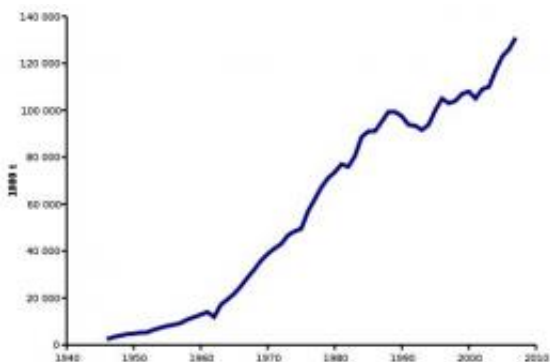


Pair claim they can make ammonia to fuel cars for just 20 cents per liter

September 5 2011, by Bob Yirka



Production of ammonia 1946-2007. Image: Wikipedia.

(PhysOrg.com) -- John Fleming of [SilverEagles Energy](#) and Tim Maxwell from Texas Tech University, say they have developed a way to make ammonia that is cheap enough so that it could be used as fuel for cars. If their claims turn out to be true, many consumers might consider switching over because ammonia, when burned in an engine, emits nothing but nitrogen and water vapor out the tailpipe. And if that's not enough incentive, they claim they can make the ammonia for just 20 cents a liter (approximately 75 cents a gallon).

The secret to their low cost estimates actually lie in their newly developed method for making hydrogen, which they use to make their ammonia. They say that by using a new kind of transformer that Fleming built, they can reduce the number of cells necessary for electrolysis to

such a degree that they can produce hydrogen at almost half the cost of traditional electrolysis methods.

To make the ammonia, the hydrogen produced is pumped into a compression chamber where a piston squeezes it, causing it to heat up; in this case to 400C°. The result is then allowed to escape into another compartment where a reaction is set off by an iron oxide catalyst. This makes the hydrogen grow even hotter to the point where it begins creating ammonia. The ammonia and leftover [hydrogen](#) is then allowed to cool down and decompress in yet a third compartment, and in so doing causes another piston to move back and forth creating energy that is fed back into the system to help lower electric consumption. Then, the ammonia is chilled to -75C° and pumped into a tank for use.

Cars already on the road can use ammonia as an additive without modification (up to 10%) and flex cars could be, according to Fleming, easily modified to use ammonia in conjunction with ethanol, allowing for a mixture of 85% ammonia.

This is all still new technology of course, and apparently no one else has yet verified the claims of the duo, so until that happens, everyone will just have to wait and see if everything they say pans out. One thing not mentioned is the smell; the strong odor of gasoline at service stations is bad enough, it's difficult to imagine the exceedingly noxious odor of [ammonia](#) permeating the air of such places instead.

More information: via [Newscientist](#)

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Citation: Pair claim they can make ammonia to fuel cars for just 20 cents per liter (2011, September 5) retrieved 16 April 2024 from <https://phys.org/news/2011-09-pair-ammonia-fuel->

cars-cents.html

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