

The Time for Hydrogen Cars is Now

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A serious effort to reduce dependency on oil requires a rapid conversion to the use of hydrogen to power vehicles. While the fuel cell concept in which water is split into hydrogen and oxygen and then passes through a fuel cell to create electricity to run an electric motor remains distant and cost prohibitive, a simpler solution based on existing technology already exists.

Furthermore, until advances are made using water and solar energy (and why not also wind turbines beneath the hood to harness the energy created by moving vehicles?) to provide hydrogen to run vehicles, existing methods (e.g. through natural gas) can be used. New advances are being reported almost weekly -- for example, German and Australian scientists just announced that genetic engineering of the 'Chlamydomonas reinhardtii' algae has increased its hydrogen output by 16 to 20 times.¹

Gas stations should be given government grants to install hydrogen fueling pumps. If more than \$120 billion can be spent on the Iraq War, a one-time investment of a similar amount would be well-spent in paying for installation of these pumps to create an infrastructure. A crash program, similar to the Manhattan Project, could likely result in completion within a year or two.

Next, instead of using water, an electrolyzer, and hydrogen fuel cells, vehicles could use existing internal combustion engine technology and hydrogen. "Internal combustion engines do not need gas to operate. Hydrogen can also power them."²

With Honda's invention of an efficient holding tank utilizing "a newly-developed hydrogen absorption material that doubles the capacity of the tank to 5 kg of hydrogen at 350 atmospheres," hydrogen could power vehicles for up to 350 miles before the need to refuel, which is even beyond the Department of Energy's (DOE)2010 target range.³ Of course, the question arises, would competitor automakers be willing to purchase hydrogen holding tanks from Honda to power their own vehicles? Such an arrangement, though, would be a win-win for both Honda and automakers who purchase their tanks since with a hydrogen infrastructure in place, consumers would likely purchase these vehicles knowing that they are not only saving money from the high price of gasoline but doing an socio-ecological service by weening the world from its addition to oil, which is likely to run out in 45 years.

Best Case Scenario: The 2004 British Petroleum "Statistical Review of World Energy" predicted that global oil reserves will be gone in 2045, based on known reserves and current rates of consumption, called the R/P ratio. By the same measure, US reserves will be exhausted in 2015.

Worse yet, global oil reserves are likely to be depleted even sooner since the rate of consumption is dramatically increasing due to China's rapid industrialization and economic growth and the developed world's efforts to maintain their own economic expansion. With such dire prospects, it is imperative that a switchover to hydrogen-based fuels be made now rather than a decade or later from today.

The red "oil light" is already on, demanding urgent attention. An immediate transition utilizing existing technologies is necessary to prevent the "engine" that runs the economy from locking and to guarantee a continuation of the state of mobility and standards of life enjoyed today.

1 Hydrogen from algae – fuel of the future? DNA Evolutions. 16 May 2006. 16 May 2006. <http://www.dnaindia.com/report.asp?NewsID=1029553&CatID=5>

2 W. "Skip" Hauth. Hydrogen should be the fuel of America's future. Opinion. The Buffalo News. 15 May 2006. 16 May 2006. <http://www.buffalonews.com/editorial/20060515/1037599.asp>

3 Honda's More Powerful Fuel Cell Concept with Home Hydrogen Refueling. Green Car Congress. 19 October 2005. 16 May 2006. http://www.greencarcongress.com/2005/10/hondas_more_pow.html William Sutherland is a published poet and writer. He is the author of three books, "Poetry, Prayers & Haiku" (1999), "Russian Spring" (2003) and "Aaliyah Remembered: Her Life & The Person behind the Mystique" (2005) and has been published in poetry anthologies around the world. He has been featured in "Who's Who in New Poets" (1996), "The International Who's Who in Poetry" (2004), and is a member of the "International Poetry Hall of Fame."