

Advancing the Choice Fleet Seminar

- **Alternative Fueled Vehicles**
- **Compressed Natural Gas (CNG)**
- **American Honda's 2006 Offering**
- **Presented by:**

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- **Homeland Energy Resources
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- **June 15, 2006**
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HIERARCHY OF HONDA ENERGY CHOICES

Benefits to Society



Good

Clean gasoline

- § Ultra Low emissions
- § Gasoline will be the dominant “clean” fuel for the long term



Better

Gasoline-Electric Hybrids

- § Near zero emissions
- § Higher MPG
- § Decreased petroleum use
- § Reduced fuel cost
- § Innovative proven technology
- § Fueled with gasoline



Best

Natural Gas Vehicle

- § Near zero emissions
- § 100% domestic fuel
- § Replaces Petroleum
- § Proven technology
- § 25% less CO2
- § Home refueling
- § Best alternative fuel for many decades
- § Path to H2



Ultimate

Hydrogen Fuel Cell

- § Zero emissions
- § Cleanest fuel, derived from natural gas or renewable energy
- § Replaces petroleum
- § Potential for home refueling
- § Uses existing natural gas infrastructure

No new Infra ← → New Infra





Hybrid Solutions

(Near-Zero Emissions + High Fuel Economy)



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CNG Civic GX

“Cleanest on Earth”



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CNG Infrastructure - NYS



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Home Refueling: Phill



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CNG Vehicles

Best Light Duty Solution



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2006 GX-Increased Size!



New Interior!



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FlexFuel Vehicles



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E-85 Infrastructure/Challenges

- **Stations: Easy, low cost addition**
- **85% Displacement of Petroleum**
- **Lower Energy Content**
- **Higher price; BUT Incentives help**
- **Short-Term Supply Issues**
- **Need to support research, local production**

Biodiesel Facts

- **Easiest Way to Implement for Medium/Heavy Duty**
- **B5 – B20 Blends Work Best in CNY**
- **Renewable Component: Soy/Corn**
- **Minor Modifications to Existing Equipment**
- **Available on NYS Contract**
- **Soon to be available as NYS Based Fuel**

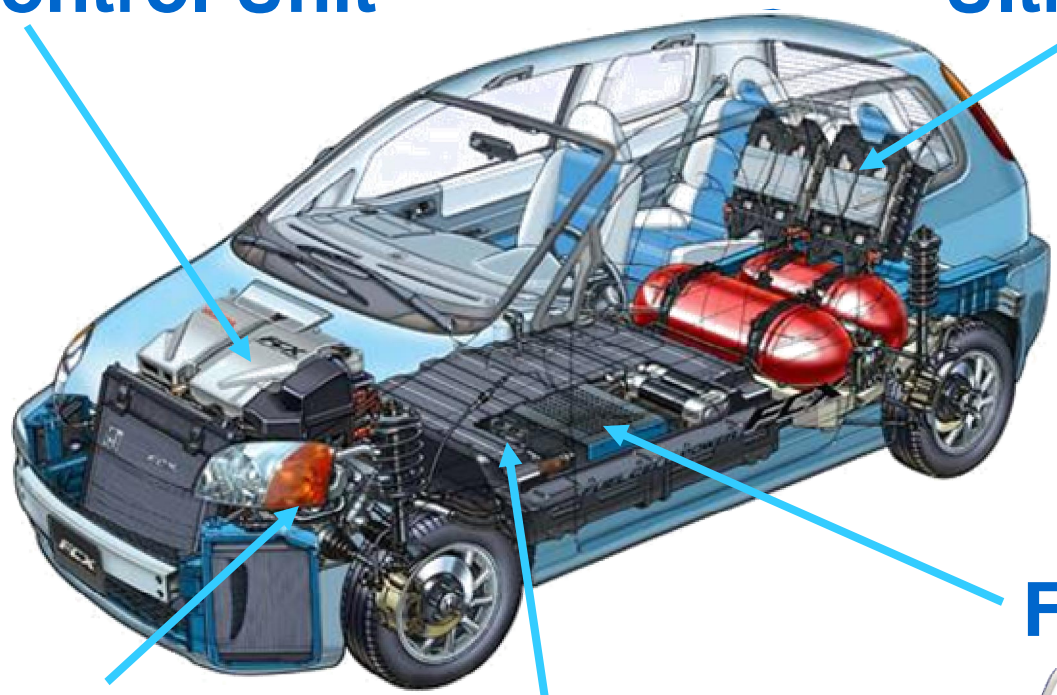
Biodiesel Challenges

- **Easy to add infrastructure**
- **B2, B5, B20 – B100**
- **Weather Issues**
- **Supply Issues**
- **Cost Issues**
- **Overall Positive; Displacement of Petroleum**

Technology Advancements for the Latest NYS FCX

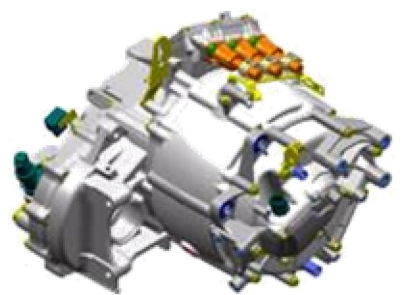
Power Control Unit

Ultra Capacitor



Traction Motor

FC Stack



FC Sub system



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NYS Demonstration – FCX V4



FCX 5.0/HES-3.0 Home Refueling



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NYS Hydrogen Refueling



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Fuel Cell Challenges

- **Cost!**
- **Infrastructure**
- **Sources of Hydrogen:
Green/Brown**
- **OnBoard Storage**
- **Public Perception**

Federal/State Incentives

- **2005 Energy and Highway Bills**
- **Vehicle Tax Credits ; Pass-Through**
- **Infrastructure Credits/Incentives;
State, Federal**
- **Fuel Credits/Incentives; State,
Federal**
- **Need to take this seriously!**

Drive Into the Future!

*Support of Alternative Fuels
Is “The Pathway to Hydrogen”*



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The power of dreams.™