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Intermodal Terminals in Minneapolis and St. Paul Minnesota

- There are two cities in the twin cities.
 - CPR (Canadian Pacific Railroad)
 - Address:
 - 615 30th Avenue NE
 - Minneapolis, MN 55418
 - BNSF (St. Paul (Midway))
 - Address:
 - 1701 Pierce Butler Route
 - St. Paul, MN 55104
- These cities could be used for LNG Plants for re-fueling stations. It is a 150-mile one-way trip (300 mile round trip) from Superior, WI/Duluth, MN to Minneapolis, MN/St. Paul, MN.

Semi-Trucks and Other Transport Vehicles

- Some other vehicles that could use LNG: heavy-duty vehicles like transit buses, semi-trucks, school buses, waste disposal trucks and delivery vehicles
- In 2009, one of every five new transit buses was fueled by natural gas.
- With buses in the U.S. currently using a total of 113,000 barrels of oil per day the conversion of buses to LNG is one of the best ways to save taxpayer dollars and improve air quality.
- The Energy Information Administration estimates that there are currently 4.8 million heavy trucks on the road, consuming more than 1.6 million barrels of oil per day, mostly in the form of diesel fuel.
- <http://www.shifttocng.com/vehicles/heavy-duty>

- The average fuel mileage of a semi-truck is 6 miles per gallon.
 - <https://www.llnl.gov/news/newsreleases/2010/NR-10-02-08.html>
- A tractor with two tanks can hold 120 gallons of LNG
 - Tanks weigh a combined 1,000 lbs
- LNG trucks are averaging around 5.62 miles per gallon.
- Westport Innovations Inc
 - Have developed a medium sized 8.9 liter engine built on the Cummins ISL platform
 - Heavy duty dual fueled 15 liter Cummins ISX that runs on 95 percent natural gas
 - There is a direct injection natural gas fuel system used on the this engine
 - Also this engine can run about 300 miles on a single tank of fuel
- http://www.cleanenergyfuels.com/pdf/LNG_landline_apr09.pdf
- It costs 6,000 to 12,000 dollars to convert semi engines
 - <http://pointsandfigures.com/2011/04/27/natural-gas-vs-diesel/>

Kenworth Trucks

- Kenworth Truck Company will expand its presence in the growing market for environmentally friendly, liquefied natural gas (LNG) vehicles by beginning production of Kenworth T800 LNG trucks
- Kenworth will use Westport's LNG fuel system technology adapted for the Cummins ISX 15-liter engine.
- These trucks are already serving the Ports of Los Angeles and Long Beach
- Pacific Gas & Electric Company in San Francisco recently became the first utility in the nation to operate Ken-worth T800 LNG-powered trucks

- Westport will open a new LNG Fuel System Assembly Center in British Columbia to support the Kenworth factory initiative and to rapidly increase production capacities of LNG fuel systems to meet growing market demand
- The Westport LNG system is available with 400 and 450 horsepower ratings and up to 1,750 lb-ft torque for heavy duty port, freight, and vocational applications.
- LNG fuel tanks can be configured to suit customer range requirements.
- <http://heg.baumpub.com/products/5771/kenworth-plans-liquefied-natural-gas-vehicles>

UPS

- UPS fleet adds 48 LNG-fueled heavy-duty trucks
- UPS will soon add 48 Kenworth-built, LNG fueled heavy-duty trucks
- UPS will deploy the LNG-fueled trucks in the western U.S. later this year (2011)
- UPS's fleet of the 48 LNG tractors will pull trailers along a route linking Ontario, CA and Las Vegas, NV (which is 234.18 miles one way).
- <http://green.autoblog.com/2011/02/28/ups-fleet-48-lng-fueled-heavy-duty-trucks/>

Waste Management

- http://www.afdc.energy.gov/afdc/pdfs/waste_lng_final.pdf
- <http://www.startribune.com/business/140370743.html?page=all&prepage=1&c=y#continue>
- <http://www.agc.org/galleries/enviro/CARB-Technical-Paper-in-Support-of-AGCs-Second-Analysis-4-19-10.pdf>
- http://www1.eere.energy.gov/manufacturing/industries_technologies/mining/pdfs/mining_bandwidth.pdf