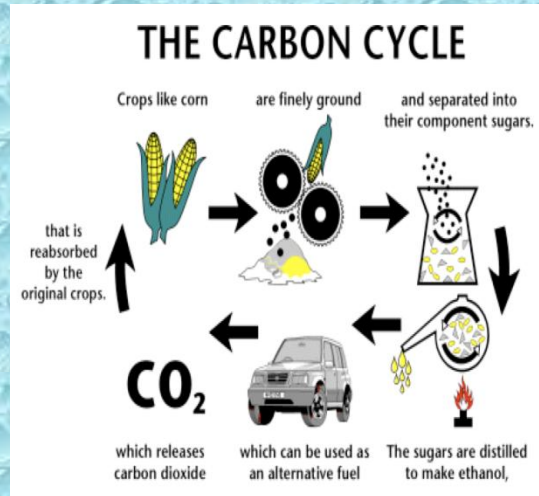


Future Automotive Fuel Cells

By: Brendan, Bryn, and Michael

BIOFUELS



socy15.wikispaces.com/file/view/Picture_4.png

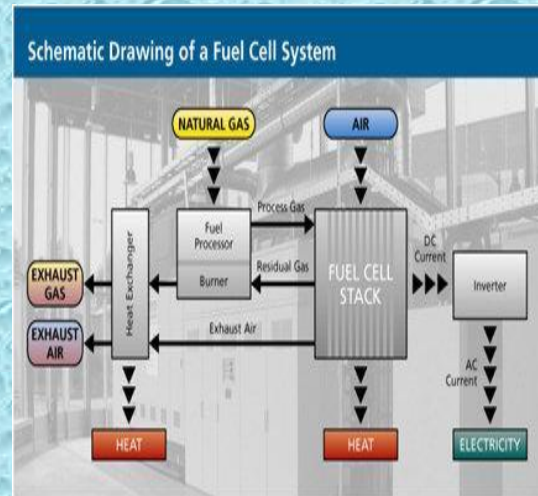
Advantages:

- Can be produced locally
- Renewable
- Carbon neutral
- Inexpensive to produce
- Corn ethanol delivers a positive energy balance of 8.8 MJ/L; Second generation is up to six times better

Disadvantages:

- Biofuel is most often used as an additive as opposed to a fossil fuel replacement
- Lower heat of combustion (less energy, less distance)

NATURAL GAS



nachhaltigwirtschaften.at/imgcache/nw_img/ff023_4_en_large_450.jpg

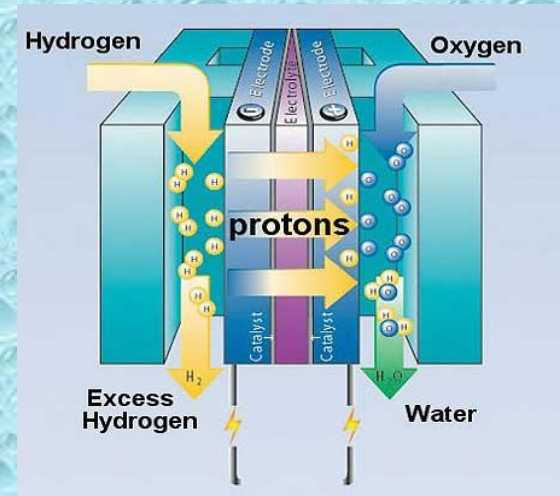
Advantages:

- Cheaper fuel (1/3 of cost of gasoline)
- Has shown much more stable prices than that of gasoline
- Natural gas vehicles have a lower maintenance cost compared to gasoline

Disadvantages:

- Natural gas is a fossil fuel, not a renewable resource
- Mileage of vehicles is only around 60% of what a gas-powered vehicle can produce

HYDROGEN



kids.esdb.bg/images/fuelcell.jpg

Advantages:

- No toxic emissions produced
- Hydrogen is readily available everywhere in both organic and non-organic substances
- Hydrogen per weight has three times the amount of energy as conventional gasoline

Disadvantages:

- Hydrogen itself in oxygen is very flammable
- Needs a lot of energy to both store and transport