

The trouble with hybrids: Hybrid electric vehicles not as green as they are painted

Hybrid electric vehicles that run on both conventional gasoline and stored electricity can be no more than a stop gap until more sustainable technology is developed, according to researchers in France. Writing in the Inderscience publication *International Journal of Automotive Technology and Management*, they suggest that the adoption of HEVs might even slow development of more sustainable fuel-cell powered electric vehicles.

Jean-Jacques Chanaron Research Director within the French National Centre for Scientific Research (CNRS) and Chief Scientific Advisor at the Grenoble School of Management and Julius Teske at Grenoble, question strongly whether the current acceptance of hybrid vehicle technology particularly in the USA is in any way environmentally sustainable.

The researchers have analyzed the spread of this technology including the non-financial drivers for its adoption. They point out that most manufacturers are rapidly integrating hybrid electric vehicles into their technology portfolio, despite the absence of significant profitability.

They add that the misinformed craze for hybrid vehicles especially in the USA, and increasingly in Japan and Europe, and potentially in China, could represent a red light for more innovative technologies, such as viable fuel-cell cars that can use sustainably sourced fuels, such as hydrogen. They concur with earlier studies that suggest that hydrogen fuel cells will not be marketable in high volumes before at least 2025. This could, however, be too late for some models of climate change and emissions reduction. They also point out that even fuel cell technology has its drawbacks and much of the marketing surrounding its potential has emerged only from the hydrogen lobby itself.

"There is a general convergence of strategies towards promoting hybrid vehicles as the mid-term solution to very low-emission and high-mileage vehicles," the researchers assert, "this is largely due to Toyota's strategy of learning the technology, while building up its own 'quasi-standard', thanks to its high-quality and reliability reputation and its high market share on the North American market." They add that, "Such a convergence is based more on customer perception triggered by very clever marketing and communication campaigns than on pure rationale scientific arguments and may result in the need for any manufacturer operating in the USA to have a hybrid electric vehicle in its model range in order to survive."

Moreover, political pressures also play a significant part. The three major US manufacturers - GM, Ford, and Chrysler - recently urged President Bush to financially and politically support a national technological solution for hybrids; this was independent of the currently dominant solutions initiated by Toyota. The researchers concede that, "The quest for low emission, clean, and high-mileage vehicles is on its way and should be at the top of the manufacturers' agenda," they say. However, they suggest that the technology, marketing, and public perception leads to one overriding problem: Is a hybrid strategy sustainable in the long run? Chanaron and Teske think not.

The complexity and high cost of the hybrid technology is also playing against itself," they say, "There is a huge strategic dilemma for the key players of the automotive industry where a mistake in technology decision-making might turn even a big player into a take-over candidate. The next five years will provide industry observers with more accurate trends and success or failure factors."

Source: Inderscience Publishers

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