

# The Natural Gas School Bus Market: New Federal Incentives and Their Impact on Purchase and Operating Costs

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# Energy and Highway Bills

- “Domenici Barton Energy Policy Act of 2005”  
 (“Energy Bill”)
- “The Transportation Equity Act: A Legacy for Users”  
 (“Highway Bill”)
- Both signed into law last August

# Key School Bus-related Provisions

- “Three-Legged Stool”
  - Bus Purchase Tax Credit
  - Fuel Use Tax Credit
  - Fuel Station Tax Credit
- Clean School Bus Program

# Bus Purchase Tax Incentive (Energy Bill)

- A Tax Credit to the buyer of a new, dedicated alternative fuel vehicle:
  - 50 percent of the incremental cost of the vehicle
  - plus an additional 30 percent if the vehicle meets certain tighter emission standards.
  - Tax credit goes to the seller if the buyer is a non-tax paying entity

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# Bus Purchase Tax Incentive (Energy Bill)

- Credits range from \$2,500 to \$32,000 depending on the size of the vehicle
  - \$2,500-\$4,000: Under 8,500 lbs.
  - \$5,000-\$8,000: 8,500-14,000 lbs.
  - \$12,500-\$20,000: 14,000-26,000 lbs.
  - \$20,000-\$32,000: Over 26,000 lbs.
- Credits apply to retrofits and repowers
- Credit is effective for vehicles placed in service after 12/31/05 and expires on 12/31/10

# Fuels Use Tax Incentive (Highway Bill)

- A 50 cent motor fuels excise tax credit is paid to the seller:
  - Per gasoline-gallon-equivalent (GGE) of CNG
  - Per liquid gallon of LNG
- Begins on October 1, 2006 (delayed for budget reasons)
  - Expires on September 30, 2009
- The credit will be paid to eligible recipients on a regular basis without regard to the amount of excise tax paid.  
(including tax exempts)

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# Fuels Use Tax Incentive (Highway Bill)

- The value of the excise tax credit is *offset* by an increase in the motor fuels excise tax rate for both CNG and LNG.
  - CNG is increased from 6 cents per GGE to 18.3 cents
  - LNG is increased from 11.9 cents per LNG gallon to 24.3 cents

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# Fuel Use Tax Incentive (Highway Bill)

- Compared to the current situation, the net benefit will be:
  - For CNG: 37.7 cents per GGE
  - For LNG: 63.6 cents per DGE

# Fuel Station Tax Incentive (Energy Bill)

- A Tax Credit Equal to 30% of the cost of alt fuel refueling equipment
  - Up to \$30,000 in the case of large stations
  - Up to \$1,000 for home refueling appliances
  - The existing \$100,000 tax deduction for refueling property is repealed
  - The credit is effective on equipment placed in service after December 31, 2005 and expires on December 31, 2009

# Clean School Bus Program (Highway Bill)

- Establishes a program to provide grants to school districts and related organizations for the replacement, repower or retrofit of school buses, and to provide alt fuel.

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# Clean School Bus Program (Highway Bill)

- Clean School Bus Program Funding Criteria:
  - 50% of the cost of the new bus if the engine emissions
    - For MY2007, 2008 and 2009 meet:
      - 0.2 NO<sub>x</sub> and 0.01 PM (the 2010 EPA emission standards)

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# Clean School Bus Program (Highway Bill)

- Clean School Bus Program Funding Criteria:
  - 25% of the cost if the engine emissions:
    - For MY2007, 2008 and 2009, “regulatory requirements” by EPA.
      - Assumed to be 1.2 grams NO<sub>x</sub> and 0.01 PM..

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# Clean School Bus Program (Highway Bill)

- No state can receive more than 10 percent of the monies made available each year.
- Authorization:
  - \$55 million for FY2006 and 2007
  - “such sums as are necessary” for fiscal years 2008-2010.

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# Clean School Bus Program (Highway Bill)

- Total FY 2006 appropriation was \$7 million
- For FY2007, Congress lumped Clean School Bus appropriations with three other programs under the Diesel Energy Reduction Act (DERA)
- For FY2007:
  - Total authorization for four programs was \$320 million
  - Administration requested \$50 million
  - House subcommittee approved \$23 million

# Natural Gas School Bus Incentives

- Federal income tax purchase credit:
  - Up to \$32,000 to vehicle seller
- Federal excise tax fuel use credit
  - 50¢ per GGE to seller or user
- EPA clean school bus (USA) grant
  - Up to 50 percent of cost of bus

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# Natural Gas School Bus Incentives

- DOT Congestion Mitigation & Air Quality grant
  - Up to 80 percent of cost of bus
- DOE Clean Cities SEP grant
  - Up to 50 percent of the cost of the bus
- EPA SEP/Penalty Fund project
- EPA Diesel Emission Reduction grant

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# Natural Gas School Bus Incentives

- State/Regional grants, e.g.:
  - California AQMD grants
  - Texas Emission Reduction Program grant
  - NY State Clean Water / Clean Air Bond grant
    - 60% of incremental up to \$5K (vehicles <14,000#)
    - 60% of incremental up to \$10K (vehicles >14,000#)
- Private Sector grants

# Illustration # 1- contractor

	Diesel	CNG
Purchase Price Quote:	\$ 100,000	\$ 140,000
Allowable Fed. Vehicle Tax Credit:	\$ -	\$ 32,000
Allowable NY State Tax Credit:	\$ -	\$ 10,000
Net Premium (After tax credits):	\$ -	\$ (2,000)
Yearly Mileage:	18,000	18,000
Fuel Cost (after 10/06 Excise Tax Credit):	\$ 2.85	\$ 2.50
Gallons Fuel/Year @ 6.25mpg:	2,880	2,880
Yearly Fuel Cost:	\$ 8,208	\$ 7,200
Yearly Fuel Savings:	\$ -	\$ 1,008
Simple Payback (yrs)		n/a
Net fuel savings after payback (assuming 13 yr life):		\$ 15,104

# Illustration # 2- district

	<b>Diesel</b>	<b>CNG</b>
Purchase Price Quote:	\$ 100,000	\$ 140,000
Allowable Fed. Vehicle Tax Credit:	\$ -	\$ 32,000
GLICCC CMAQ Grant :	\$ -	\$ 6,400
Net Premium (After tax credits):	\$ -	\$ 1,600
Yearly Mileage:	18,000	18,000
Fuel Cost (after 10/06 Excise Tax Credit):	\$ 2.45	\$ 2.10
Gallons Fuel/Year @ 6.25mpg:	2,880	2,880
Yearly Fuel Cost:	\$ 7,056	\$ 6,048
Yearly Fuel Savings:	\$ -	\$ 1,008
Simple Payback (yrs)		1.6
Net fuel savings after payback (assuming 13 yr life):		\$ 11,491

# Illustration # 3 - contractor/district

	<b>Diesel</b>	<b>CNG</b>
Purchase Price Quote:	\$ 100,000	\$ 140,000
Bus cost after Clean School Bus grant:	\$ 75,000	\$ 70,000
First-Cost Premium:	\$ 5,000	\$ -
Yearly Mileage:	18,000	18,000
Fuel Cost after 10/1/06 Excise Tax Credit:	\$ 2.85	\$ 2.50
Gallons Fuel/Year @ 6.25mpg:	2,880	2,880
Yearly Fuel Cost:	\$ 8,208	\$ 7,200
Yearly Fuel Savings:	\$ -	\$ 1,008
Simple Payback (yrs)		n/a
Net purchase and fuel savings (assuming 13 yr life):		\$ 18,104

# Illustration # 4

		CNG
Retrofit Price Quote on 5yr-old vehicle	\$	47,000
Federal Vehicle Tax Credit:	\$	32,000
NY State Tax credit:	\$	10,000
First-Cost Premium after credits:	\$	5,000
Yearly Mileage:		18,000
Fuel Cost after 10/1/06 Excise Tax Credit:	\$ 2.85	\$ 2.50
Gallons Fuel/Year @ 6.25mpg:	2,880	2,880
Yearly Fuel Cost:	\$ 8,208	\$ 7,200
Yearly Fuel Savings:	\$ -	\$ 1,008
Simple Payback (yrs)		4.9
Net fuel savings (assuming 13 yr total life):		\$ 3,125

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## Resources

Analysis of Federal Incentives on Bus Purchase & Op Costs

*School Transportation News* -16-pg. section (01/06)

*ASBO Int'l School Business Official* (9/06)

STN Conference & Exposition - Reno, NV 7/22-25/06

ASBO Int'l Conference & Exposition - Pittsburgh, PA 10/13-16/06

ASBO Int'l Web Cast - September 2006