The Oil Drum: Local
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

CNG Trash Trucks for NY

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One of the general conclusions that most people come to after serious study of peak oil and how we can adapt to it is that there is no one-shot solution. Rather a wide variety of niche solutions will fill many of the puzzle pieces and together can help maintain a certain level of societal complexity.

One possible niche that seems almost too perfect would be to fuel garbage collection trucks with CNG, preferably converted from methane gas from anaerobic digestion that would have otherwise have been released into the atmosphere . A nationwide fleet of more than 126,000 Garbage trucks operate daily in almost exclusively residential areas including the most dense urban areas of the country. They are a major contributor of ground level pollution and unhealthy air. At the same time, 450-650 billion cubic feet per year of methane waste leeches out of landfills each year which is a significant contributor to greenhouse gases.

In an Op-Ed piece written by Johanna Underwood, the Founder and former president of INFORM (a non-profit research organization) in today's NY Times it was revealed that Smithtown, NY recently decided to switch over it garbage fleet to CNG and this may be the first of many in the local area to recognize the benefits.

> SOME may think Smithtown an unlikely pioneer in a major technology revolution. But last month, leaders of this community of 116,000 made a historic decision: by January, all refuse trucks serving the town must be powered by natural gas instead of diesel fuel. Smithtown is the first community on the East Coast to do this, and, if we're lucky, other cities will follow its lead. Why should communities buy new, different and seemingly more expensive refuse trucks? The big heavy diesel trucks, providing an essential service, rumble down residential streets nationwide largely ignored by citizens (unless, of course, they don't pick up the trash on time). But recent research conducted by Inform, under my leadership, shows that we can't afford to ignore them anymore.

In May, Stephanie Mandell of the Sustainable transportation program at INFORM wrote about the many benefits of CNG powered municipal vehicles in Gotham Gazette. She also contrasted that to the current situation with Sanitation trucks:

> Per mile, refuse trucks consume the most fuel of any vehicle on the road, burning one gallon of diesel fuel every 2.8 miles. Partly because they are among the oldest vehicles on the road (nationally, 41 percent of them have been in use for more than 10 years), garbage trucks are among the most polluting vehicles. As trucks age, their pollution controls deteriorate, allowing higher levels of pollutants to escape into the air. A recent report by INFORM (in pdf format) calculated that the 3,607 diesel-fueled refuse trucks operated by private garbage haulers in the city collectively generate as much as 9,500 tons of soot and pollutants per year. Thousands more tons spew from the Department of

> Sanitation's 2,500 diesel-powered refuse trucks.

Robert Rapier applauded Rhode Island's choice for choosing to sell Compressed Natural Gas (CNG) because CNG offers a good 50-60% reduction of ground level carbon monoxide emissions and because of the potential to develop renewable domestic supplies of CNG from landfill methane and collect stranded natural gas from around the world and transport it to the US through LNG tankers and ports.

Similar to how biodiesel might provide a niche in use for important functions like food distribution, basic municipal functions (police, fire, mass transit, sanitation), investing in CNG vehicles may play an important role in preserving reliable and possibly renewable fuel supplies to the most important vehicles in our society.

Local sanitation departments could become net fuel producers if they close the loop of waste from their landfills and the fuel their trucks use everyday. They could use the excess fuel for other municipal vehicles or to create electricity or provide gas for cooking/heating to surrounding homes and businesses.

So where does the current New York City Department of Sanitation stand on this? The latest information I could find on the subject which was contained in an October 2004 report for the Solid Waste Management Plan that was recented passed by the City Council seemed to state a preference for Ultra Low Sulphur Diesel (ULSD) as a way to reduce ground level pollution over CNG which they cite as too expensive for vehicle procurement and infrastructure development (p.9):

> "DSNY recently procured 26 new CNG collection trucks. Based on their performance with the first-generation CNG trucks purchased under a contract. One of the major disincentives, however, to creating a CNG refuse fleet is the cost related to puchasing the trucks and infrastructure needed for a CNG facility; a CNG refuse collection vehicle can cost considerably more than a conventional diesel truck and the cost of a CNG facility with fueling, proper ventilation and leakage alarms can be high."

I could not find any further information on how these trucks performed on any metrics or specific costs estimated for what type of investment might be required to have a fleet of CNG trucks. It would be interesting to see the difference in emissions, the difference in noise level, the range and operating costs associated with each after the initial investment and what assumptions were made about the price of diesel.

All of this needs to be investigated, but I hope some imagination is considered in building anaerobic digesters to produce onsite methane that can be converted to CNG and placed back into trucks that collect the waste. The potential benefits to public health through the reduction of carbon monoxide on our streets, the prevention greenhouse gases, could make this a great idea now, even before post-peak oil production dramatically affects the reliability and cost of supplies of gasoline and diesel.