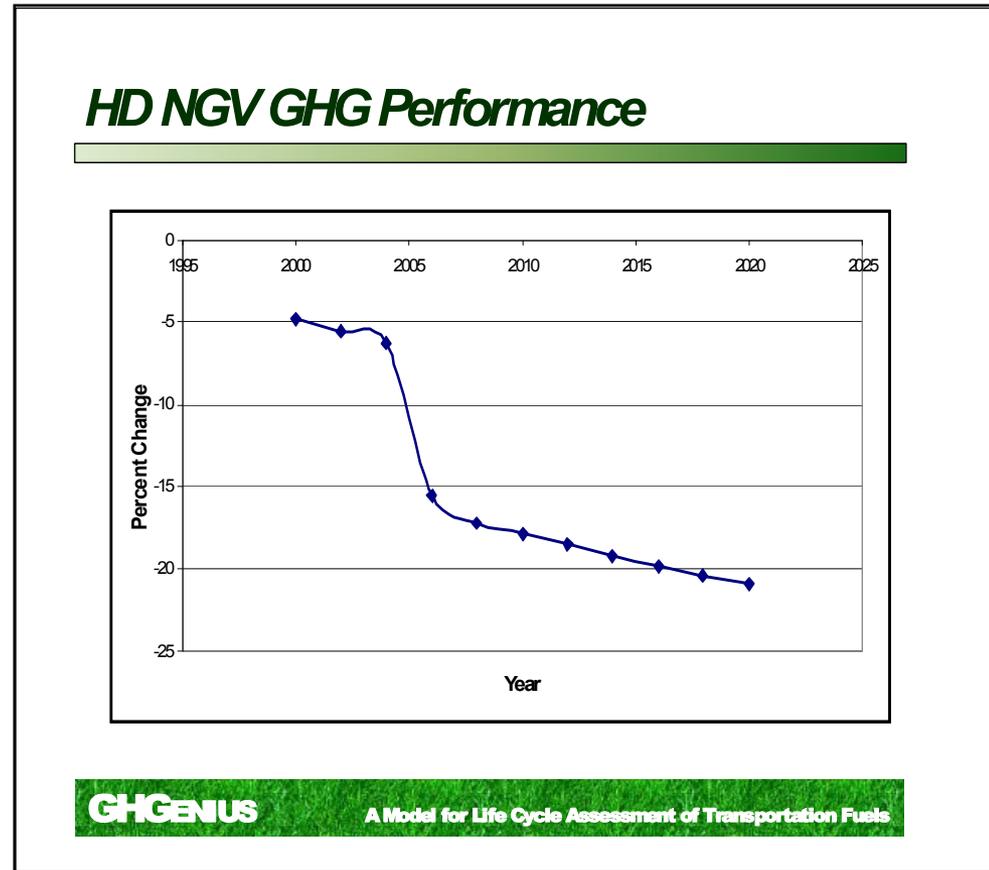
# ISL G & 2010 Regulated Emissions In-Use Results (equipment loaded on bus)

- Sensors Inc tested Sacramento Bus
- Used EPA in-use test procedure
  - Tests full load and speed combinations
  - Followed bus on city and highway routes
- Sensors Inc concluded that emissions were significantly lower than the 2010 EPA Heavy Duty emissions regulations



# Up to 20% Lower Greenhouse Gas Emissions

- As natural gas fuel economy improves, CO<sub>2</sub> emissions are reduced
- CH<sub>4</sub> emissions, adjusted to consider GHG impact are less than 10% of total GHG emissions.
- Well to Wheel analysis with GHGenius modeling tool predicts up to 20% WTW GHG emissions for natural gas vs. diesel.
- Using landfill gas or anaerobic gas as a biomethane fuel increases GHG difference to ~90%.
- Cummins Westport approves the use of biomethane that meets fuel specifications.



Source: Presentation to AFVI convention by Don O'Conner (S&T)2 Consultants May '08



# Biomethane Profile: Hilarides Dairy - Lindsay, California

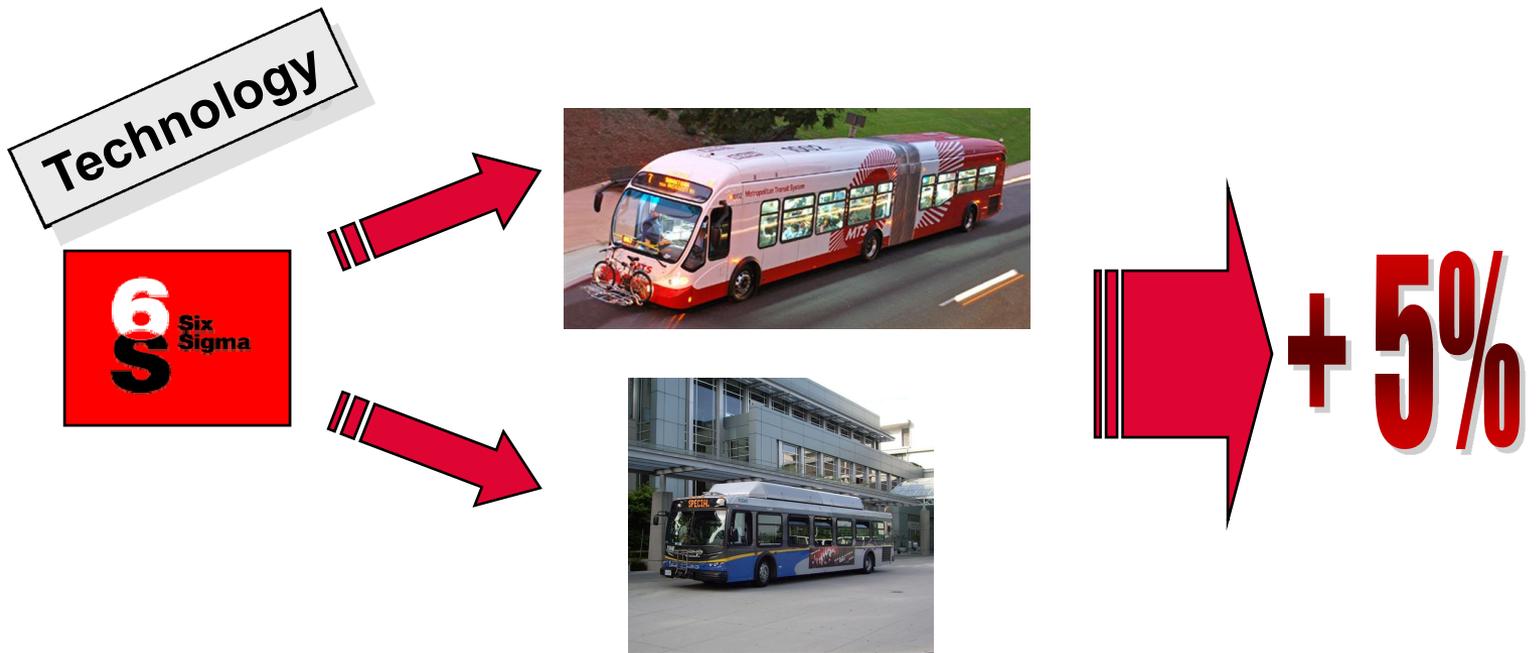
- Hilarides Dairy uses manure produced by 10,000 cows to generate 226,000 cubic feet of biomethane daily — enough to reduce the Central Valley farm's diesel fuel consumption by 650 gallons a day
- Two 18 wheel tractor trailers powered by ISL G 320 operating on compressed biomethane
- Project financed with a \$600,000 grant from the California Air Resources Board Alternative Fuel Incentive Program.



**Westport**

# Improved Fuel Economy

- 6 Sigma project measured percent fuel economy improvement between ISL G and C Gas Plus products at Orange County Transit Authority (OCTA)
- Demonstrated +5% improvement with measurement method agreed upon by Customer Focused Six Sigma (CFSS) team including customer
- In-use OCTA ISL G fleet data supports project findings



# 2010 Natural Gas Engine



# 2010 ISL G Natural Gas

## ISL G



### Aftertreatment:

Three Way Catalyst

### Benefits

- Passive device
- Maintenance Free

### Combustion:

Stoichiometric Cooled EGR

### Benefits

- 30% more torque at idle
- 5% Better Fuel Economy

# Warranty - Every Coverage

- *Base Warranty for Bus/Shuttle, School Bus and Truck are the same as diesel*
- *Extended Coverage options are available for Truck and Bus Customers*
  - *5 yr 200,000 mile or 300,000 mile - Transit*
  - *4 yr / 5 yr 150,000 mile Vocational -Truck*
  - *4yr / 5 yr 150,000 mile Turbocharger -Truck*
  - *6 yr, 300,000 mile Major Component – All applications*
- *All warranty programs administered per Cummins Standard Policies*



**estport**

# Natural Gas Applications

TRUCK



SPECIALTY



BUS

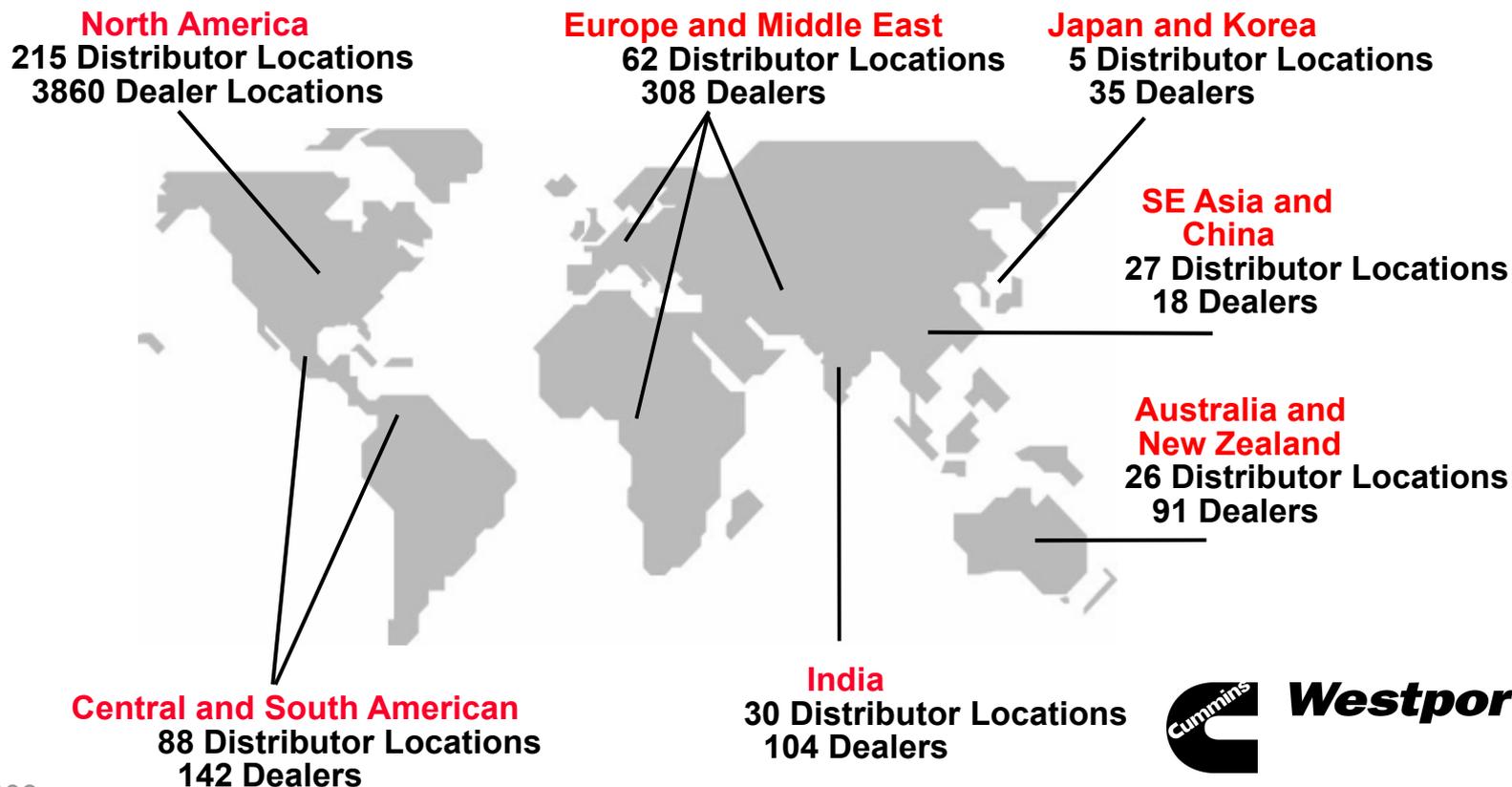


REFUSE



# CWI Natural Gas Engines Work Supported under same structure as Cummins Diesel

- Cummins has the largest network of service providers in North America, with 50 percent more locations than the nearest competitor
- Local service and support for CWI Products is available at any authorized Cummins facility





# Cummins Westport Inc.

September, 2009

Explore Every Alternative.

