The sun rises in the West

Canadian Chemicals

Whilst the well established chemical manufacturing industry in the eastern parts of the country struggles against adverse conditions, Alberta's petrochemical and Oil and Gas related chemical industry powers ahead. GBR examines the obstacles and opportunities confronting Canada's chemical industry. The report (CW Canada) was researched and written by Christopher Hindle, Alex MacDougald and Jennie Dehlen

Canada has long been home to a highly competitive and innovative Chemical industry. Its traditional heartland may be in Ontario, where 8 of the 10 largest chemical companies in the world still maintain offices but, today the industry is truly pan-Canadian. Profiting from an abundance of relatively cheap feedstock, Alberta, as we shall see a little later, plays host to a burgeoning petrochemical industry; whilst on the other side of the country, Quebec is the home to the bulk of Canada's pharmaceutical industry, with Montreal as the centre of operations. From Nova Scotia to British Colombia, the country's chemical industry is characterized by a deep pool of talented individuals, with a commitment to cutting edge R&D and a level of innovation that is admired worldwide – a fact clearly demonstrated by the large number of Canadian ex-pats deploying their skills overseas.

It was also in Canada that Responsible Care, the chemical industry's worldwide initiative to ensure the safe and environmentally sound management of its products and processes, was born in 1987. It has since been adopted as a benchmark in 52 countries and continues to pervade everything in the Canadian chemicals sector. Blachford, a leading manufacturer of industrial chemicals and noise reducing materials is typical in its whole-hearted support for the scheme. The firm's President and CEO, John Blachford, attributes its proud record as a responsible corporate citizen to Responsible Care and hails the mindset that it has nurtured across the industry. "We are looking after chemicals in a more responsible manner as a result," he says. Such efforts as these have helped Canadian chemical companies transcend the countries borders and establish a reputation for good practise, reliability and excellence around the world.

However, recent years have been tough for the Canadian chemicals industry. 2007 may have been a profitable year, (operating profits rose 18%); but, this was largely driven by the petrochemical producers in Western Canada and clouds the anxiety felt by many of the industry's traditional players. According to Gary Kubera, President and CEO of Canexus, the third largest producer of sodium chlorate in the world, "The Canadian chemical market is struggling terribly. If you exclude oil and gas, you find tremendous manufacturing weakness. Any real manufacturer who is not an oil and gas producer has some degree of difficulty." In Ontario and Montreal especially, chemical companies

have been hit hard by a combination of rising energy costs, regulatory issues, particularly related to environment policy, and a strong Canadian dollar. The cumulative effect has been to weaken the productivity premium that Canadian facilities have generally enjoyed over their US counterparts and to undermine the geographic advantage of being so well placed to serve the huge US market. Of the 236,000 manufacturing jobs lost in Canada between 2000 and 2006, 196,000 were lost in Ontario and Quebec. Figures from The Canadian Chemical Producers' Association (CCPA) show a 7% decline in 2007 shipments of basic chemicals and plastics and the feeling across much of the sector is that business in 2008 is going to continue to be tough. "The general feeling is that there is a slowdown ahead of us," says David Podruzny, the CCPA's, Vice President of Business and Economics.

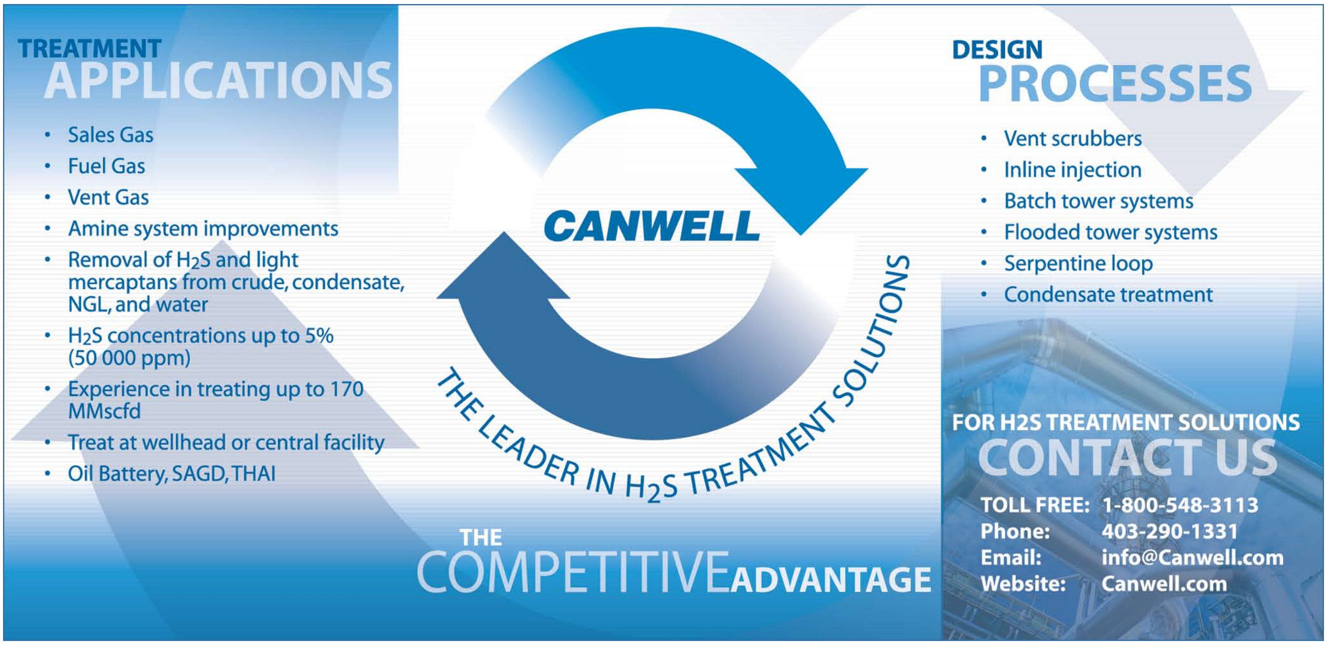
As is the case with most developed markets, Canada's Chemical industry has been forced to react to the emerging economic power of India and China, amongst others. And as the CCPA's President & CEO, Richard Paton, acknowledges, this is a situation unlikely to be reversed anytime soon. "Since the next 100 petrochemical plants are all being built in the Middle East and Asia, the competition will get even fiercer as new production comes on stream," he comments. For Ontario-based Apotex Pharmachem, the cost advantage that these countries already possess is recognised as a major issue, though the firm's President, Dr. Murphy believes that so far his company has been quite astute in meeting the threat. "We have been managing this is several ways," notes Murphy; " by developing processes earlier and faster than the competition; offsetting their cost advantage by leveraging off our relationship with our parent company (Apotex); maintaining our emphasis on processes innovation and by being closely linked to Chinese and Indian manufacturing capacity through our subsidiaries and affiliations." Such measures look to ensure Apotex's position as Canada's most important pharmaceutical company, currently producer of 1 in 5 of the country's prescription drugs, and develop into what Murphy describes as "another Canadian showcase."

Eastern Canada is, indeed, still home to some very venerable players who have ridden out many a downturn in the past and will surely manage to do so yet again. These companies benefit from experience, efficiency and vast banks of technical knowledge but also, importantly, scale and the ability to use the lower costs of Asian production to their advantage. Pharmascience, which, according to its founder, Morris Goodman, is "the 3rd or 4th largest" generic drug company operating in Canada," already has well established partnerships with both Chinese and Indian firms for API manufacturing. The firm is also well recognised in the West where it distributes its products and despite the current downturn Goodman says that he will continue to think big: "We will be doing close to CAD$500 billion in sales this year and spending over CAD$30 million a year on R&D. We want to become a global player and we are building our export department very vigorously. We are here to stay:' – a defiant attitude typical of Canadian manufacturers.

Furthermore, the growth of chemical companies in the East may look to have indirect benefits for Canada as emerging global players look to enter the North American market. Vijay Chemical Corporation (VJCHEM), for example, was founded by Vijay K. Dogra in India in 1974 and quickly developed its reputation as one of the finest producers of 30% sulphur content FeS in India. Dogra, keen to expand his business overseas, set up shop in Toronto in 2001 – a decision he says he never looked back on. "As a base from which to meet the growing demand of South and North America and other Western countries, Toronto couldn't be better, combining first class infrastructure and a good geographic location."

Changing dynamics globally has meant that North America, as a whole, has moved from being a low-cost producer of petrochemicals, to a relatively high-cost jurisdiction today and as North American production capacity comes under threat of rationalization, Canada's role in the equation looks set to change. For the Canadian chemicals sector, which has for a long time been comfortable with foreign ownership, the new challenge is one of autonomy and the avoidance of becoming "a branch plant industry." BASF, whose Canadian operations are headquartered in Mississauga, Ontario, remains deeply committed to the local communities where it operates, but as the company's President, Robin C. Rotenberg, explains, it now increasingly looks beyond the borders as a reflection of the industry's globalizing trends. 'I began this role in 2005 at a unique time when our Canadian organization presented a lot of opportunities for restructuring in order to align ourselves more closely with some of the BASF initiatives across North America," says Rotenberg. "Restructuring has been part of a continuous process of improving the organization through time. It's not just about keeping up, but also about how we can get ahead. Also, it's not just about how we do here in Canada but, from a global BASF standpoint, how we can best contribute to the overall group and how we can best serve the group's vision.'

There is no doubt that the Canadian chemical sector is truly integrated into today's global industry, but what its future role will be remains open. Within the industry there is a strong desire for change and well thought out initiatives abound as to how best re-invigorate the landscape for investment and support the



emergence of new start-up companies. The goal of the Ontario Chemistry Value Chain Initiative (OCVCI), for example, is nothing less than the re-invention of the Ontario chemical industry. However, whether or not there is sufficient political support for the industry to exert greater control over its own future, in the face of Kyoto and the decline in Canadian manufacturing in general, remains to be seen.

The Alberta Advantage

Think of Alberta and the first thing that comes to mind is most probably oil and gas. Vast reserves (the second most important in the world - 334 billion barrels of oilsands reserves and 176 billion barrels of conventional oil) of energy are the Province's lifeblood. Whereas the rest of Canada is looking at 2-2.5% growth in 2008, Alberta is expected to achieve 3-3.5%. Oil and gas is creating a plethora of opportunities for both Canadian and international business. It is breathing life into the Province's economy and creating boundless employment opportunities, so much so, that is hard to find enough skilled blue and white collar workers. To put things in perspective, the chemical and petrochemical industry grew by 282.1% in 2005, when compared to the previous year.

One only has to visit Calgary, the Province's nerve centre, to witness the scale of the development. Within a couple blocks, one can find all of the world's major oil and gas producers, as well as a host of servicing companies making Calgary the centre of an fully-integrated supply chain resulting in levels of competitiveness that more than match those found in the traditional oil basins of the world. As Mr. Adam Legge, Director of Research and Business Information at Calgary Economic Development, the agency established in October 2002 to, in their own words, 'provide new leadership and a new direction for the Calgary Region's economic development activities,' states: 'We have several advantages. We have a critical mass. The Calgary energy sector is the most concentrated and integrated industry in Canada. Added to which, the regulatory and legislative framework is very stable when compared to developing countries.'

The boom in energy has done wonders for a whole host of other industries as people look to serve the industry by refining and upgrading oil and gas streams. Thus Alberta is home to a dynamic and exciting chemical industry which represents the Province's largest manufacturing sector in terms of revenue. Statistics from Canada's Chemical Producers Association show that sales stood at CAD$13.5 billion CAD in 2005, or 22% of all Alberta manufacturing shipments and it ranks fifth in terms of employment, employing over 7,000 people.

Broadly speaking, the industry can be divided into four sectors: petrochemicals, fertilisers, inorganic chemicals and specialty and fine chemicals. The largest of these is easily petrochemicals, which benefits from an abundant and competitively priced supply of hydrocarbon feedstock.

'The government of the late 60s, early 70s made a very wise decision. Reluctant to watch oil and gas pumped out of the Province so that others could refine and upgrade it, they instigated a strategy designed to add value to its most valuable commodity. This facilitated the emergence of a petrochemical industry,' states Grant Thomson, President, Olefins and Feedstocks at Nova Chemicals Corporation, one of Canada's pre-eminent petrochemical players and the country's largest chemical company in terms of sales.

Whilst the last couple of years have produced mixed results for much of Canadian industry, with manufacturing suffering as a result of a US slowdown, high energy prices and a strong Canadian dollar, the petrochemical industry has been roaring ahead. Mr. Jeff Johnston, President of Dow Chemical Canada Inc. believes that 'Alberta offers, on a North American basis, a very competitive feedstock. It also offers a very skilled labour force, a stable business environment and a supportive government.' Over half of Canada's petrochemical capacity is located in Alberta. In fact, the sheer concentration of petrochemical facilities in the Province, and the joint-ventures that are taking place, make Alberta a world leader in petrochemical production and technology. To cite just one example, Alberta counts the two largest single-train ethylene crackers in the world, with Nova Chemicals and Dow Chemical Canada Inc. jointly owning the world's largest in Joffre, with annual production of ethylene to 8.6 billion tons.

Yet despite these stellar figures, the industry has shown signs of strain. A 2005 report by the CCPA concluded that petrochemicals was an industry under pressure and that the 'Alberta Advantage,' in other words the plentiful supply and affordable price of feedstock, in the form of ethane, had been eroded. The drop in the availability of ethane is due to a couple of reasons. Firstly, lower volumes of natural gas were being produced and secondly, the Alliance Pipeline bypasses Alberta's extraction system when shipping natural gas south of the border. Combine this with the fact that natural gas prices are far higher in North America than in the Middle East and you have a situation which puts the petrochemical industry at a serious disadvantage. The CCPA concluded that the uncertainty over additional supplies of ethane feedstock led to higher risk and lower incentive for long-term investment.

Yet, speak to people involved in the sector and one could be forgiven for thinking that the downturn is but a myth. Yes, people acknowledge the slowdown in productivity and drilling (partly to do with imports of natural gas into North America from foreign markets and partly to do with disagreements over the Province's Royalty Regime which has led many firms to ease off new drilling programs). However, they are confident that the slump will pass. The oil and gas industry is a cyclical one and downturns have occurred in the past and some vast investments that are anticipated would seem to offer hope.

The relentless pace of development makes it hard for the infrastructure to keep pace

Nova Cracker Facilility

and for firms to find enough qualified people. This is another area where the government are making concerted efforts. Jana Tolmie-Thompson, Economic Development Officer at the Industrial Heartland Association (representing a vast petrochemical cluster fostered that they have been fostering since 1998) explains that 'We work closely with the provincial government to ensure that we can accommodate the influx of people arising from a rapidly growing labour force. The government is doing all that they can to attract people to Alberta and is attempting to streamline immigration policies'. Clearly this is a proactive

Grant Thomson, President, Olefins and Feedstocks Nova Chemicals

government and one that understands the needs of local business and industry.

International firms, of course, are very much part of the landscape. Clariant, for example, became involved in the oil and gas sector 6 years ago. Once headquartered in Montreal, the firm has since been hit hard by the current squeeze in chemical manufacturing and has moved all but one of its divisions out of Canada. The sole division to remain is their oil and gas branch, with its head office in Calgary. Parker Hrushka, Sales Manager for Clariant Canada Oil Services says that 'in Canada we [Clariant] have a very strong product line and very strong technical people. Whether it's through acquisitions, mergers or organic growth, Clariant want to be a major player here. No one does as much for BP in Aberdeen as Clariant does. The firm now wants to replicate this on a world level.' In such a dynamic market Clariant's potential growth curve is huge.

Mr. Grant Thomson from Nova is equally buoyant about his own firm's prospects and explains that 'There is uniqueness here in Alberta. We have something here in terms of petrochemical feedstock that no one else has. If you look at other major oil producing areas, reserves are declining. We are the only place in the world where we are going to see the opposite. For Nova, the importance of the Alberta advantage cannot be understated and this advantage will continue. We will absolutely be able to compete globally from Alberta and intend to expand here.'

Nova is Canada's most significant chemical firm and the Province's largest purchaser of natural gas in order to produce 6.6 billion tons of ethylene a year. Mr. Thomson continues, 'If you look at our 2007 results, Nova had a record year. A lot of that was to do with our Alberta Advantage. Our cost of feedstock is less that what our competitors are paying on the Gulf Coast. Ethane in Alberta is priced at natural gas prices. On the Gulf Coast, it is crude oil priced.'

Multi-Nationals aside, equally interesting are the number of independent Canadian firms that operate on a local level: oil and gas specialty and production chemical firms. Canwell Enviro-Industries is a typical example. With a line of proprietary chemicals which are branded under the Cansweet name, the independent Canadian operation specialises in H2S scavenging. Ron A. Parisien, Controller at the firm, says that 'Volumes have doubled over the last 3 years.' Geoff Badger, Technical

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Canwell Enviro-Industries Field Unit

Service Representative, adds: 'We have the strongest product out there. We are the lowest cost operator and we have a patented product'.

Paul Billington, the General Manager continues 'It is an advantage that Canwell is specialised in H2S scavenging. We have proprietary products that help us keep that competitive edge. Whilst competitors are trying to sell a supermarket of chemicals, we are only selling one. We have the technical expertise, the after-sales service and the service in the field. A lot of companies do not do this. They just want to sell you a product and not a process.'

In a tight market, offering the best service is essential. Tiger Calcium, a producer and supplier of calcium chloride-based dust control/stabilisation and de-icing products, are, according to CEO Mr. Clark Sazwan, 'The only manufacturer in North America that does everything in-house. We have manufacturing, transportation, sales and application all under one roof. We have our own fleet of rail cars and trucks and as such we have one profit centre. We have to outperform the big guys. We are constantly working on R&D, striving to be one step ahead of the competition by launching unique products onto the market'. Their commitment pays off as their market expands.

Yet, not all are quite so bullish. According to Mr. Steve Griffiths, Vice-President and General Manager of Imperial Oil's Petrochemical Division, 'The opportunities for growth in Canada for the chemical business are limited for a variety of reasons. There is competition in Asia and the Middle East benefiting from the availability of cheap feedstock. Additionally, much of the growth in demand is in Asia and proximity to the market is an advantage. There will be little growth in North America and in the near term it will probably be flat.'

Nevertheless, with a proactive government and commitment from all levels of industry, both of whom believe that with hard work one cannot fail, you find in Alberta an industry that is growing at great pace-a stark contrast to the current state of affairs in the East where the chemical industry is struggling with adverse conditions. For now the sun is rising in the West.

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