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Energy Plan Comments
NYSERDA
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These comments are addressed to Briefing Issues "Meeting Transportation Needs and Alternative Transportation Options" and "Climate Change" and deal with the subject of hydrogen-fueled transit buses.

The world has recognized the benefits to be realized from the use of hydrogen as a transit bus fuel to replace petroleum products. Transit buses are major consumers of diesel and gasoline and are large sources of criteria pollutants and greenhouse gas emissions. Hydrogen-fueled transit buses are high efficiency vehicles with a tail pipe emission of water vapor. Fuel cell buses are 2.5 times more efficient than diesel-fueled buses. When the hydrogen is produced from renewable resources, a completely carbon-free system is in place. Transit buses can be fueled at dedicated fueling stations at night, thereby eliminating the need for hydrogen fueling stations on the highway.

Most of the world's major cities have hydrogen-fueled fleets of transit buses. An early example was the HyFLEET/CUTE program in Europe where 30 Mercedes buses were put in service in ten cities in 2003, and in Palm Desert, California, where Sunline Transit put hydrogen-fueled buses in service, also in 2003. A/C Transit (Oakland) has expanded its initial fleet and currently operates three hydrogen-fuel buses, with eight more on order and with options for 13 additional buses.

London has ordered ten hydrogen-fueled buses and plans a fleet of 70 vehicles by the time of the 2012 Olympics. California is now embarking on its ZBUS (zero emission bus) program. BC Transit in Vancouver is building a fleet of 20 hydrogen-fueled buses and will be adding a fleet of hydrogen-fueled shuttle buses. The buses will operate on 18 different routes. The 2010 Winter Olympics transportation will be by hydrogen-fueled vehicles. Attached is a summary of the major programs for hydrogen-fueled buses at many of the world's cities.

The US Federal Transit Administration has a \$49 million R&D program for hydrogen-fueled buses. Awards have been made for two bus projects in a number of cities. In addition, General Electric was awarded a contract to

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develop a lightweight hybrid hydrogen-fueled fuel cell transit bus in Schenectady.

The New York Power Authority has a contract with the National Alternative Vehicle Consortium for two hydrogen-fueled buses. CDTA is proposing that these buses be placed in Albany. The FTA is providing up to \$6.12 million for the project and requires matching funds. The hydrogen fueling station at the Albany Airport will be expanded and hydrogen produced locally.

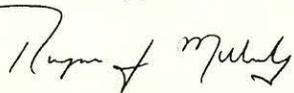
CDTA has discussed with General Electric the opportunity to operate the hydrogen-fueled bus GE is developing on Route 5 from Schenectady to Albany and to fuel the bus at the Albany Airport.

In anticipation of the need to expand the hydrogen fueling station at the Airport to fuel buses, American Wind Power & Hydrogen has discussed with Honda the possibility of Honda basing a number of its new Clarity hydrogen fuel cell vehicles in Albany and with Mercedes, which will produce its second generation fuel cell vehicle in 2009. These vehicles would be fueled at the Airport fueling station. Honda has plans to supply 200 of their vehicles for deployment in California. Mercedes also plans a California deployment.

Eliminating tail pipe emissions and the high energy efficiency of hydrogen-fueled vehicles probably represents one of the most effective uses of the State's funds for the achievement of the goals of reducing petroleum products consumption and greenhouse gas emissions as set forth by Governor Paterson.

CDTA will be pleased to supply more details to the Committee in the later stages of the development of the State's Energy Plan.

Sincerely,



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GLOBAL HYDROGEN-FUELED BUS ACTIVITIES

Hydrogen Bus Alliance

Vancouver, Amsterdam, Berlin, Hamburg, Barcelona, and Perth

HyFLEET/CUTE

33 Hydrogen-fueled fuel cell buses in Europe, Asia, and Australia

14 Hydrogen fueled internal combustion engine vehicles in Berlin

London

RFP for 70 hydrogen fueled vehicles, five hydrogen-fueled fuel cell and five hydrogen-fueled internal combustion engine transit buses purchased, future purchases planned to build fleet for the 2012 Olympics

California

Seven fuel cell buses operating in Oakland, Palm Desert and Santa Clara
Zero Emission Bus Program

A/C Transit (Oakland). Eight hydrogen-fueled fuel cell buses on order, plus an option for 13 more

US Federal Transit Administration

Two hydrogen fueled buses for Washington, Boston, Birmingham and several sites in California.

Develop lightweight hydrogen fueled hybrid fuel cell bus by GE

UNDP Program

Brazil – eight hydrogen fueled buses

China – six hydrogen-fueled buses for Shanghai and three for Beijing

China – 100 hydrogen fueled vehicles for the 2008 Olympics

Also Mexico City, Cairo, and New Delhi

Japan

Nine transit bus deployments for airports