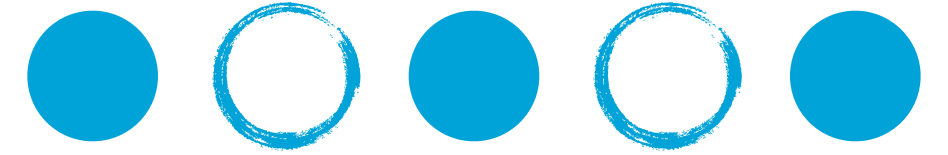


*what's your*

**h<sub>2</sub>IQ**

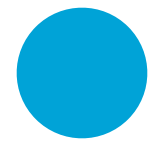


*brought to you by...*

International Association for  
Hydrogen - Princeton University



**IAHE-PU** • join the dialogue



## What are pemfc?

Polymer electrolyte membrane fuel cells (PEMFC) are a compact type of fuel cell that show promise in the small appliances sector. Based around thin Nafion membranes, PEMFC are advantageous in that they can operate at low temperatures and contain no hazardous materials. However, water management remains a challenge with these fuel cells. Labs across the country (including that of Princeton University CHE professor Jay Benziger) are currently engaged in research to determine construct, orient, and operate a PEMFC to maximize performance.



## How is hydrogen produced today?

Approximately 95% of today's commercial hydrogen is produced through a process called natural gas reforming, where methane is reacted to produce hydrogen gas. There are various other ways of forming hydrogen, however, including reverse electrolysis, and photobiological processes. If done correctly, hydrogen production could be a Minus Emission procedure by reacting air pollutants to produce carbon dioxide and water.

## ● **What is the cost associated with automotive hydrogen fuel cells?**

In 2008, the cost per kilowatt of energy produced by hydrogen fuel cells was \$73. The government target cost is \$30/kW.

## ○ **Is hydrogen the answer to the world's energy crisis?**

Scientists worldwide are constantly debating about hydrogen's place in the energy landscape. IAHE-PU is a student group concerned with learning more about hydrogen energy, its potential, its limitations, and the open questions motivating today's cutting-edge research.

Is hydrogen the answer? You tell us.

**Join the dialogue.**