

Air Liquide awarded a major coal gasification contract in China

press release

Air Liquide has just signed a long-term contract with Fujian Shenyuan New Materials Co., Ltd (Fujian Shenyuan) to supply industrial gases for its caprolactam production project located in Lianjiang Kemen Economic & Development Zone, Fujian Province, South-East of China.

Under the terms of the contract, **Air Liquide will invest in an industrial gases complex of eight units** including an Air Separation Unit of 2,000 tonnes of oxygen per day, a Gasification unit, a Purification unit of synthesis gas (RectisolTM) and an ammonia plant to supply hydrogen, nitrogen and ammonia. **Six plants out of the eight of the complex are based on Air Liquide's proprietary world-leading technologies.** They will contribute to purify synthesis gas and avoid sulfur emissions, which are notably responsible for acid rain. In addition, Air Liquide possesses strong **operations and engineering integration capabilities in China** as well as expertise in coal gasification in terms of **energy efficiency**, enabling the Group to **operate a full supply chain from coal and oxygen to pure hydrogen.**

These plants, to be commissioned beginning of 2016, will produce 75,000 Nm³/h of hydrogen and 250,000 tonnes per year of ammonia. Pure **oxygen** is used to **transform coal** in synthetic gas, to produce **hydrogen**. Hydrogen and ammonia are necessary for the production of caprolactam, an intermediate for nylon in the textiles industry.

Fujian Shenyuan is a private company. The Group who owns Fujian Shenyuan also owns two other downstream companies, to which Fujian Shenyuan will supply 100% of its caprolactam production. These two companies together have a 12% market share of the nylon textile filament market in China.

Chairman Chen of Fujian Shenyuan, said: "We are delighted to cooperate with Air Liquide, with which we share the same long term industrial vision, and have full confidence in its technological capability to meet our demand."

Jean-Marc de Royere, Senior Vice-President Asia-Pacific and a member of Air Liquide Executive Committee, commented: "By leveraging the Group's technologies, as well as excellent project and operations skills of our teams in China, we will provide our customer with high value-added solutions. This project enables to valorize natural resources using our technologies to increase the competitiveness of our customer. Our cutting-edge technologies allow us to open new markets."



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Air Liquide in China

operates more than **60 plants** and **employs 4,000 employees** today, with a strong presence in the key coastal industrial areas, and is expanding into the center, northeast, south and west.

Air Liquide also has **strong Engineering and Construction capabilities** based in Hangzhou and Shanghai.

Air Liquide entered China in 1916, returned to supply Air Separation Units in the 1970s and restarted gas operations in 1990.



Fujian Province in China

Air Liquide is the world leader in gases for industry, health and the environment, and is present in **80 countries with close to 50,000 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 for the good of society while delivering profitable growth and consistent performance.

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, home healthcare, fighting nosocomial infections... Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society.

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 Corporate Social Responsibility and sustainable development approach. In 2012, the Group's revenues amounted to **€ 15.3 billion** of which 82% were generated 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.