Canadian fuelling development of hydrogen technology standards

Rising oil costs, energy shortages and the threat of environmental degradation have many Canadians thinking about the possibility of a more sustainable energy source.

Randy Dey is one Canadian that's actually doing something about it.

Dey is leading the development of international standards that will help bring environmentally-friendly infrastructure and hydrogen-powered vehicles into the mainstream as chair of the International Organization for Standardization's (ISO) technical committee on hydrogen technologies.

"The environment has always been of interest and concern to me," says Dey. "It has been apparent for some time now that there is a need to look at alternate energy sources that are both clean and sustainable."

When Dey isn't meeting with committee members at ISO he is occupied as the president of CCS Global Group, Inc., a company he founded in 1977 to help industry meet international standards and adopt measures to become more environmentally sustainable.

"In the early 1970s, while employed by a major multi-national electronics company, I found there was a good deal of confusion for manufacturers and importers when it came to dealing with product certification," says Dey. "I set up the CCS Global Group to help ease this confusion."

Now, almost 30 years later, Dey says CCS has become well known at ISO, the International Electrotechnical Commission (IEC) and the United Nations for facilitating global harmonization of regulations, codes and standards.

More recently, Dey has been focusing on hydrogen technology – an energy source he says can help curb an increasing dependency on oil in Canada and around the world.

Hydrogen stores the energy created by renewable resources like sunlight, wind power and biomass until needed. What makes it unique from fossil fuels is that, when burned, it does not produce carbon dioxide or other harmful greenhouse gases. Instead, its principal by-product is water, which can be harmlessly released back into the environment.

Most forms of hydrogen technology are currently in development and demonstration stages and are not yet ready to be introduced to the market.

That's where standards come in.

In the past, says Dey, standards were primarily developed for products already on the market, a practice that frequently lead to compatibility problems and the necessity for expensive redesign. He suggests that by developing standards for hydrogen technologies now, companies can ensure their products are more easily accepted in the market by ensuring their conformance to the standards is part of the product development.

Dey has been able to take a leading role in this process not only through ISO/TC 197, hydrogen technologies, but also as Chair of the Canadian National Committee on ISO, an advisory committee of the Standards Council of Canada that serves as the Canadian member body at ISO and coordinates the work of the many advisory and technical committees that provide Canadian input to ISO.

"Canada plays a leading role in the development of hydrogen and fuel cell technologies with companies like Hydrogenics and Ballard," says Dey. "And, of course, Canada has leadership in standards development."

He notes that Canada's leadership in hydrogen standards, which is supported by the federal government, is a joint effort between CCS and the Bureau de normalisation du Québec, the Canadian standards development organization, which is administrating this work in Canada.

Dey says a hydrogen economy may not be far off noting that General Motors unveiled a hydrogen fuel-cell prototype in 2005, while companies such as Ford, Honda and BMW are investing in similar developments. When they are ready for market, Dey and his international standards will be ready for them.

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