



Exclusive: Ballard power System's Randy MacEwan on fuel cell developments

By [Jemima Owen-Jones](#) | 13 January 2017

Ballard Power Systems has become the first dedicated fuel cell company to power buses for more than 10 million cumulative kilometres of revenue service.

Ballard Power Systems has a very long history in the fuel cell design and manufacturing business – the Company has been actively working in this area for more than 35 years.



**President and CEO
Randy MacEwan**

gasworld spoke exclusively to Ballard's President and CEO Randy MacEwan about the companies recent achievement and its future development goals.

“The milestone we have just reached is another ‘first’ for our Company. we have much more experience powering buses than any other fuel cell company. Mass transportation is an important and growing segment of our business.”

MacEwan considers the company to be a leader in the field of proton exchange membrane (PEM) fuel cells, as demonstrated by the milestone achieved in the bus market.

The company has the strongest intellectual capital in the industry, including more than 250 highly skilled and experienced fuel cell engineers and scientists, as well as the deepest intellectual property in the industry, with access to 2,000 fuel cell patents and patent applications.

“Our brand is the most recognised and respected in fuel cells all around the globe. And we also have the most field experience of any fuel cell company, not just in the mass transportation application, but also in applications such as powering forklift trucks (more than 120 million hours of run time) and powering stationary systems (1 million hours of backup power run time).”

Ballard is active in the mass transit bus market in China, North America and Europe. Details regarding the companies activities in these regions and countries are contained in its January 3, 2017 press release.

It is worth noting, too, that particularly in China and Europe the presence of significant government subsidies highlights the focus being put on fuel cell-powered buses as an important part of the clean energy strategies in these geographic areas.



Fuel cell bus

200KW engines

Ballard has manufactured an 85 kilowatt (kW) FCveloCity™ fuel cell engine for a number of years, which is capable of powering large 40-foot and 60-foot buses. In 2015 Ballard launched several product line extensions, one at 30kW and another at 60kW power levels – these can be used to power smaller buses and commercial vehicles.

“We have announced that we are working with CRRC in China, the world’s largest train OEM, on development of a 200kW engine for use in powering urban trams which are another important part of China’s strategy to develop cleaner mass transit alternatives.

Early versions of this product are being tested in China and we anticipate commissioning of the first systems later in 2017.”

“Our goal is to break even financially and become a profitable enterprise.”

Randy MacEwan, President and CEO

Future growth

Ballard's business is built on 2 different growth platforms: Power Products and Technology Solutions. In the Power Products area Ballard are working in four different application areas:

- Heavy Duty Motive – including mass transit buses, trams and commercial vehicles
- Portable Power – such as power management units for the military and fuel cell propulsion systems for UAVs (unmanned aerial vehicles)
- Material Handling – fuel cells to power forklift trucks in high-throughput distribution centers
- Backup Power – systems to provide power for critical infrastructure in the event of grid failure

“In the Technology Solutions area we are working with automotive OEMs such as Volkswagen Group and Audi, aerospace companies and other transportation organisations in order to help them advance their own fuel cell programs. In the longer-term this work may lead to important product opportunities for Ballard, as well,” explained MacEwan.

Challenges

Ballard has been executing a diversified strategy intended to identify and leverage significant profitable growth opportunities for the business.

MacEwan explains how this has been challenging in a world that, until recently, did not view clean energy as being high on the priority list. However, that has changed with the recognition of the impacts of climate change and with ratification of the Paris Climate Accord.

“In just the past year or so we have now seen a tremendous uptick in the level of interest and willingness to spend money on fuel cell-powered product solutions. Our company is not yet profitable, but we are moving toward that goal and see a very bright future as we scale our operations and grow the top line.”

Looking forward

In 10-years MacEwan believes that Ballard will still be a leader in the zero-emission fuel cell industry, with that industry having become an important element in the mosaic of clean energy alternatives.

Already today, the majority of growth in power capacity worldwide is accounted for by sustainable options including wind and solar power.

“Fuel cells will, we believe, become an accepted part of the solution array to address the growing needs around the world in coming years. Ballard can play a central role in delivering fuel cells and related elements of that array.”

MacEwan has held executive roles in clean energy companies for over 15 years, including in fuel cells and solar and has been President and CEO at Ballard Power Systems since October 2014. From 2009-14 MacEwan was Founder and Managing Director of NextCleanTech LLC, a cleantech consulting firm. From 2005-09, he served as President and CEO of Solar Integrated Technologies, Inc., a commercial rooftop solar company, and from 2001-05 MacEwan served as Executive Vice President, Corporate Development at Stuart Energy Systems Corporation, a leading supplier of hydrogen generation systems.

“My ultimate aim as President and CEO is to make Ballard the most successful company in the history of fuel cells. In the relatively near-term, our goal is to break even financially and become a profitable enterprise (we would be the first company to achieve this in our industry). We will then continue to scale this business and establish a sustainable clean energy company with diverse customers in all corners of the globe.”