



**A Clean Air Initiative
for the Conn. Clean Diesel Forum
CityHome™/O₂Diesel™ Project
August 17, 2005**

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**TODAY'S CLEAN AIR SOLUTION
TOMORROW'S BRIGHTER FUTURE**



O₂
DIESEL

“Our most basic common link is that we all inhabit this small planet, we all breathe the same air, we all cherish our children’s future and we are all mortals.”

John F. Kennedy

**TODAY'S CLEAN AIR SOLUTION
TOMORROW'S BRIGHTER FUTURE**

Meeting Objectives



- Understanding Connecticut's new environmental & transportation mission statement (Special Act 05-07).
- Presenting the O₂Diesel™ clean diesel technology option for urban, centrally-fueled fleets.
- Proposing the “CityHome™” marketing program: A new concept to offset incremental clean fuel costs.
- Contributing to a positive urban bus and other diesel fleet transportation image.
- Discussing potential next steps.

What is O₂Diesel™?



A Patented Clean Diesel Fuel Technology

- ~ 92.0vol% Diesel fuel (No.1, No.2, ULSD, etc.),
- ~ 7.7vol% Fuel grade ethanol (ASTM D 4806), and
- up to 1.0vol% O2D05 (renewable, ag-based, biomass-derived proprietary bonding agent).
- Optimized formulation balances emissions benefits with product economics and operational efficiency.
- Delivers stable solution of fuel ethanol and diesel.

Who is O2Diesel, Inc.?



- Six years in business in the U.K. & U.S. -- US\$20 million invested in fuel additive product R&D.
- Pioneer in cleaner-burning diesel fuel technology.
- American Stock Exchange symbol : *OTD*.
- U.S. commercial sales commenced Q2 2004.
- >US\$8 million to date in federal & state tech support.
- New private investment in the company (2005).

O₂Diesel™ Benefits:



**Nevada Ready Mix
Fleet Demonstration**

**RFA National Ethanol
Conference:**

February, 2000

MGM Grand Hotel

Las Vegas, Nevada



O₂Diesel™ Benefits:



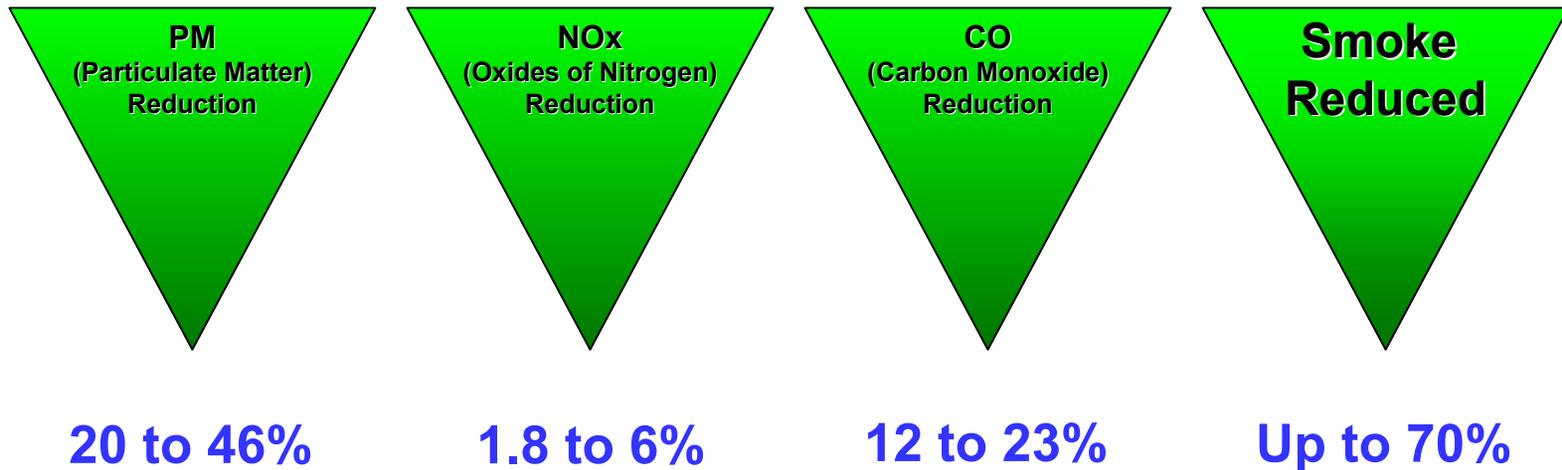
**Pepsi Cola Delivery
Fleet Operations –
December, 2002
Mount Vernon, New
York**



O₂Diesel™ Emissions Benefits:



... Relative to EPA-Certified No.2 Diesel



Data summarized from over 180 laboratory engine, road, and field smoke tests
Engine Test Data: Colorado School of Mines, Env. Canada, CE-CERT & SwRI (Nov. '99 – Sept. '03)

O₂Diesel™ Emissions Benefits:



John Deere E Diesel Emissions Testing (3 engines)

Engine Type & Displacement	6068H 6 cyl., 6.8L	6081H 6 cyl. 8.1L	6125H 6 cyl., 12.5L
Visible Smoke	-11% to -58%	-39% to -61%	-32% to -58%
Particulate Matter (PM)	-4% to -22%	-16% to -30%	-13% to -19%
Carbon Monoxide (CO)	+3% to +24%	-6% to -14%	-15%
Hydrocarbons & NOx	-7% to -9%	+1 to +2%	-4%

Source: SwRI & John Deere Co. – NREL Report No. NREL/SR-540-36400 (August, 2004)

Comparison of Diesel Fuel Options



Characteristic	O₂Diesel™ 7.7vol% Ethanol in No.2 Low Sulfur (or other) Diesel + OTD05 additive	Ultra Low Sulfur Diesel (ULSD) <15 ppm sulfur	PuriNOx™ 20vol% water + 5vol% additive + 75%vol% No. 2 Low Sulfur Diesel	Biodiesel (B20) 20vol% biodiesel + 80vol% No.2 Low Sulfur Diesel
Greenhouse Gas Emissions	Reduces CO ₂ emissions up to 7% (greater if ethanol is biomass-derived) ³	100% Fossil Fuel	Undetermined	Reduces CO ₂ emissions by about 10%.
Emissions⁴	NOx reduced 2 - 6% PM reduced 20 - 46% CO reduced 12 - 23%	NOx unchanged PM reduced 8% CO unchanged	NOx reduced 5-20% PM reduced 20-50% CO reduction?	NOx increased 2 - 4% PM reduced 18% CO reduced 13%
Vehicle or Infrastructure Changes Required	MINIMAL Emission benefits are immediate. Blended at most terminals	YES ULSD offers limited benefits in equipment not equipped or retrofitted with exhaust after treatment	YES Complex fuel blending system required at terminals and on-site	MINIMAL Terminal blending possible, where fuel is available
Incremental Fuel Cost (per gallon above No.2 diesel)	\$0.20	\$0.05 - \$0.20	\$0.25 - \$0.35	\$0.30++
Fuel Availability	Worldwide Availability through existing fuel distribution system	Quite limited at present- ULSD required starting 2006 - 07	Very Limited	Somewhat Limited ⁶
CARB – Verified Alternative Diesel	YES	N/A	YES	NO

Why use O₂Diesel™?



- Scientifically-proven, CARB-verified “alternative diesel fuel” (2003) & Nevada-designated “alternative fuel” (2004).
- Testing underway to achieve California “DECS” (for PM) and Texas “TxLED” (for NOx) verification status (2005).
- Technology available immediately, everywhere.
- Immediate & visible fleet benefits, including increased stability, anti-corrosive properties, and lubricity.
- No engine retrofits required.

Why use O₂Diesel™? (cont.)



- No significant infrastructure requirements or equipment changes.
- Available using all diesel (ASTM D 975) blendstocks, including ULSD and/or CARB diesel.
- Certified technician training for management, mechanics, and operations staff.
- O₂Diesel, Inc. provides 24/7 fleet customer support.

O₂Diesel™ responds to an immediate call for action

O₂Diesel™ Real World Usage



- **Las Vegas, NV** - Construction fleets (2000 – 2001); urban bus fleet (2003 – 04). Nellis Air Force Base, non-tactical equipment (current).
- **Ports of Los Angeles & Long Beach, CA** – container operations.
- **Fresno, CA** -- FAX urban transit fleet.
- **Lincoln, NE** – StarTran urban bus fleet (Feb., 2005 - current).
- **Winnipeg, Canada** – Urban bus fleet (2002 – 03).
- **Houston, TX** – Freight transport company (October, 2002 – current).
- **San Antonio, TX** – H.B. Zachry Construction (2003 & pending).
- **New York, NY** – Pepsi, Canada Dry, urban delivery fleets, refrigeration trailers, school buses (2001 – 04).
- **Johnson County, KS** (Feb., 2005 - current).
- **Three other Midwest bus fleets** pending (NE, IA, IL) – more to come!

How Cities Can Use O₂Diesel™



Unique Concept: CityHome™

- A **self-funding** model for cities, public/private transportation agencies & corporate partnerships.
- A **contemporary** way to maximize an environmental program from which citizens, government and corporate sponsors all benefit.
- Allows for qualitative and quantitative **monitoring** of the economic results & health benefits of using a cleaner diesel fuel (O₂Diesel™).

The *CityHome*[™] Formula



Bringing the Marketing Dollar to the Table:

- ***CityHome*[™]** will underwrite the fuel cost differential (can range up to \$0.15 per gallon).
- Municipalities provide some excess inventory of advertising space to the ***CityHome*[™]** campaign.
- ***CityHome*[™]** provides the regional, national and global sponsorship dollars for the campaign.
- ***CityHome*[™]** concept designed by J-P Libert, independent consultant to O2Diesel, Inc.

CityHome™ Implementation



- Review of current local environmental programs like Special Act 05-07 in Connecticut for potential integration synergies.
- Municipal approval of the **CityHome™** plan.
 - **Recommendation:** *Within 30 days, initiate an O₂Diesel™ test program (15% of the fleet to start).*
- Roll-out from test to full-fleet implementation, estimated at 4 months from test approval date.

Bus Advertising Examples

O₂
DIESEL



Other Advertising Examples

O₂
DIESEL

FINANCIAL TIMES
WEDNESDAY, MARCH 9, 2005

Welfowitz pledge Controversial World Bank nominee vows EU
AIG \$1.6bn accounting
Strong demand propels companies 13.5% to a r

When you see a bus like this just smile, wave and breathe a little easier.

- CityHome is the nation's first clean air initiative among a partnership of environmentally-conscious companies, municipal transit authorities and O2Diesel Corporation to bring clean air back to our cities.
- CityHome also lets our corporate partners send a crystal clear message that they care about the air in their communities, and are moving swiftly to clean things up.
- At this very moment, transit buses in the CityHome programs are running cleaner than ever on O2Diesel™, an ethanol diesel fuel blend that produces less emissions and black smoke, making life more enjoyable for everyone.
- CityHome's first program started with StarTan in Lincoln, Nebraska on March 10th and is expanding to other cities in the Midwest, Texas, California and the East Coast over the next 12 months.

www.cityhome.info
CityHome is a trademark of National Corp. (1994-010)

PATRIOT
www.patriottransitionsystems.com

NEBRASKA CORN BOARD
Nebraska Corn Board

NECCA
Nebraska Natural Gas

CITY HOME
National Corp. (1994-010)

O₂ DIESEL

2005 3 31

Other Advertising Examples



Benefits of *CityHome*TM



- ZERO COST for the municipality.
- Responds to immediate need for air quality improvement.
- Contributes to a positive clean air message and sense of accomplishment for the community.
- Supports petroleum displacement policies with renewable fuels.
- Provides immediate emissions reductions from urban bus fleets.

Typical Next Steps

- O2Diesel provides references & proposed timeline to deliver **CityHome**[™] initiatives.
- O2Diesel conducts full technical profile of the fleet & operations for test program design.
- **CityHome**[™] presents forecast & estimates for a two-year initiative.
- O2Diesel & municipality agree to program phase-in.
- Guidelines for successful test and rollout.
- **Implementation:** fleet operations, media, PR, etc.

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