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**To the participants in the TN Renewable Energy and Economic Development June 10th meeting.**

Every day I read another article about vehicles large and small being sold all over the world.

The common factor about these vehicles being sold is that they are fueled by natural gas. It seems that the availability of natural gas fueling stations is directly related to the demand for vehicles.

Would you buy a vehicle with no fueling station available? One of the largest users of diesel fuel is the 18-wheeler. Each 18-wheeler traveling from coast-to-coast uses as much as 1,000 gallons per day. I have spoken to fleet owners whose firms each operate over 5,000 18-wheelers. They explain that until there is a natural gas fueling network their trucks can access they are not interested in buying natural gas fueled trucks.

These major fleet owners typically replace one fourth of their fleets every year. This would mean that one major fleet owner could replace 1,250 18-wheelers with new trucks using natural gas every year. The total cost of a new 18-wheeler including a liquid natural gas (LNG) fueled engine is about \$200,000. Replacing 1,250 would amount to \$250 million or one-half of the cost of a network of 150 natural gas fueling stations across our entire Interstate Highway System.

**Natural Gas Fueling Station Network along the Interstate Highway System**

I am actively involved in establishing a network of natural gas (LNG-CNG) fueling stations along the Interstate Highway System. The interstate highway as of 2004, had a total length of 46,837 miles (75,376 km).

In the past few years, engines fueled by LNG have been designed for 18-wheelers that would allow them a range of 500 miles before refueling. Therefore, with a station every 300 miles, the 18-wheelers would be able to schedule trips across the entire Interstate Highway System. This would only require a total of 150 original stations. Assuming a cost of \$3 million per LNG-CNG station, which might include a daughter station, the total cost would be under \$500 million. The LNG provided to these stations would allow for LNG fuel to be transported to daughter stations nearby that could use the LNG to fuel the daughter LNG-CNG stations.

On Thursday, January 29th, I requested several key state and federal officials, and newspapers listed below, that they recommend including \$500 million in the stimulus legislation to fund this Interstate Highway LNG-CNG station Network:

New York Times  
Information Week Technology, Editor Howard Marks  
The White House "American Voices"  
EPA Chief Lisa Jackson  
Secretary of the Treasury Timothy F. Geithner  
David E. Cole is Chairman of the Center for Automotive Research  
Michigan Economic Development Corporation  
Governor Phil Bredesen, State of Tennessee  
United States Senator Lamar Alexander Tennessee  
United States Senator Bob Corker Tennessee  
Nancy Pelosi Speaker of the House of Representatives  
United States Senator Mitch McConnell (Kentucky), former Senate Republican Leader  
United States Senator Charles E. Schumer of New York  
House Minority Leader John A. Boehner from Ohio.

There are key locations where the LNG fuel required for the network is available. They include the existing major LNG terminals along the east coast and the gulf coast that now receive LNG from all over the world. This resource would be used to avoid any delay in provided LNG and CNG to meet the demand that would be created if the LNG and CNG vehicles of all types were available.

Another possible resource of LNG is from utility companies that have existing liquefaction plants that they use to generate LNG in off season when prices are lower. This LNG is then stored until the peak season in the winter, at which time it is fed back into the lines when the demand is very high.

There is also the resource of the small scale liquefaction plant recently developed by the US Department of Energy's Idaho National Laboratory. This small scale liquefaction plant and fueling station combination takes pipeline gas and converts it into LNG. This unit has the potential to produce 20,000 gallons of diesel-equivalent gallons of LNG per day. This LNG production, if converted from LNG to CNG, would be equal to 22,744 equivalent gallons of gasoline per day.

To begin the network, I have located a site that adjoins a major gas transmission line and is part of a local utility company's facility. This means there is a reliable source of pipeline gas available. The local utility company has offered to provide a supply of natural gas at a current competitive market price. The utility company indicated they could provide a location on their facility at a market value rental, as well as the plant supervision at a reasonable cost. I am in contact with several fleet owners who would be customers for this production. Fueling stations in Knoxville, Chattanooga, and Nashville, Tennessee would be close enough to utilize this initial production.

The initial production would be adequate to supply stations along the Interstate Highway System in all three of these metropolitan areas. In the state of Tennessee there are currently no LNG fueling stations, and no public CNG stations.