

Swiss firm says its new switch to aid green energy (Update)

November 7 2012, by John Heilprin

A Swiss engineering group said Wednesday it has developed a new circuit breaker that will help utilities transfer power over longer distances, making for more efficient and reliable electric supplies.

Zurich-based ABB Group announced it developed the world's first circuit breaker for high-voltage direct current, which will facilitate the long-distance transfer of hydropower, wind and solar power.

"ABB has written a new chapter in the history of electrical engineering," said Joe Hogan, the company's CEO. "This historical breakthrough will make it possible to build the grid of the future. Overlay DC grids will be able to interconnect countries and continents, balance loads and reinforce the existing AC transmission networks."

The Swiss firm said its new switch removes a barrier to developing DC transmission grids—and solves a century-old electrical engineering puzzle—because it can interrupt power flows equivalent to the output of a large power station within five milliseconds, which is "30 times faster than the blink of a human eye."

ABB has competed against rivals Siemens and Alstom to invent a new circuit breaker that can get it a leg up in a market potentially worth billions of dollars. The HVDC lines could be used by nations such as Germany and Switzerland that want to move away from nuclear power toward renewable energies.

Germany decided after Japan's 2011 nuclear disaster to speed up phasing out nuclear power, which then accounted for just under a quarter of the country's electricity production, about the same share as in Japan and the U.S.

The renewable energies' share of German power has since risen from 17 percent to 25 percent, driven by investment incentives that are mostly paid for by a tax on households' electricity bills. By 2050 Germany, Europe's biggest economy, wants to generate 80 percent of its electricity from renewable sources.

Switzerland gets about 40 percent of its power from five nuclear reactors. But since the Fukushima accident the Swiss government has been making plans to phase out nuclear power by 2034.

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