

# Low Cost and Environmentally Friendly Hydrogen Production

BYU #2020-039

#### DESCRIPTION

Researchers at BYU have developed a new process that uses carbohydrates to produce hydrogen. The procedure consists of two separate chemical processes occurring in a single processing unit, consisting of reaction chambers A and B (as represented in the image below). Through this process, the isolated hydrogen is collected, compressed, and stored for later use.

#### **PROBLEM SOLVED**

Hydrogen is a valuable, high-volume industrial gas used in a number of important processes. It is also being explored as fuel for domestic and transportation use because of its high-energy content and non-polluting characteristics. However, hydrogen is expensive to produce and its current production from natural gas produces CO2, which is an undesirable green-house gas. The invention overcomes these challenges by using carbohydrates to produce hydrogen under mild condition without production of environmentally detrimental green-house gas byproducts.

### **KEY ADVANTAGES**

- » Cost effective
- » Fast production
- » Environmentally friendly

## **APPLICATIONS**

Hydrogen can be used in a wide range of applications including: electronics industry, transportation, petroleum refining, semiconductor manufacturing, pharmaceuticals, glass production and the production of carbon steels.





Offer: License Exclusive World Wide All Fields of Use

IP Status: Patent Pending



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