

Fuel cell buses; a solution to meet zero emission regulations for transit agencies

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Summary: Fuel cell technology offers an attractive powertrain alternative for transit agencies to meet new emission regulations. With a decade of experience and millions of kilometers in service, zero emission fuel cell electrical buses have proven their reliability and competitive operating costs.

Technology: Fuel Cell Electric Bus

Many cities and bus operators are struggling today with the currently conflicting objectives of shifting to zero emission public transport while keeping operational flexibility and maintaining budgets under control. We will look at the current market drivers; regulations and incentives available for transit agencies to increase the % of clean vehicles in their fleets.

In terms of technology, there are several zero emission powertrain options from trolley buses to battery electric buses and fuel cell buses. We will review those different alternative powertrains along with their advantages and disadvantages.

Hydrogen fuel cell technology has come a long way from the early days. This proven technology is now hitting the road and delivers new opportunities for mass transit applications. Fuel cell buses offers many advantages to transit agencies including long autonomy; route flexibility and fast refueling while meeting the objectives of funding authorities: serve disadvantaged communities, reduce GHG, improve urban air quality, and contribute to economic development.

Fuel cell bus technology is maturing rapidly while moving in-step along a descending cost curve. There will be more new fuel cell buses on the road in the next 18 months than ever built in the past 20 years with a very strong demand from China. We will present an overview of the current commercial fuel cell bus deployments in North America, Europe and China.

The technology has accumulated significant operational, reliability, and durability data through, commercial operation in transit fleets. We will review recent operational performance data from fleet operation in Europe and USA and will provide reliability data and comparison against targets set-up by government agencies.

We will finally look at the current challenges faced by transit agencies in order to adopt fuel cell bus technology including training of maintenance teams and refueling infrastructure as well as the opportunities for future large scale adoption by transit agencies in conjunction with current deployments for fuel cell vehicles by several car manufacturers.

A compelling value proposition, from economic, operational and environmental perspectives, supported by significant field data is emerging with the rapid evolution of Fuel Cell Power.

