



class power efficiency, coupled with a revolution in lowering oxygen VPSA packaging cost, a major improvement step change in the cost of oxygen within the EcoGen™ capacity range has taken place. Multiple EcoGen™ VPSAs have proven more cost effective than single larger competitors' VPSA."

However, the oligopoly struggles were not yet over. In North America, Flaherty explains, the industrial gas companies have a business model where they do not sell the 'cow' (the oxygen production equipment). They prefer to sell the 'milk' (the oxygen molecules) on a long-term contract basis.

"Having back-up liquid oxygen (LOX) is an effective tool limiting the success of us 'cow sellers'. But from past international experience, we recognised that outside North America oxygen end-users were quite comfortable buying their own 'cow,'" explains Flaherty.

Despite this interest from outside of North America, Adsorptech still had very little export experience or track record. The company needed to quickly learn how to become an efficient exporter. With the help of the US Commercial Services and the New Jersey Business Action Centre, Adsorptech was able to establish an export plan and today has operating facilities in Europe and the Middle East, as well as North America. With testimonials now in hand, the next commercialisation phase for Adsorptech is a concentrated effort to develop in a key growth market – South America.

Adsorptech continues to consult industrial gas majors, whilst also selling directly to end-users. The company now sells the 'cow' to select industrial gas majors and then these majors continue to sell the 'milk' to their business preference. "If you can't beat them, join them," Flaherty exclaimed.

"Our biggest competitors remain some of our biggest customers. It's a strange land this industrial gas business. So stay tuned, this small business will not be small for much longer as the world recognises the value of Adsorptech and its revolutionary EcoGen™ oxygen VPSA product." 

Adsorptech

An adsorption boutique

Adsorptech is a 'boutique' company which specialises in the supply of adsorption technologies and products.

In 2002, Adsorptech was formed as a non-cryogenic consulting company essentially working for one major client – its old bosses at The Linde Group.

Six years later, the company's biggest challenge came along – the financial crisis. The frugal and austere financial environment meant that Adsorptech's primary customer, as well as most of the industry, had to realign and reevaluate their expenses. With a respectable backlog at the time the crisis hit, Adsorptech managed to limp along. However, had Adsorptech not decided to reinvent itself, bankruptcy would have been inevitable.

The reinvention had two primary strategies – expand the client base and become an equipment manufacturer in addition to consulting. Expanding the client base was challenging. Adsorptech was a small business competing in a multi-billion-dollar oligopoly industry. However, through a concentrated and proactive effort, relying on 30 years of industrial business connections, the number of consulting clients slowly rose.

Becoming an equipment supplier came with a series of challenges. As a small business, Adsorptech had no hope of

success without product differentiation from the oligopoly and other small oxygen equipment competitors (primarily oxygen PSA). The company had what Adsorptech President and CEO James Flaherty describes as a 'me too' technology for 20 tonnes per day (tpd) to 100 tpd oxygen vacuum pressure swing adsorption generators (VPSAs). To distinguish itself from the opposition, Adsorptech had to focus on cutting costs.

Flaherty explains, "As a small business, our overheads and procedures are kept to a minimum so that savings can be passed onto our customers through our products. Because of this, we were able to place the ModCGen™ oxygen VPSA onsite generator at a very low total installed cost. However, despite this cost advantage the industrial gas majors were still so dominant in comparison, subsequently Adsorptech's market potential remained extremely small."

With thinking caps in full gear, Adsorptech invented a new oxygen production process and package titled, EcoGen™. The new EcoGen™ model range covers from 1 tpd to 12 tpd per oxygen VPSA and is the latest advancement in oxygen production technology that achieves the highest oxygen production power efficiency in the world today.

Flaherty clarifies, "With the best-in-