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## California: Air Liquide starts up hydrogen unit for cleaner fuels

*press release*

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Air Liquide continues to grow its **hydrogen business** in the U.S. to reliably supply refiners with this essential gas used to convert heavy crude oil into diesel, jet fuel and gasoline and to further remove sulphur from these products. These low sulphur transportation fuels meet the most stringent worldwide environmental regulations.

**Air Liquide's latest world scale hydrogen production unit began operations** on September 29, 2009, on the site of ConocoPhillips' San Francisco refinery in Rodeo, California, on the north eastern shore of the San Francisco Bay.

**The 142,000 Nm<sup>3</sup>/h\* steam methane reformer (SMR)**, owned and operated by Air Liquide Large Industries U.S L.P, is **one of the largest hydrogen units in operation in the United States.**

Air Liquide has **more than doubled its U.S. production capacity of hydrogen in the last five years.** With this unit in production, Air Liquide now operates hydrogen units at 12 sites in the U.S. in California, Washington, Texas and Louisiana, with a **total hydrogen capacity in excess of 592,000 Nm<sup>3</sup>/h\*\*.**

### **Air Liquide and hydrogen**

Air Liquide has produced hydrogen for over 40 years and holds 320 patents in hydrogen technologies. The Group operates more than 200 hydrogen production units worldwide of which 50 are large units, for revenue of €1.2 billion (\$1.7 billion) in 2008. Twelve hydrogen pipeline networks totalling 1,850 km (1,150 miles) serve large customers in industrial basins in the U.S., the Netherlands, Germany, Korea, Thailand, Singapore and China.

**Michael J. Graff**, member of Air Liquide Group's Executive Committee and president and CEO of American Air Liquide Holdings, Inc. said: ***"Air Liquide's hydrogen business in the U.S. has grown in step with market demand to reliably meet the needs of our customers. We continue to build our hydrogen infrastructure in support of the evolving energy sector, a growth driver for Air Liquide."***

\*120 million standard cubic feet per day (mmscfd)

\*\*500 million standard cubic feet per day (mmscfd)

### **Preserving the atmosphere**

In 2008, worldwide refineries used hydrogen from Air Liquide to produce cleaner burning fuels, preventing 770,000 tonnes of sulphur dioxide emissions from cars and trucks.

**Air Liquide is the world leader in gases for industry, health and the environment**, and is present in over **75 countries** with **43,000 employees**. Oxygen, nitrogen, hydrogen and rare gases have been at the core of Air Liquide's activities since its creation in 1902. Using these molecules, Air Liquide continuously reinvents its business, anticipating the needs of current and future markets. The Group innovates to enable progress, to achieve dynamic growth and a consistent performance.

Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society. **Innovative technologies** that curb polluting emissions, lower industry's energy use, recover and reuse natural resources or develop the energies of tomorrow, such as hydrogen, biofuels or photovoltaic energy... Oxygen for hospitals, homecare, fighting nosocomial infections...

**A partner for the long term**, Air Liquide relies on employee commitment, customer trust and shareholder support to pursue its vision of sustainable, competitive growth. The **diversity** of Air Liquide's teams, businesses, markets and geographic presence provides a solid and sustainable base for its development and strengthens its ability to push back its own limits, conquer new territories and build its future.

**Air Liquide explores the best that air can offer to preserve life, staying true to its sustainable development approach**. In 2008, the Group's revenues amounted to **€13.1 billion**, of which almost 80% were earned outside France. Air Liquide is listed on the Paris Euronext stock exchange (compartment A) and is a member of the CAC 40 and Dow Jones Euro Stoxx 50 indexes.