

Firms push hydrogen as top green energy source

January 18 2017, by Fabien Zamora



Members of the new Hydrogen Council at the Davos World Economic Forum on January 17, 2017. Major industrial groups have decided to join forces to promote hydrogen as a source of energy, with the focus on reducing greenhouse gas emissions

Over a dozen leading European and Asian firms have teamed up to promote the use of hydrogen as a clean fuel and cut the production of harmful gasses that lead to global warming.

Convened on the sidelines of the World Economic Forum, the first Hydrogen Council brought together 13 firms, among them top carmakers BMW, Daimler, Honda, Hyundai and Toyota as well as leading industrial gas companies Air Liquide and Linde.

Others at the gathering late Tuesday included energy firms Alstom, Engie, Shell and Total as well as mining company AngloAmerican.

Scientists have long pursued the use of electric fuel cells for cars that use [hydrogen](#)—the lightest element with the atomic number 1—as the byproduct of its combustion is water and not gases that cause climate change.

Air Liquide's chief executive Benoit Potier described the council as "key leaders of the energy transport and industry sector joining forces to express a common vision of the key role hydrogen will play in the future to bring a solution to the energy transition."

In particular, the firms will share data and research to make hydrogen technologies profitable, as well working on international standards to help speed their adoption.

They will also try to convince governments to support the technology, another indispensable condition for its success.

"At the early stage, unless we have strong government support, this transformation" into a decarbonised society "is impossible".

Energy storage solution

Those participating in the Hydrogen Council insist the applications for hydrogen go beyond fuel cells for cars.

One of the major challenges for [renewable energy technologies](#) such as solar and wind is storing the energy produced if it can't be used immediately.

Besides building expensive mega-batteries, current options include pumping water up to reservoirs to produce hydro power when energy is needed.

Fuel cell technology, used in reverse, could help resolve this problem.

"If you take this solar electricity you don't know what to do with, you electrolyse water, this makes hydrogen, which is a gas you can put in the natural gas network," Total's chief executive Patrick Pouyanne told to AFP.

This not only makes use of the surplus electricity, but it also makes investment in solar and wind projects more profitable.

"We've mastered the technology, but the challenge now is to expand its use onto a mass scale," said Pouyanne.

'We can do it'

Bringing down costs will play an important role.

"If we manage to reduce costs all along the production chain, then hydrogen will become a solution for moving [energy](#) where it is needed," said Engie's chief Didier Holleaux.

One area that still needs work is improving the efficiency of electrolyzers, which split water into hydrogen and oxygen, as well as reducing the cost of them through mass production.

Bertrand Piccard, the Swiss pilot who last year flew around the world in an aircraft powered only by the sun, was enthusiastic about the technology.

"Twenty years ago we were talking about hydrogen a little bit like teenagers are talking about sex, everybody speaks of it but nobody does it," said Piccard.

"Today we can do it."

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