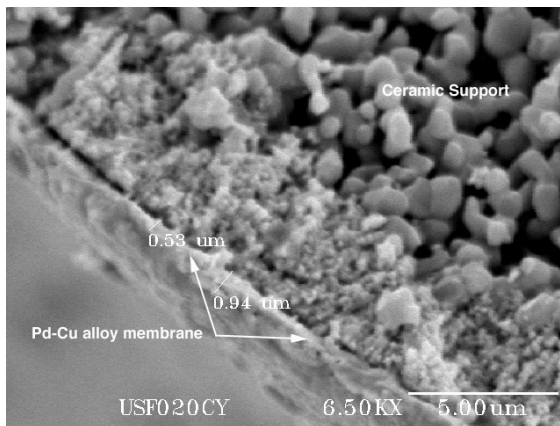


## Fuel Cells – Increasing Energy Efficiency

Mines researchers have developed a membrane that separates hydrogen from gas mixtures that is resistant to sulfur poisoning. These attributes are particularly critical in fuel cell applications where hydrogen generation is a key factor. In principle, a fuel cell operates like a battery. Unlike a battery, a fuel cell does not run down or require recharging. It will produce energy in the form of electricity and heat as long as fuel is supplied. A fuel cell system that includes a "fuel reformer" can utilize the hydrogen from any hydrocarbon fuel - from natural gas to methanol, and even gasoline. Since the fuel cell relies on chemistry and not combustion, emissions from this type of a system would still be much lower than emissions from the cleanest fuel combustion processes.



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