Fuel Cell Technology and Product Development for Transportation

Jack Gatzuras
Manager: Business Development and Programs

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PRODUCT DEVELOPMENT

Proctor and Gamble began development in 1961
It took 8 years to develop the product
…and 14 years for full national distribution
UTC Power’s first PEM program started in 1998.

By mid-2010, UTC Power will have provided fuel cells for 63 cars and 25 buses.

Operate at current densities 50% greater than 3 years ago with 50% less Pt.

Durability in the field has tripled.
Source (w/permission): CLEANTECH GROUP at Heslin Rothenburg Farley & Mesiti P.C.
LONG-TERM SOLUTIONS NEEDED

Source: International Energy Agency

Baseline emissions 62 Gt
2005 emissions 27 Gt
14 Gt

Emissions (Gt CO₂/year)

2005 2010 2015 2020 2025 2030 2035 2040 2045 2050

Power sector (38%)
Industry (19%)
Buildings (17%)
Transport (26%)

Emissions for climate stabilization

Source: International Energy Agency
STATIONARY FUEL CELLS

1992

Commercial product
270 units deployed worldwide
200 kW
40,000 hour stack life

400 kW
Stack life doubled
90% efficient

Now

UTC Power
A United Technologies Company
Delivery of 16 new buses starting this fall

AC Transit leading the way!

Developing next generation bus power plant

25% more power, 67% smaller and 50% lighter

Cost target supports < $1M fuel cell bus by 2015
FUEL CELLS

Key to meeting GHG reductions

On path to commercialization

Smart policy is necessary

Stakeholder alignment needed

Its our responsibility
Thank you!