



Gas Liquids Engineering Ltd Introduces New Carbon Capture Engineering Process

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Calgary, Alberta based Gas Liquids Engineering Ltd is pleased to introduce a new carbon capture engineering process. The company is a privately owned engineering firm that has provided engineering services to companies all over the world from their Calgary offices since 1987.

Gas Liquids Engineering is an industry leader in the area of CO₂ processing and sequestration, or CCS (Carbon Capture and Sequestration). With years of experience and having carried out more carbon sequestration projects than any other engineering firm on earth in the form of amine processing and geostorage, the company boasts a thorough understanding of the highly unique requirements for handling CO₂. With over 30 years of successful sequestration projects involving CO₂ and H₂S (also known as Acid Gas Injection), Gas Liquids Engineering's experience in the specialized requirements of CO₂ systems makes them highly skilled in the processes, equipment selections and specifications required.

Gas Liquids Engineering also developed the lowest cost dehydration process currently available for CO₂,

now used globally in CO₂ transportation and sequestration. The company has carried out commercial CO₂ purification projects as well as implemented projects feeding the largest carbon sequestration system in Canada, the latter of which is one of the largest of its kind currently in operation globally.

The company has partnered with the University of Guelph for the project "Understanding CO₂ capture processes: a combination of reactive molecular simulation, thermodynamic modelling and experiments," which is funded by the Natural Sciences and Engineering Research Council of Canada under its International Strategic Partnership Program grant # STPGP 479466, running from 30 Sept. 2015 to 30 Sept. 2021.

Carbon capture, utilization and storage (CCUS) is a process of sequestering and recycling CO₂ from emission sources and the atmosphere. CO₂ is a major contributor to global warming and climate change. CCUS is just one of the many geoengineering ideas scientists are considering today.

During the capture stage, carbon is removed from the point source, such as flue gas emitted from industrial plants. According to the project, capturing CO₂ when it is in a concentrated stream is much easier than a dilute one; however, modern technology has enabled the removal of CO₂ that is already in the atmosphere. Once captured, carbon dioxide is compressed (turned into liquid form) and transported to storage sites via pipelines, ship or truck. Pipeline transport is the dominant method of transport but other methods may be chosen as seen appropriate with respect to health and safety.

Then, the utilization stage aims to make the most of this captured CO₂ by looking at opportunities like conversion into useful chemicals, enhanced oil recovery (EOR), recovering untapped oil or alkaline remediation. This is accomplished by taking the combustion exhaust stream as raw material. Finally, in the storage stage, carbon dioxide is permanently stored underground by injecting it into rock formations several kilometers below the surface. This process is called geosequestration. The storage sites are chosen based on the vast amount of porous rocks they have underground. The CO₂ injected will fill the pores between these rocks and is kept there by an impermeable layer covering it from above. This process is almost identical to how oil and gas is naturally stored underground.

There are different capture methods identified by the project. They are: pre-combustion (where carbon dioxide is captured and removed before fuel combustion), post-combustion (where CO₂ is removed from the flue gas after a combustion process), post-production (when a desired product such as H₂ or ethanol is produced and the product stream contains CO₂, which must be removed), oxy-fuel combustion (similar to post-combustion process, except the fuel is combusted in oxygen instead of air) and direct air capture (which is basically the creation of an artificial plant that is much more efficient at removing CO₂ from the surrounding air than real plants.)

Learn more about Gas Liquids Engineering Ltd, their history in the field and their wide-ranging work at their official website. Those interested may reach out to Tim Cayzer via email or phone to follow up on any further inquiries. Additionally, social media users may follow Gas Liquids Engineering Ltd on their preferred platforms in order to stay abreast of their latest activities, announcements and offers.

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Gas Liquids Engineering Ltd

Gas Liquids Engineering Ltd. (GLE) is a privately owned engineering firm providing engineering services from our Calgary, Alberta offices since 1987. Occupying over 85000 square feet in our two corporate buildings,

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