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# Questar's Natural Gas Vehicle Program

April 19, 2011



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**QUESTAR**<sup>®</sup>

# Motivators

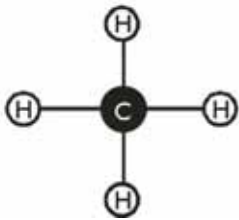
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- Domestic Fuel, locally produced
- Renewable Fuel
- Reduces Foreign Dependency
- **Cleanest Fuel on Earth – Well to Wheel !**

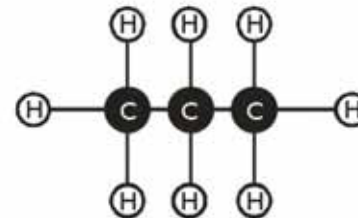
# Molecular Structures of Fuel

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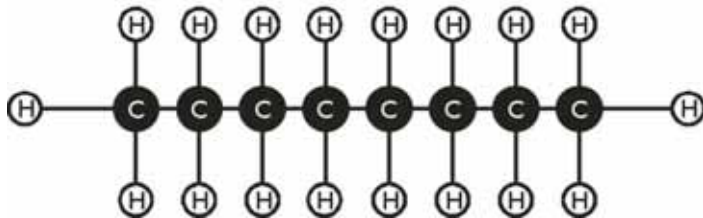
**Methane CH<sub>4</sub>**



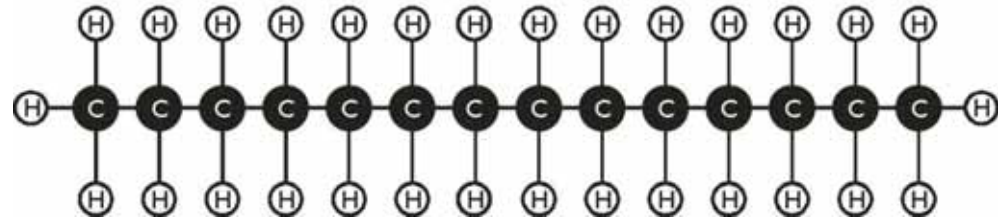
**Propane (LPG) C<sub>3</sub> H<sub>8</sub>**



**Gasoline C<sub>8</sub> H<sub>18</sub>**



**Diesel C<sub>14</sub> H<sub>30</sub>**



# Fuel Life Cycle Emissions

## Natural Gas Provides a Cleaner Solution

Comparison of GHG (gCO<sub>2</sub>e/MJ grams of Carbon Dioxide equivalent per megajoule)



	Extraction / Farming	Processing	Distribution	Production	Transport / Distribution	Vehicle Combustion	Total Life Cycle
Landfill Gas (RNG)	0.0	0.0	0.0	-44.9	4.0	57.3	<b>16.4</b>
Biodiesel	20.8	0.0	0.0	2.3	1.5	0.8	<b>25.4</b>
Natural Gas (CNG)	3.5	3.7	1.0	2.1	0.6	57.7	<b>68.6</b>
Natural Gas (LNG)	3.5	3.7	1.0	15.8	0.5	58.5	<b>83.1</b>
Corn Ethanol	5.8	31.4	2.3	48.8	2.6	-	<b>90.9</b>
Gasoline	6.9	13.8	1.1	-	0.4	72.9	<b>95.0</b>
Diesel	8.8	10.3	1.1	-	0.2	74.9	<b>95.3</b>
Electric	-	-	-	124.1	-	-	<b>124.1</b>



Source: California Air Resources Board (California Well to Wheel Analysis), 2008

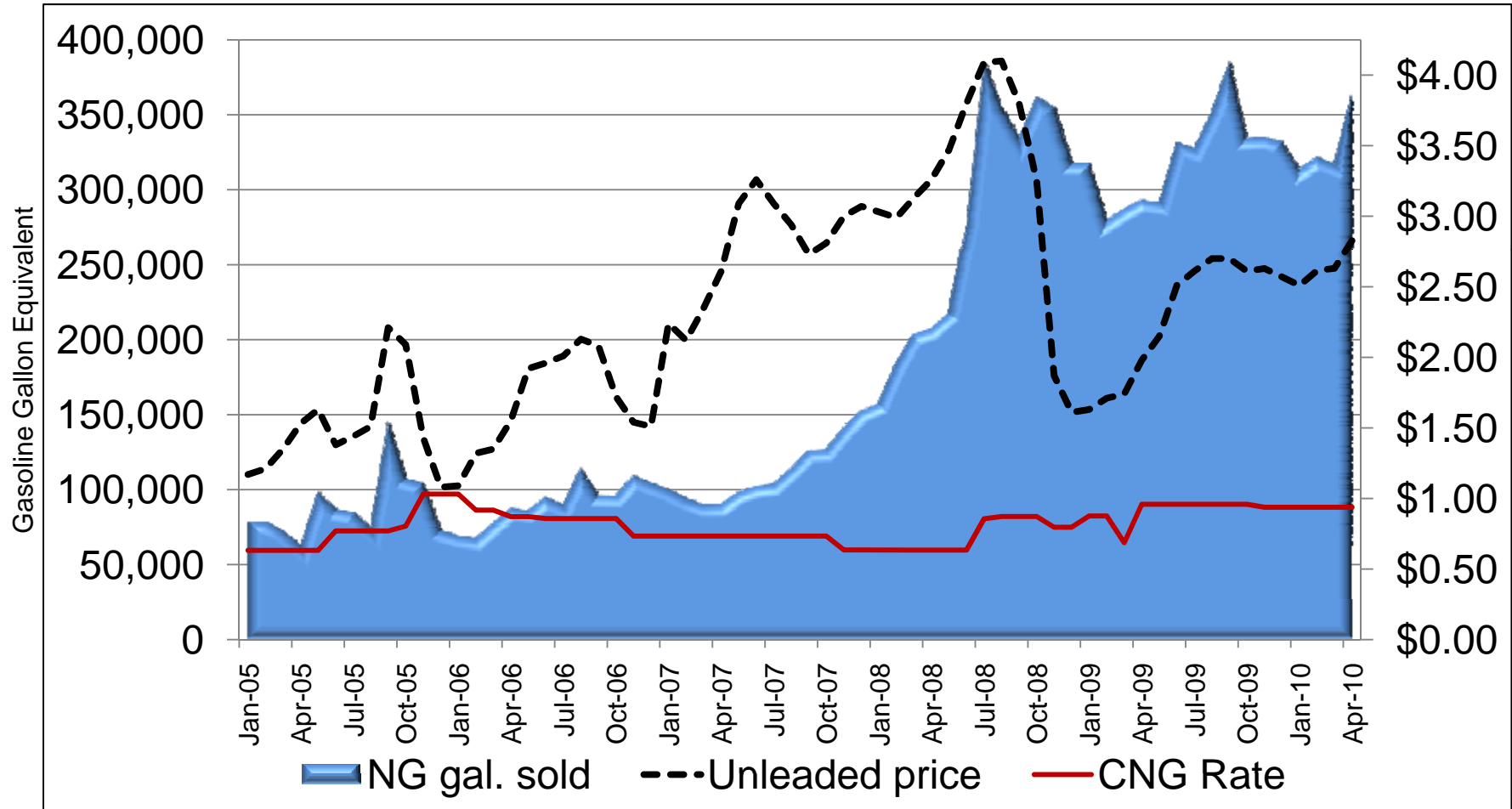
# CNG Pricing Over Time

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- At inception, 1<sup>st</sup> Tariff, \$0.617<sup>3</sup>/gge
- Lowest historical price \$0.58 /gge
- June 1, 2010 price \$0.96 /gge
- October 1, 2010 price \$1.53 /gge
- January 1, 2011 price \$1.1.29 gge
- April 1, 2011 price \$1.272 gge



# Utah CNG Demand



# Utah CNG Stations

- 1989 – Sandy & Salt Lake City (DNR)
- 1990 – Orem
- 1991 – Murray, Ogden, Salt Lake City Tesoro
- 1992 – Cedar City, Fillmore, St. George
- 1993 – School Bus Refueling Logan
- 1994 – Clearfield & Richfield
- 1995 – Park City, Price & Springville
- 2000 – Salt Lake Airport
- 2001 – West Jordan
- 2007 – Bountiful/Woods Cross, Brigham City
- 2009 – Upgrade the System
- 2010 – Hurricane, Vernal, Scipio & St. George
- 2011 – Further expansion to Heber, Lakepointe, Silver Creek, and two additional stations

**NGV Station Map**



# *Government Support*

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- Federal Tax Incentives, including the DOE Clean Cities Grants for Stations
- Clean Vehicle Utah State Tax Credit
- Governor Clean Corridor Support
- HOV Lanes



# NEW FEDERAL TAX INCENTIVES FURTHER IMPROVE NGV'S LIFE-CYCLE COST ADVANTAGE

## Vehicle Tax Credit

Dedicated alternative fueled vehicles placed in service after December 31, 2005 qualify for up to 80% of the incremental cost. Credit value is on sliding scale based on vehicle weight.

- Light-Duty vehicles up to 8,500 lbs can qualify for up to \$4,000;
- Medium-Duty vehicles up to 14,000 lbs qualify up to \$8,000;
- Medium-Heavy-Duty vehicles up to 26,000 lbs qualify for up to \$20,000;
- Heavy-Duty vehicles over 26,000 lbs qualify for up to \$32,000.

Seller of vehicle can take credit if buyer is a tax exempt entity

- Tax exempt entities can negotiate with seller to capture value of tax credit
- This provision allows cities, municipalities and special district fleets like schools and other jurisdictional authorities to take advantage of incentives

## Federal Motor Fuels Excise Tax Credit

New provision provides \$.50 excise tax credit per gallon of Liquefied Natural Gas (LNG) or gasoline-gallon-equivalent of Compressed Natural Gas (CNG), payable to the seller, or if no sale occurs before use (e.g. fleet operates its own station), user can take credit.

- Credit took effect October 1, 2006
- Full credit will be paid in form of "rebate" regardless of amount of excise tax paid.
- Entities that operate their own stations get full credit as users of fuel before sale. Those who purchase from fuel provider will benefit from lower fuel costs from seller.
- New measure increases CNG and LPG motor fuels excise tax to same as gasoline (\$.183) and LNG tax to same as diesel (\$.243), which offsets some benefit of the tax credit for tax paying entities.

## Alternative Fueling Station Credit

Federal tax credit equal to 50% of refueling equipment placed into service that year, with maximum \$50,000 credit per year.

- Credit is in effect on equipment placed into service after December 31, 2005.
- The existing \$100,000 tax deduction for refueling equipment is repealed
- Measure also provides \$2,000 tax credit for home natural gas vehicle refueling appliance.

# Vehicles



# Who Offers NGV's?

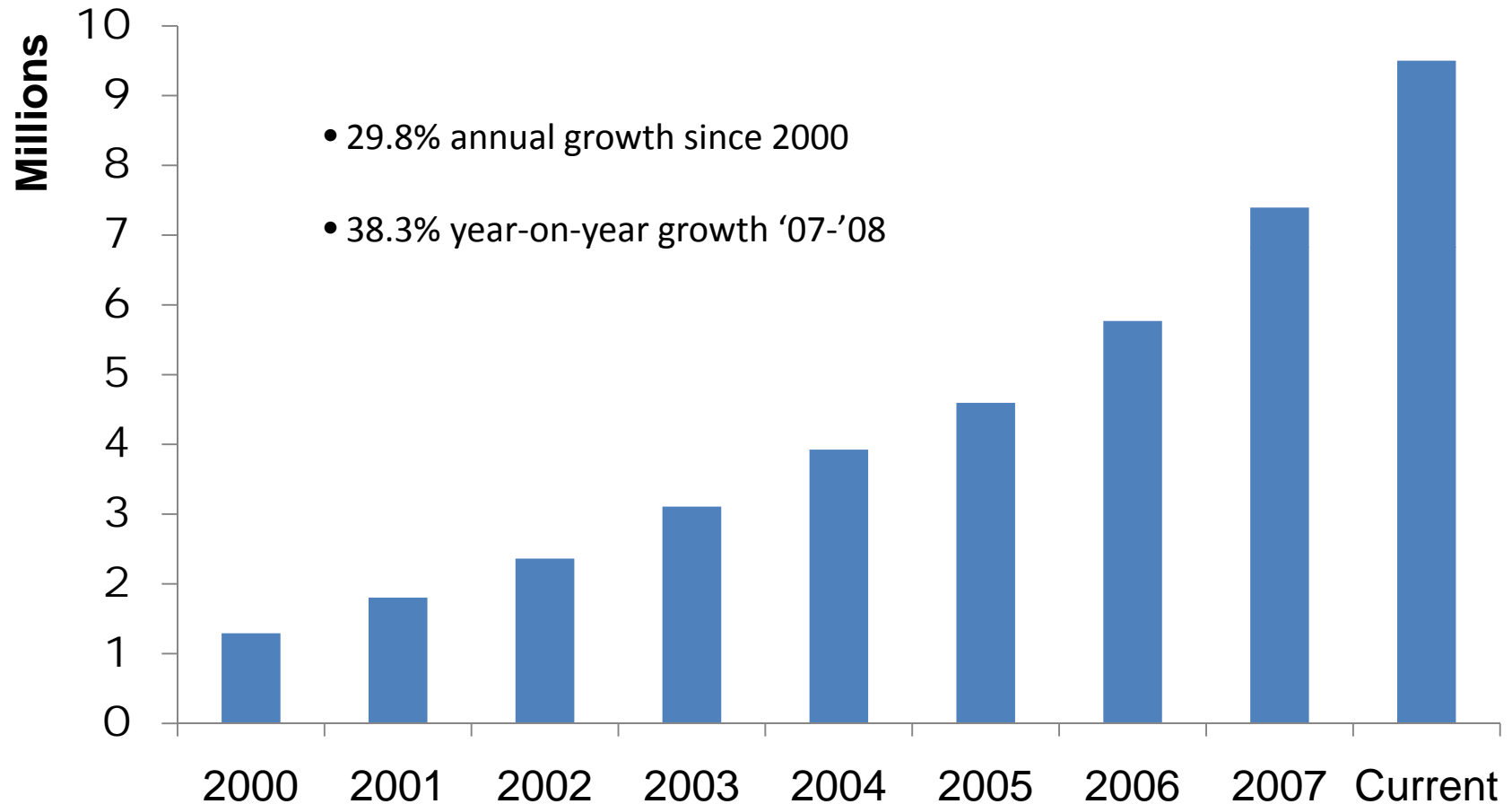
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Mercedes-Benz



# Worldwide NGV growth



# The U.S. should join the world in using existing NGV technology

	<u>NGVs '02</u>	<u>NGVs '09</u>	<u>Stations '03</u>	<u>Stations '09</u>
Pakistan	320,000	2,000,000	200	2,600
Argentina	780,000	1,746,000	1000	1,801
Brazil	353,000	1,588,000	535	1,688
Iran	800	1,000,000	*	764
India	84,000	650,000	116	325
Italy	370,000	580,000	490	700
China	36,000	400,000	270	1,260
<b>United States</b>	<b>116,000</b>	<b>110,000</b>	<b>*</b>	<b>1,150</b>
<b>Worldwide</b>	<b>2,362,000</b>	<b>9,612,000</b>	<b>6,455</b>	<b>10,238</b>



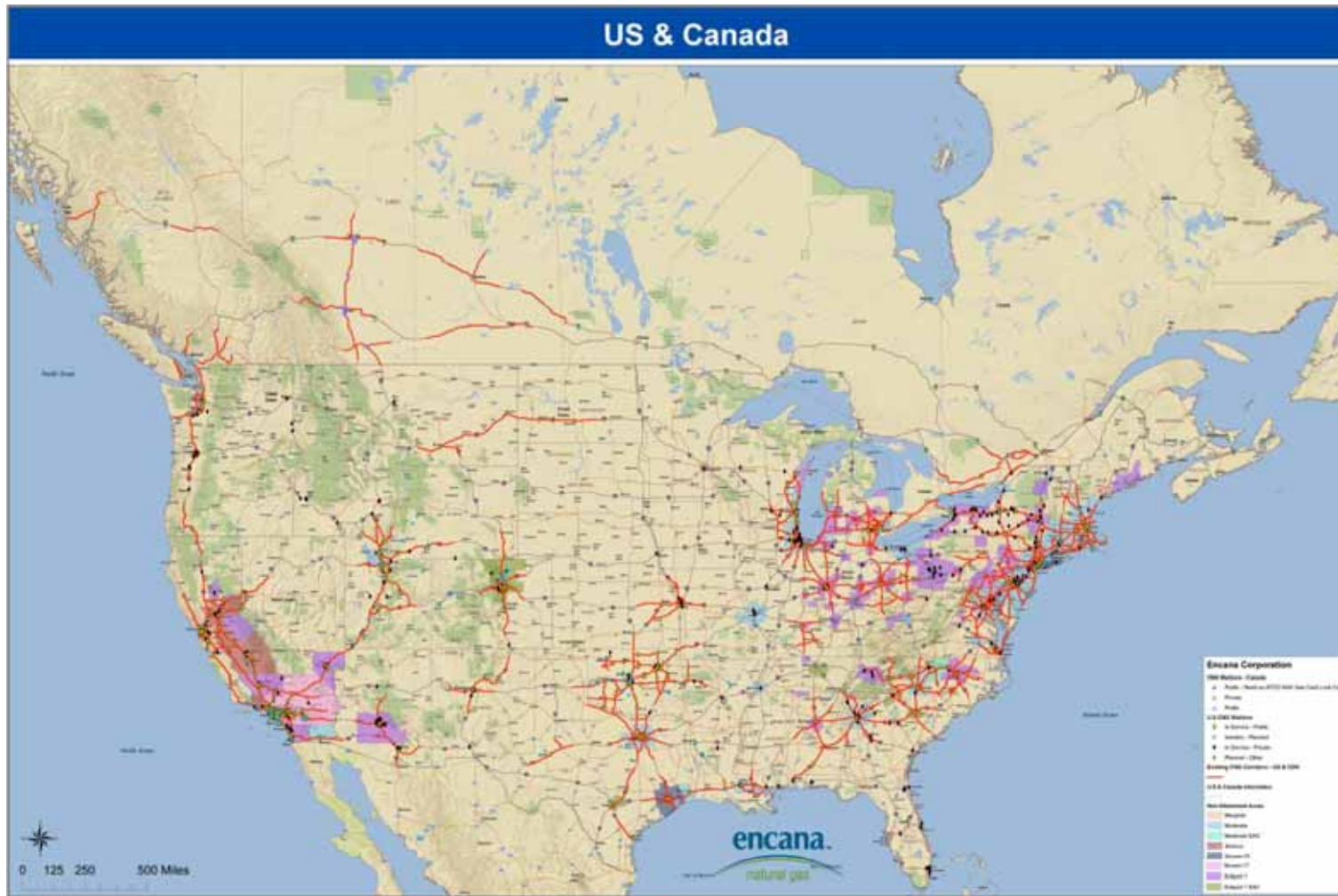
Sources: IANGV, NGVAmerica

## *What will happen in 2011?*

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- Stimulus Funding Along with Favorable Natural Gas Prices*
- Municipal, Transit and Waste Fleets Will Continue to Grow*
- Infrastructure Will Expand*
- Project Development from the Clean Cities Grants*
- Expanded OEM Options Including Conversions*
- Continued Strong Collaboration with LDC's and Producers*
- NATGAS Act 2 (H.R. 1180)*

# North America



**QUESTAR**<sup>®</sup>

EnCana Corporation

# *Questions ?*

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