



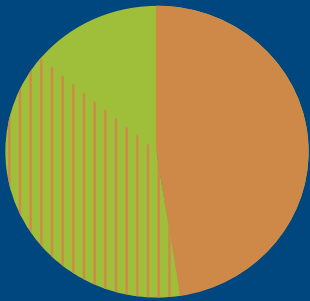
**EVERY DAY, INDIVIDUALS, ORGANIZATIONS AND GOVERNMENTS MAKE DECISIONS ABOUT USING ALTERNATIVE ENERGY TECHNOLOGIES.**

Today, customers are buying real hydrogen and fuel cell products such as buses, lift trucks and stationary power units.

The NHA's *Hydrogen & Fuel Cells: U.S. Market Report* presents industry-reported data to better inform decisions related to the production and use of hydrogen.

The report focuses in three main areas of the U.S. merchant hydrogen market:

- hydrogen production and delivery;
- hydrogen use;
- education and employment.



total U.S. hydrogen production: 2008\*

● merchant ● non-merchant

\* The shaded area represents the variance in Industry estimates of total merchant hydrogen production (which are the result of discrepancies in estimates of the volume of hydrogen delivered by pipeline).



## 8 THINGS YOU SHOULD KNOW ABOUT THE U.S. HYDROGEN & FUEL CELL MARKET

HIGHLIGHTS FROM THE NATIONAL HYDROGEN ASSOCIATION'S U.S. MARKET REPORT



### IN 2008, THE U.S. HYDROGEN AND FUEL CELL INDUSTRY:

**1 produced 20 billion+ kilograms of hydrogen**



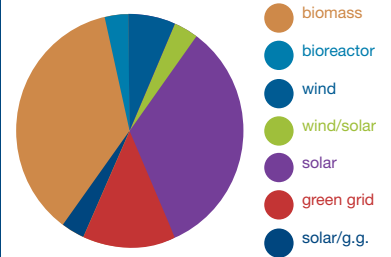
This is the energy equivalent of 491 million barrels of oil. The Western states (Hawaii, Alaska, California, Washington, Oregon, Nevada and Arizona) import this much oil every year.

Hydrogen is a national industry, with production plants within 60 miles of every major U.S. city.



~1200 miles of pipeline transported hydrogen around the U.S.

**2 produced renewable hydrogen at 27 sites\***



\* 17 sites in California; 7 sites in the Northeastern U.S.; 3 sites in Central U.S.

**3 put more cars and buses on the road than ever before**



vehicles on the road	210
miles driven	1.1 million
hydrogen used	26,000 kg
hydrogen fuelings	11,000



vehicles on the road	12*
miles driven	176,000
hydrogen used	28,740 kg
hydrogen fuelings	1,670
passengers carried	366,000

\* the number of fuel cell buses on the road will double by the end of 2010

## 4 supplied 61 hydrogen fueling stations



## 5 powered 200 fuel cell lift trucks at 16 sites in 9 states

The American Recovery & Reinvestment Act is spurring the replacement of battery-powered lift trucks with fuel cell-powered ones. Of the 450 fuel cell lift trucks delivered in 2009, 360 were funded through ARRA.



## 6 produced more than 13 MW of stationary power production capacity



This is the equivalent of the electricity required to power more than 10,000 homes.

.....  
backup power: 10,072 kW

.....  
auxiliary power: 2,761 kW

.....  
primary power: 300 kW

.....  
The majority of stationary power produced is critical backup power for high value applications in industries such as telecommunications.

## 7 saw increased interest in hydrogen and fuel cell curricula and career opportunities



130 educational institutions

in 40 states and the District of Columbia offered hydrogen and fuel cell courses.



76% annual increase in student enrollment in specialized hydrogen and fuel cell programs since 2006.

## 8 provided employment in a growing market

7000+ people in the United States are working in merchant hydrogen and fuel cell-related jobs.

A Department of Energy study indicates the sector will employ up to 180,000 people by 2020 to support this growing market.



To read the full report, visit: <http://www.ttcorp.com/marketreport>



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