THE HANSEN REPORT ON AUTOMOTIVE ELECTRONICS

Editorial Notes

Dear Reader,

Earlier this year the Hydrogen Council, in collaboration with McKinsey & Company, released its outlook on hydrogen development around the world. Thus far, 359 large-scale hydrogen projects and investments across the value chain have been announced, totaling 500 billion US dollars through 2030. Ninety-six of those projects involve transport, including trains, ships, cars and other hydrogen mobility applications.

While Europe remains the center of hydrogen development, China is emerging as a hydrogen powerhouse. Fifty percent of China's hydrogen investments are linked to transport applications. China aims to improve the EV share of all new energy vehicles to around 95 % by 2035 and targets one million fuel-cell electric vehicles and 2000 hydrogen refueling stations. Most Chinese commercial vehicle players already have some level of entry into the FCEV space, mainly in buses and light trucks.

Carmakers including Toyota, BMW, Audi, Honda and Hyundai have been developing and promoting fuel-cell cars, but they are not nearly ready for prime time. They are expensive, and hydrogen fueling stations are exceedingly scarce. Their greatest deficiency is their dismal energy performance. According to a 2020 study by Horváth & Partners cited by Volkswagen, forty-five percent of energy

is lost during the production of hydrogen through electrolysis. Fuel cells have an efficiency rate of just 25 to 35 % compared to battery electric cars, which are 70 to 90 % efficient.

However, hydrogen vehicles have some advantages over electric vehicles that make them better suited for long-haul trucking. They have much better range and can be refueled many times faster than electric vehicles can be charged. And because they require much smaller batteries, more room can be devoted to cargo.

Cordially,

Paul Hansen
Editor

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