

Press Release

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Linde awarded major supply contract for South African helium

- Linde Engineering commences design and construction of helium extraction and process plant
- Linde's Global Helium business acquires offtake agreement for helium

Munich, 04 May 2016 – Technology company The Linde Group, today announced the signing of an agreement between Linde and alternative energy company Renergen for the development of the Free State Helium and Natural Gas (NG) field near Welkom in South Africa, expected to commence operations in 2018.

The 187,000 hectare helium/NG field in Virginia, Free State province, is the first onshore NG production site in South Africa and has proven reserves of 25 billion cubic feet. Helium is relatively scarce on earth and is often found trapped with NG in low concentrations typically up to 1% by volume of the gas released. NG from the Free State field, however, contains helium in concentrations of up to 3-4% by volume.

Under terms of the agreement, Renergen will supply Linde with helium reserves via an offtake contract, with Linde Global Helium being assigned the distribution rights. The Linde Group's Engineering Division will provide the high-tech patented extraction technology – a pioneering single system to separate the helium from the natural gas, then purify, compress, liquefy and store it ready for distribution. Linde's African subsidiary, Afrox, will operate the plant and market the helium.

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Manfred Schneider, Chairman
Executive Board:
Wolfgang Büchele, Chairman
Thomas Blades, Christian Bruch
Georg Denoke, Bernd Eulitz, Sanjiv Lamba

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“Linde has worked diligently to develop this unique Helium resource together with Renergen and looks forward to receiving helium upon commencement of plant operations,” said Nick Haines, Head of Global Source Development, Global Helium & Rare Gases, Linde. “Along with our helium sources in USA, Qatar, Australia and Algeria, this supply agreement re-confirms Linde’s position as the supplier with access to the most diversified helium source portfolio.”

Utilising the latest in land preservation techniques, Renergen has drilled wells, thousands of feet deep to tap the NG source dome, while ensuring minimal visual and environmental impact on the gas field’s landscape. Wells and well-heads are being interconnected underground via an intricate gathering system, which will feed directly into the Linde engineered natural gas and helium processing plant.

The Linde plant will reduce the energy needed and cut CO₂ emissions of traditional helium from NG extraction processes and will represent the latest in engineering technology advances. The plant will be of modular design and precision manufactured in Europe before being shipped to the Free State for fast and efficient construction.

About The Linde Group

In the 2015 financial year, The Linde Group generated revenue of EUR 17.944 bn, making it one of the leading gases and engineering companies in the world, with approximately 65,000 employees working in more than 100 countries worldwide. The strategy of The Linde Group is geared towards long-term profitable growth and focuses on the expansion of its international business with forward-looking products and services. Linde acts responsibly towards its shareholders, business partners, employees, society and the environment in every one of its business areas, regions and locations

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across the globe. The company is committed to technologies and products that unite the goals of customer value and sustainable development.

For more information, see The Linde Group online at www.linde.com

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NOTES TO THE EDITOR:

Helium and its usages:

Liquid helium has a boiling point of approximately -269 degrees C, and is the only substance that can be practically used for deep low temperature refrigeration.

- Liquid helium is used to cool the superconductive magnets in MRI (Magnetic Resonance Imaging) for a wide use in medical diagnostic purposes
- Helium is used extensively in the welding industry as an inert shielding gas for arc welding
- Used in various type of gas lasers as a buffer or carrier gas
- Used in mixture with neon and argon for filling electronic tubes - neon signs
- Various mixtures of helium and oxygen used as breathing gases for divers

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- Used to fill large balloons for upper atmosphere and cosmic ray studies - smaller balloons used by weather forecasters
- Due to non-flammability and low density it is ideal for filling toy balloons
- Used as a calibration gas and to balance gas calibration mixtures

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