

MagPower moves alt-energy into China

Delta-based company nabs \$22 million fuel-cell deal

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Delta-based MagPower Systems has a solid start in the race to sell alternative-energy options to China.

In a deal worth \$22 million, it will manufacture and distribute its portable magnesium fuel cells in China via a Hong Kong company, exactly the formula prescribed at the recent Hong Kong-Guangdong trade forum in Vancouver.

More importantly, it actually has a fuel cell primed for commercial use and an agreement structured to mitigate some risks in China.

MagPower's Hong Kong connection comes in the form of Dragon EnviroPower International Ltd., a consortium that includes a magnesium producer, an injection mould manufacturer and a machine supplier headed by chief executive officer Richard Petty.

MagPower has sold Dragon a license covering Hong Kong, Macau and China. The license initially covers portable fuel cells for a gamut of every day appliances like hair dryers, coffee makers and slow cookers.

For this, Dragon paid MagPower a one-off \$5-million licensing fee, plus minimum royalties of \$17.5 million, according to the companies.

Hong Kong has recently been on an aggressive campaign to market itself as a stepping-stone to China. The idea is for Canadian companies to use Hong Kong's expertise on China -- plus its more advanced infrastructure and tradition or rule of law -- as both a launching pad and safety cushion for tackling China.

Along these lines, Dragon is based in Hong Kong, but will manufacture and distribute MagPower's portable fuel cell in Beijing.

"We all have the basic that we want to make money and feel secure with whomever you are dealing with, which is a huge concern," Shawn McGroarty, chief executive officer of MagPower Systems, said in an interview.

He says MagPower, a privately held company with research and development based at the University of B.C., connected with Dragon through a network of different contacts, including some at Leading Edge B.C., which promotes the province's technology industry.

"This has been in the works for a few years."

Later, the Dragon pipeline will be expanded to include MagPower licenses for fuel cells of other sizes that can be used for electric bikes, tow motors, and golf carts.

"We can change and adapt the size and running time of any fuel cell to match any power requirement, but we focused first on getting a small, portable unit that is about the size of a car battery," McGroarty said.

The MagPower fuel cell has an edge because it is considerably cheaper to produce than the oft-talked-about hydrogen fuel cell, said JiuJun Zhang, a project leader and senior research officer at the National Research Council of Canada, which has collaborated on research with MagPower.

Zhang says that the high cost of two elements in the technology behind a hydrogen fuel cell, namely electrolyte memory and the platinum catalyst, means it has a ways to go before it can be commercialized, never mind reach a feasible price point for the competitive Chinese market.

MagPower fuel cells run on magnesium, the world's eighth-most-abundant mineral, according to McGroarty. He says magnesium fuel cells are about 50 per cent less expensive to make than hydrogen fuel cells.

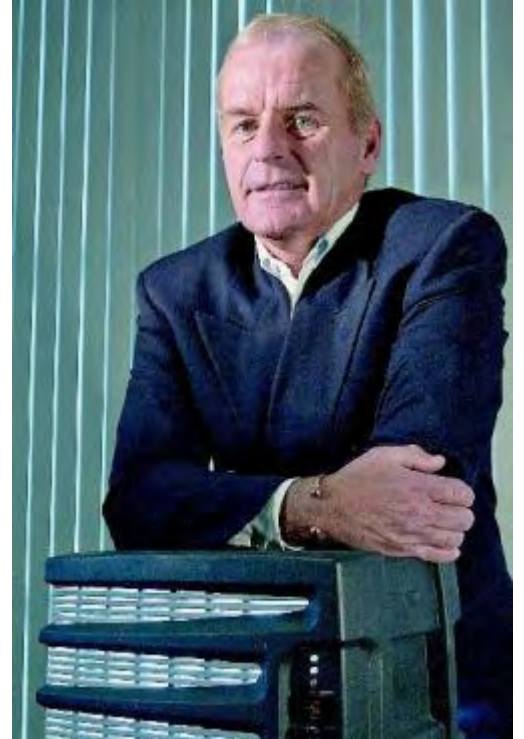
Basically, a magnesium anode is placed in saltwater. This leads to an electro-chemical reaction involving oxygen that produces energy. Key to the process is MagPower's patented hydrogen inhibitor, which actually suppresses the production of hydrogen, allowing additional energy to be conserved and captured.

McGroarty says that instead of forming a joint venture with a company in China, licensing its technology in this way is more nimble than getting bogged down with setting up shop.

MagPower sells two kinds of licenses. There are territorial ones, like the one to Dragon and another for Australia and New Zealand, as well as licenses for specific products. One company, for example, bought a MagPower license to manufacture fuel cells for a portable ultraviolet water-purification system used in developing countries; another uses the fuel cells in a monitoring system for oil and gas well heads.

"It's safer for MagPower," to just sell a license, he said. However, to have some control over intellectual-property concerns in China, MagPower will actually manufacture both the hydrogen inhibitors and another key component, the air diffusion cathode, there. "It has been set up so that we will have our own people and our own facility within their manufacturing facility in Beijing to make those parts," McGroarty said.

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CREDIT: Ward Perrin, Vancouver Sun

MagPower CEO Shawn McGroarty and one of the company's portable AC/DC power units.