



Case for Natural Gas Vehicles

October 16, 2008

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When CNG started in SA: **1995**

- Fuel for San Antonio River Barges
- Fuel for "Lady Eco" Trash Skimmer



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CNG also used for lawn care equipment



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Why did San Antonio build this station for the River Barges?

- San Antonio is known for its Riverwalk
- Diesel fumes were offensive to tourists
- Fumes were driving away a major economic resource
- River Barges were switched to CNG, to rid of the offensive fumes and to keep the historic Riverwalk economy healthy

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Why use CNG today?

- **Air Quality** –
EPA ratcheting down to 74 ppb for NOx
- **Cost** – \$1.29 DGE vs \$4.75/gal Diesel
(i.e. Lake Jackson, TX)
- **Cleanest Fuel Available Today**

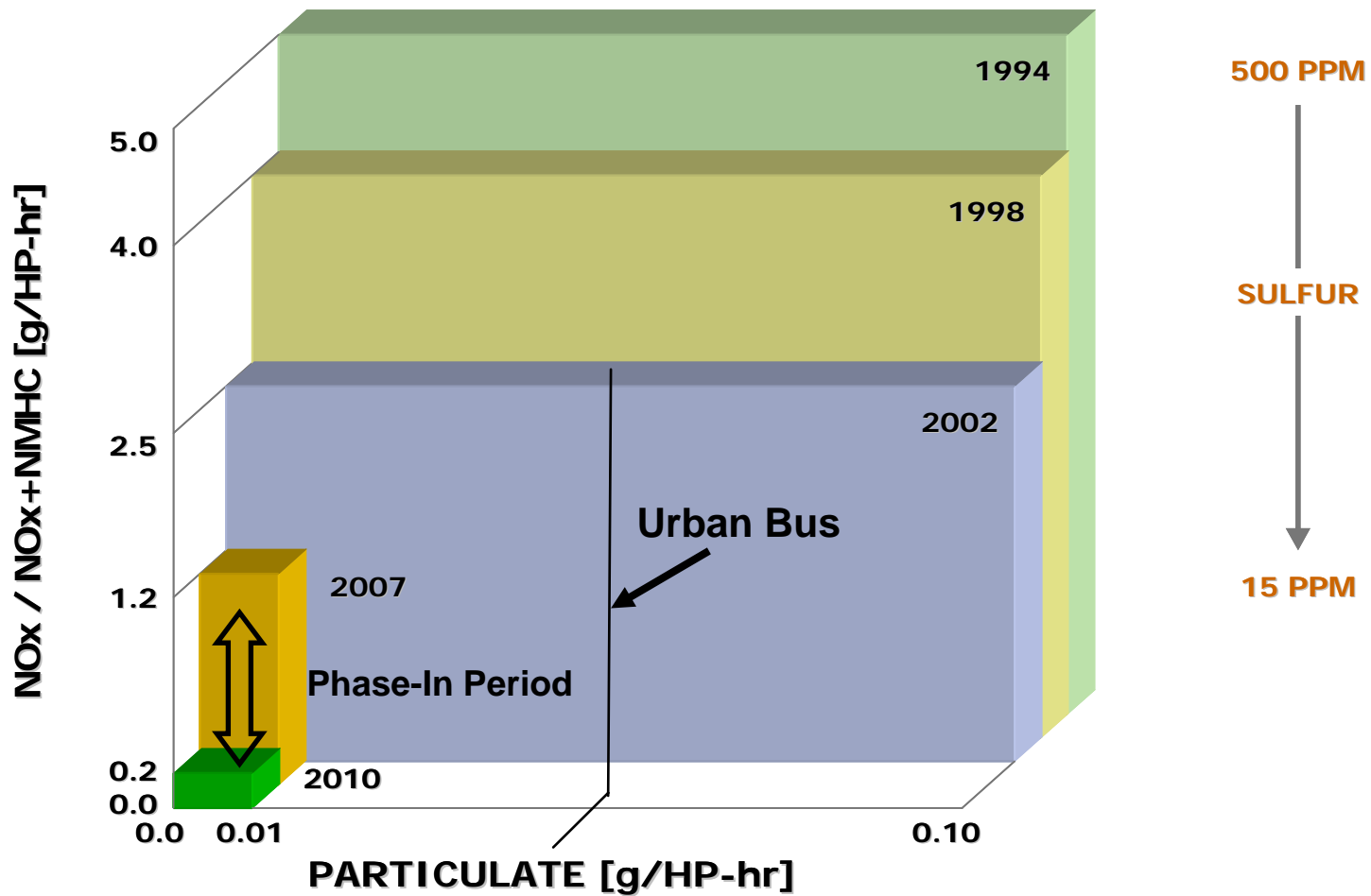


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Why did COSA start their CNG program for refuse trucks?

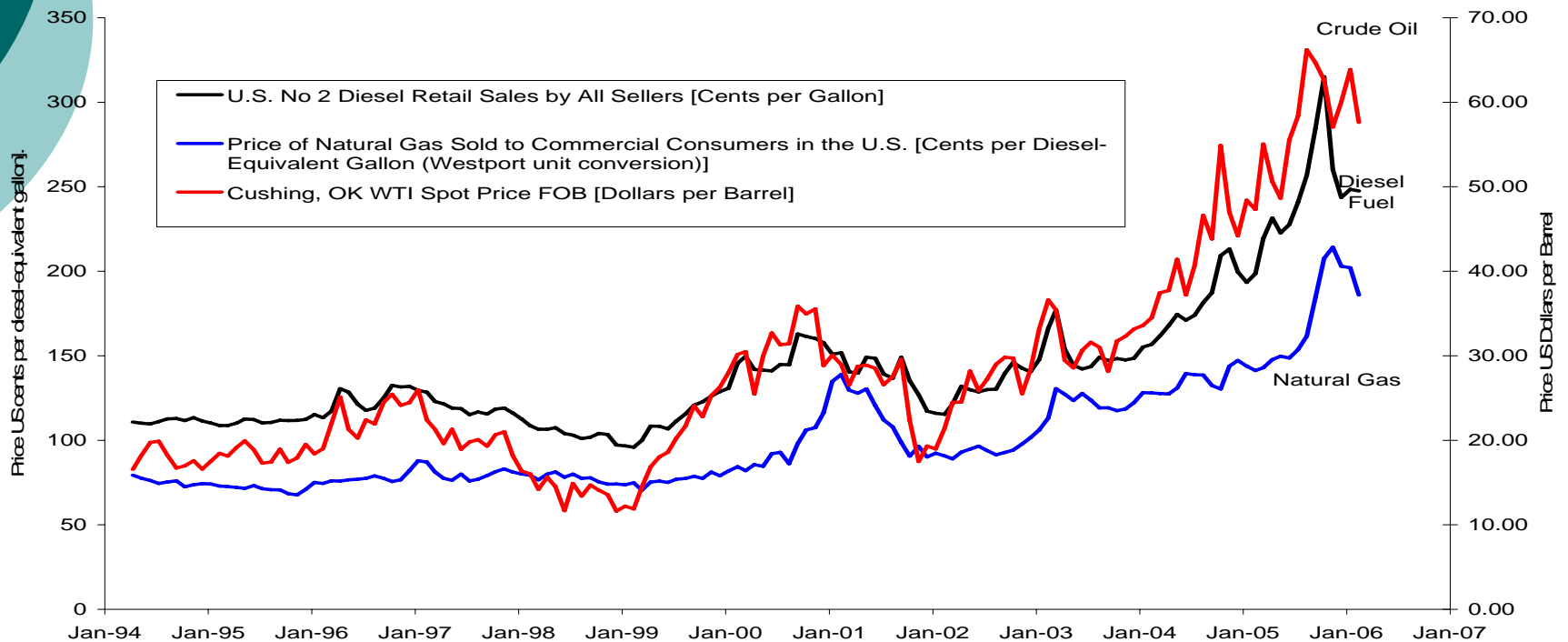
- EPA air quality standards
- Available State (TERP, GLO, SECO) and Federal (2005 Energy Policy Act) monies to assist with alternate fuel programs
- Fuel cost containment (COSA runs 4700 pieces of equipment)
- Fuel diversification

Courtesy Cummins Westport, Inc: U.S. Emissions Standards Continue to Evolve



Courtesy Cummins Westport, Inc: Fuel Price History

Price History for Crude Oil, Diesel Fuel, and Pipeline Industrial Natural Gas



Natural gas has been 25- 42% cheaper than Diesel over last 14 years

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How did COSA go about implementing the CNG Program?

- Worked with various groups (CNG Consultant, Fleet, Purchasing, PW, CIMS, Legal, CPS Energy, Staff, City Council, TCEQ, GLO and SECO) to obtain info
- Established specs for CNG station and trucks
- Used an RFP for trucks, with a “pass through” to City for Federal IRS credits from the manufacturer
- Used an RFP for a “Design Build” contract for the station modifications
- Contract for station modifications was awarded to Clean Energy (Seal Beach, CA) who completed the project 90 days ahead of schedule

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CNG Program implementation continued:

- Concurrently, City applied for State & Federal grants
- CPS Energy fuel line extension credit, \$200K
- City was awarded \$336K from TCEQ/TERP for infrastructure (CNG station retrofit)
- With truck RFP submittal, Freightliner SA provided a credit (Federal IRS) for \$10K per truck ordered from the manufacturer
- Applied for Federal 2005 Energy Policy Act alternate fuel credits (IRS) for propane, and soon for CNG (\$0.50 per DGE)
- Submitted 2nd grant application to TCEQ for 15 more trucks
- Potential of 45 trucks, at 40 gal/day x \$2.00 fuel savings x 17 working days = \$734,400/year
- ROI (with grants and up-charge on trucks) approx. 2-3 years

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Construction – Natural Gas Supply Line



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Vessels & Compressors



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Construction – Electrical Power



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Construction – Natural Gas Dispenser



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Natural Gas Compressor - Guard Rail



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Overnight Fill – 30 Natural Gas Dispensers



What are you waiting for? Go CNG

