

COP21: Air Liquide wins an Innovation Award from the France-China Committee for its Heat Oxy-Combustion technology

On the occasion of the 2015 United Nations Climate Change Conference (COP21) at Paris-Le Bourget, the France-China Committee¹ awarded last Friday December 4th, its 2015 Innovation Awards focused on “Climate Solutions” and awarded Air Liquide the Innovative Product Award for its Heat Oxy-Combustion technology. Developed by Air Liquide R&D teams, this breakthrough innovation enables to reduce the environmental impact of the glass melting process.

Energy efficiency and emission reduction are critical for the glass industry which needs a significant amount of energy to achieve the extremely high temperatures necessary for glass melting. Oxy-combustion is based on the enrichment of air with pure oxygen. It is widely used for the glass and metal industries to improve the combustion process, reduce air pollutant emissions and save fuel.

The **Heat Oxy-Combustion technology** is an innovative technology that makes oxy-combustion even more efficient. It is based on the following principle: **extract heat from the combustion fumes and use it to heat oxygen and fuel** hence maximizing the oxy-combustion performance by 10%. Compared to air combustion, this technology provides **up to 50% energy savings and up to 50% CO₂ emission reduction**.

So far, this technology **has been implemented in several glass factories** in Europe, owned by major glass players. It is of particular interest to the Chinese market which represents about 50% of the worldwide glass production.

To develop this **unique patented technology**, Air Liquide’s R&D teams have designed safe and reliable equipment, fully integrated with glass melting furnaces. The Group has substantial R&D resources and strong experience in glass making thanks to its extensive network of field experts and dedicated testing platforms in France, the United States and China. For more than 20 years, they have been mastering oxy-combustion technologies including patented burners and furnace heat modeling.

François Darchis, member of the Air Liquide Executive Committee supervising Innovation and the Industrial Merchant Business Line, commented: **“We are honored to receive this prize which demonstrates the unique expertise of Air Liquide in the field of oxy-combustion and its capacity to provide innovative technologies to address the industry’s environmental challenges. This recognition by the France-China Committee recognizes Air Liquide leadership in innovation.”**

¹ The France-China Committee is a private, non-profit organization with a membership of more than 100 French companies that do business with China. Founded in 1979 at the initiative of the French business community and supported by the French and Chinese authorities, the aim of the CFC is to promote understanding and knowledge between French business and the Chinese government as well as Chinese companies. www.comitefrancechine.com

Air Liquide's Industrial Merchant Business Line

Air Liquide's Industrial Merchant Business Line provides gas solutions to its customers, including industrial and specialty gases, application technologies and expertise, at every stage in their process. Across a multitude of industries, from multinational corporations to independent craftsmen, 20,000 people serve more than 1 million customers. In 2014, revenues were €5,083 million.

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World leader in gases, technologies and services for Industry and Health, Air Liquide is present in 80 countries with more than 50,000 employees and serves more than 2 million customers and patients. Oxygen, nitrogen and hydrogen have been at the core of the company's activities since its creation in 1902. Air Liquide's ambition is to be the leader in its industry, delivering long-term performance and acting responsibly.

Air Liquide ideas create value over the long term. At the core of the company's development are the commitment and constant inventiveness of its people.

Air Liquide anticipates the challenges of its markets, invests locally and globally, and delivers high-quality solutions to its customers and patients, and the scientific community.

The company relies on competitiveness in its operations, targeted investments in growing markets and innovation to deliver profitable growth over the long-term.

Air Liquide's revenues amounted to € 15.4 billion in 2014, and its solutions that protect life and the environment represented more than 40% of sales. 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.