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Finance

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Iceland tapping into the power of hydrogen

Some of the world's largest car and oil firms are helping Iceland in its bid to be almost entirely free of the need for oil by 2030

By NIALL MCKAY

Iceland, the tiny North Atlantic republic, is taking a big risk. The country wants to become the world's first hydrogen-powered economy - and thus dispense with the need for oil.

Science fiction? Perhaps. But surprisingly it has the co-operation and backing of some of the world's largest car and oil companies.

Recently, Shell and DaimlerChrysler joined forces with the Icelandic government to create a testing ground for hydrogen fuel-cell powered electric buses and cars. These are like electric cars only instead of a battery, which takes up to nine hours to recharge, they have a hydorgen-powered fuel cell, which can be refuelled instantly.

In the next 10 years, the plan goes, the almost silent hydrogen-powered buses and cars will be whizzing around the island's capital Reykjavik. If the Icelandic government has its way there will be little need for oil by 2030 at all.

Meanwhile, DaimlerChrysler, Ford, Toyota, Nissan, Honda, and Volkswagen all plan to have hydrogen fuel cell cars in showrooms by the end of 2003.

Why? Well it seems that everybody expects oil and fossil fuels to become non-viable power sources in the near

future. The current rate of increase of consumption, owing to China and the Far East becoming car crazy, means oil will get scarce in the next 15 years. Furthermore, over two-thirds of the world's oil supply is in what are regarded as politically unstable regions such as the Middle East.

Indeed, Iceland is the perfect testing ground for such a solution. It has the two natural resources needed for the cost effective production of hydrogen - water and almost free electricity.

In 800 AD when the first Vikings settlers arrived on the island having left Norway because, well, they didn't like the political situation there. They were attracted to Reykjavik because of the black smoke billowing out of the ground. That smoke was produced by volcanic activity that heated water under the earth's surface and thus provided a plentiful supply of steaming hot water. In a climate as cold as Iceland, that's a big advantage.

However, until 1950 or so, the hot water was used for little else but bathing. Now all of the country's heating and electricity is supplied using geothermal and hydroelectric power.

The aluminum company Alcan wanted to build a smelter in Iceland but the country's power grid could not support it. So it financed the building of the first geothermal power plant - taking the energy produced by hot water under the earth's surface and turning it into electricity.

If Iceland harnessed all the power from its natural resource, it would have the equivalent of 115 nuclear power stations. Not surprising then that the Icelandic government believes it can reduce the state's annual oil bill, pegged at $150 million (€116 million) to almost zero.

Even more important is that, despite Iceland's ever-so-green image, the country actually produces 2.6 millions tons of carbon dioxide each year because of the aluminium smelters. This prohibited the country from signing the Kyoto - the international climate agreement that dictates emissions - in 1997.

So if Iceland can reduce its oil consumption, it can up its aluminium production.

When the Icelanders conceived the plan, they figured they would convert the bus fleet in the capital Reykjavik first. Now, however, they have a more ambitious plan.

Currently, government officials and venture capitalists are trying to create a company that will convert the nation's fishing fleet to hydrogen fuel cell fishing vessels. And why

not? After all, more than 65 per cent of the nation's exports come from fishing-related industries. This means its economy is inextricably tied to the cost of catching fish.

Recently, the country has been experiencing a boom due to its fishing industry and the technology sector. If this is to continue, being a nation of just 280,000 people, Iceland must reduce costs rather than increase production.

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