



# Advanced Cryogenics

## All about carbon dioxide

**A**dvanced Cryogenics, Ltd., found under both the domains [www.advancedcryogenicsltd.com](http://www.advancedcryogenicsltd.com) and [www.carbondioxideconsultants.com](http://www.carbondioxideconsultants.com),

has now celebrated 26 years as a major carbon dioxide (CO<sub>2</sub>) and cryogenic gas consulting practice. The company caters to all types of allied industries from industrial gas, to chemical, energy, power, fertilisers, and biofuels, to name just a few.

Biofuels is entering an era of transformation from corn and grain-based fermentation to cellulosic for production of both fuel-based ethanol and downstream chemicals, and specialty products, to include algae which also serves as a fine carbon sink. Today, beyond the standard goal of maximising revenues from all projects, source types, and solutions, would be environmental solutions – from finding and developing carbon sinks from traditional sequestration solutions such as enhanced oil recovery (EOR), to downhole sequestration into aquifers or photosynthesis.

Since 1989, the company has been ahead of the curve with changing trends in CO<sub>2</sub> sourcing, which have been driven by legislation, energy-based commodity values, market developments such as flue

gas recovery in the 1990s or the rise in fuel grade ethanol plant developments through the 1990s/2000s, and the development of improved solutions and added value for CO<sub>2</sub> by-product from low cost energy-borne projects such as ammonia and ethylene oxide projects.

The company has provided CO<sub>2</sub> consulting expertise to many of today's operating CO<sub>2</sub> plants and projects; as well as those which operated in the past. Sam A. Rushing, President of Advanced Cryogenics, is a chemist by background, with the first 12 years of CO<sub>2</sub> experience in the merchant CO<sub>2</sub> trade with the former Amerigas, CO<sub>2</sub> Division. Upon the sale of Amerigas to BOC in 1989, Rushing began his consulting practice immediately, at which time Advanced Cryogenics, Ltd. began operations. The company has worked hand-in-hand with various technology companies and plant manufacturers over the years, which also expanded their role in the CO<sub>2</sub> industry via the sale of plants and technology for new production globally.


### Instrumental

Advanced Cryogenics has been instrumental in tasks ranging from writing CO<sub>2</sub> specifications, to evaluating and developing solutions to enhance the

value of CO<sub>2</sub> from all traditional CO<sub>2</sub> sources including ammonia, natural sources, ethylene oxide, ethanol, reformer, and other chemical and by-product sources. Further, many of today's ethanol plants producing CO<sub>2</sub> for the merchant markets in the US and internationally are satisfied clients of Advanced Cryogenics.

The company has provided hundreds of articles to a wide range of industry publications, and has delivered papers to a variety of industry conferences on all subjects surrounding CO<sub>2</sub> related topics. Today, the company can claim a strong merchant background from Amerigas CO<sub>2</sub> Division; as well as an additional 26 years of diverse consulting expertise to a global community covering all topics from purity, to process, production, markets, applications expertise, and much more.

Service to a variety of independent CO<sub>2</sub> firms globally supporting the development of applications beyond soft drink usage has been one focus of the company. This work to enhance CO<sub>2</sub> markets via working with clients to expand their business to include all applications for the product has recently been concentrated in regions such as the Caribbean, Latin America, Africa, and the Middle East. The bottom line is to offer added value for all customers and projects globally.

Simply put, Advanced Cryogenics, Ltd, is simply all about carbon dioxide, with support from a long and diverse history of consulting expertise; further supported by a comprehensive merchant industry background. The company also is a supplier of new and surplus cryogenic and CO<sub>2</sub> equipment worldwide. Rushing adds, "When pursuing your next CO<sub>2</sub> project, and you seek expertise to enhance the value of your project and product and further wish to improve revenues, please contact me. The company has a long history of well suited clients and is here to add value to your ventures." 

### GET IN TOUCH

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