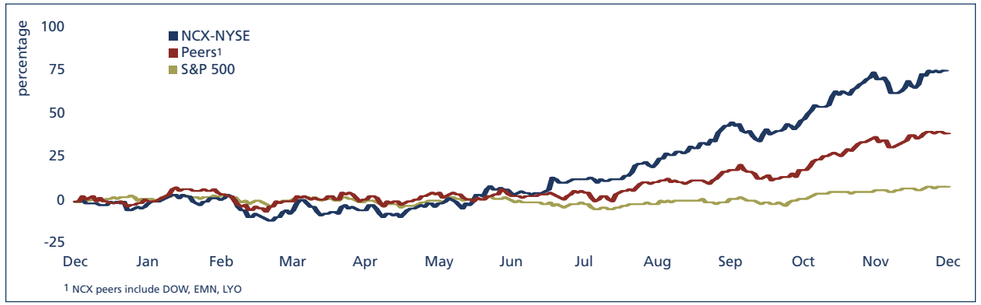
Share Price Performance — 2004



[1] NCX peers include DOW, EMN, LYO

NOVA Chemicals®

www.novachemicals.com

NCX

2004

NOVA Chemicals: A Commodity Plastics and Chemical Company

NCX

2004 Annual Report

NOVA Chemicals — Focused and Improving

We manufacture commodity plastics and chemicals, with a focus on two product chains: ethylene and polyethylene — styrene and polystyrene. Our industry is capital intensive and cyclical. The balance of supply and demand for our products is the key determinant of profitability.

We maintain a culture of relentless cost reduction and process improvement. Building on our basic products, we develop value-added materials and management processes to improve the quality of our business.

The result is an aligned and energized company, positioned to continue to deliver exceptional returns for our shareholders.

Table of Contents

2004 Financial Review

NOVA Chemicals Highlights

(MILLIONS OF U.S. DOLLARS, EXCEPT PER SHARE AMOUNTS AND RATIOS)	2004	2003	2002
Revenue	**$5,270**	$3,949	$3,091
Net income (loss) to common shareholders	**$ 252**	$ (1)	$ (112)
Net Income (loss) per common share [1]			
— Basic	**$ 2.91**	$ (0.02)	$ (1.30)
— Diluted	**$ 2.71**	$ (0.02)	$ (1.30)
Cash from operations	**$ 346**	$ 15	$ 359
Plant, property and equipment additions	**$ 242**	$ 130	$ 71
Total assets	**$5,047**	$4,413	$4,154
Net debt to total capitalization	**42.9%**	32.0%	43.5%
Return (loss) on average common equity [2]	**19.1%**	(9.8)%	(14.5)%
Closing share price			
— NYSE (U.S.$)	**$47.30**	$26.95	$18.30
— TSX (Cdn$)	**$56.70**	$35.04	$28.89

[1] There were 87 million weighted-average basic (95 million diluted) common shares outstanding in 2004; 87 million basic and diluted in 2003; 86 million basic and diluted in 2002.

[2] Net income (loss) to common shareholders divided by average common equity (excluding preferred securities and retractable preferred shares).

Summarized Quarterly Financial Information

THREE MONTHS ENDED (UNAUDITED; MILLIONS OF U.S. DOLLARS, EXCEPT PER SHARE AMOUNTS)	2004				2003			
	DEC 31	SEPT 30	JUN 30	MAR 31	DEC 31	SEPT 30	JUN 30	MAR 31
Revenue	**$1,527**	**1,379**	**1,238**	**1,126**	$1,041	967	964	977
Operating income (loss)	**$ 51**	**96**	**76**	**41**	$ 3	(56)	(36)	14
Net income (loss)	**$ 164**	**57**	**29**	**12**	$ (8)	(58)	82	12
Net income (loss) per share								
— Basic	**$ 1.91**	**0.64**	**0.31**	**0.08**	$ (0.18)	(0.75)	0.86	0.05
— Diluted	**$ 1.78**	**0.60**	**0.30**	**0.08**	$ (0.18)	(0.75)	0.79	0.05
Weighted-average common shares outstanding (millions)								
— Basic	**84.8**	**87.2**	**87.6**	**87.3**	87.0	86.8	86.8	86.7
— Diluted	**92.4**	**95.9**	**96.9**	**89.2**	87.0	86.8	96.0	87.4

COMMODITY HIGH-IMPACT POLYSTYRENE

Food Service Beverage Cups

Disposable food service applications, such as cups, plates and bowls, are the single largest end-use market for polystyrene in North America — a 2.3 billion pound market in 2004. Solid polystyrene disposable service items are convenient, hygienic and cost-effective, making them a staple for fast-food restaurants, sports venues and institutions. NOVA Chemicals sells commodity polystyrene products, as well as our new performance products in a growing range of applications for the food service industry.

NOVA Chemicals' Five-Point Business Strategy
2004 Year-End Review

NOVA Chemicals works in a fast-paced environment of constant change. One thing that does not change; however, is the level of energy we bring to executing our simple and focused five-point strategy. The year 2004 was no exception, as the summary below indicates:

1. Focus on Commodity Plastics and Chemicals

- We sold our interest in two non-strategic assets for cash proceeds of $97 million. During the year we completed the sale of our existing Alberta ethylene pipeline (the Ethylene Delivery System) and the sale of our interest in the Alberta Ethane Gathering System — taking advantage of record highs in the Canadian dollar and maintaining access to transportation rights on both pipelines.

2. Be the Low-Cost Provider

- We announced a non-binding agreement in principle to merge our European styrenic polymers business into a new 50:50 joint venture with BP p.l.c. Pending final agreements and regulatory and other approvals, the planned joint venture has the potential to reduce operating costs, by at least $40 million per year.
- Construction began on a new feedstock pipeline for our Joffre facility, which will be owned by Taylor NGL Limited and operated by NOVA Chemicals — increasing feedstock flexibility for our Joffre facility and enhancing our Alberta ethylene cost advantage.
- We permanently shut down our highest-cost polyethylene line at the St. Clair River site in Corunna, Ontario — removing 275 million pounds of capacity, with expected cost savings of U.S. $5 million per year.
- We reduced our non-feedstock variable costs by $54 million for the year through a wide variety of business process improvement projects, such as upgrading Advanced Process Control systems, which improved product quality and consistency while reducing costs through improved yields and minimized off-grade production.

3. Invest Only for High Returns

- We competed for and won the opportunity to work with Pemex Petroquimica to conduct a feasibility study for a proposed Mexican ethylene-based petrochemicals and plastics complex known as Project Phoenix. If the project proceeds, initial assessments indicate potential for the proposed complex to achieve a competitive position that equals or exceeds that of our cost advantaged facilities in Alberta. If the study results are positive, we will negotiate participation as a strategic joint venture partner in the project.
- Under a normal course issuer bid, we began to repurchase shares of NCX common stock through the Toronto Stock Exchange. By December 31, 2004, we repurchased 4.9 million shares through this buy-back program — reducing the number of shares across which earnings per share are spread.

4. Build Upon and Add to Our Sustainable Competitive Advantage

- We increased sales of our Advanced SCLAIRTECH polyethylene resins by 27% — introducing SURPASS rotomolding resins to build on our leading position in the rotational molding products market.
- We increased the production capacity of ARCEL moldable foam resins by almost 100% to meet record-high levels of demand for this unique material.

5. Be an Industry Consolidator

- The proposed 50:50 joint venture, which merges the European styrenics businesses of NOVA Chemicals and BP p.l.c., is expected to be a leading manufacturer and marketer of styrenic polymers in Europe. The new joint venture is anticipated to be operational by mid 2005, pending final documentation, regulatory and other approvals.

SURPASS PERFORMANCE POLYETHYLENE

Thin-Wall Injection Molding

Superior toughness and flexibility, combined with excellent contact clarity make our SURPASS performance polyethylene the industry leader for thin-wall injection molding applications. SURPASS resins are able to fill the thinnest of molds faster than competing polyethylene resins. Launched in 2004, these resins are targeted for injection-molded lids and containers used in food packaging. The market for lids, shown here, is estimated to be 350 million pounds for North America and the tub and container market represents another 420 million pounds.

2004 Business Summary

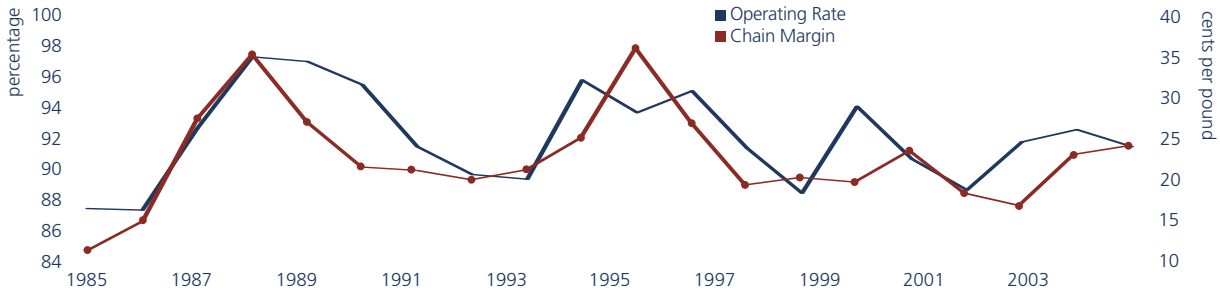
NOVA Chemicals produces commodity plastics and chemicals, with a focus on two product chains: ethylene and polyethylene — styrene and styrenic polymers. Our plastics are used to manufacture products that are essential to everyday life — including food packaging, construction insulation and shrink-wrap for industrial customers.

Our businesses are highly cyclical and the balance between supply and demand for our products ultimately drives results. As supply tightens, prices increase and earnings expand.

In 2004, economic conditions improved and demand strengthened. Years of very limited investment by the entire industry have resulted in increased operating rates, prices and earnings. Many industry experts believe we are now entering what could be a long and strong earnings period for our industry. All companies in the industry will benefit from the cyclical upswing; however, we believe NOVA Chemicals is positioned to deliver substantially more value to shareholders.

Industry Dynamics — Supply, Demand and Earnings

1. Global Styrene Monomer Operating Rate and Styrenics Chain Margins



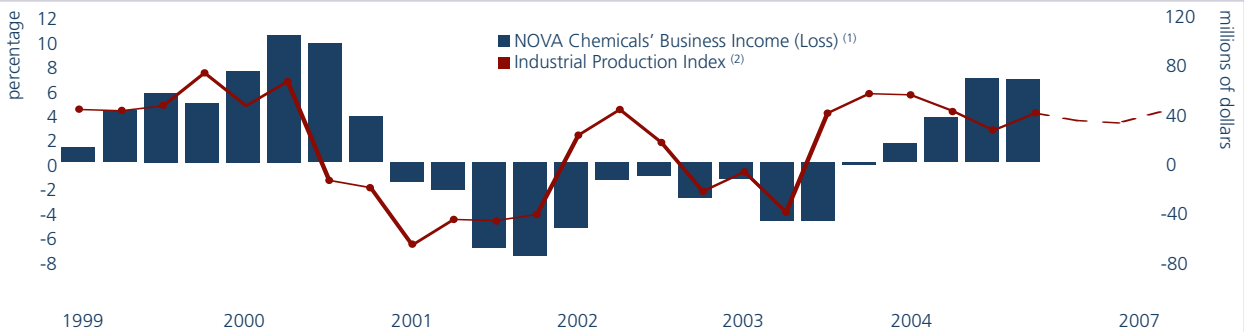
Operating rates based on nameplate capacity
Source: Chemical Market Associated, Inc. (CMAI) and NOVA Chemicals

The balance between supply and demand is the main driver of profitability in commodity plastics and chemicals. Operating rates represent the percentage of production capacity utilized; rates rise and fall with changes in supply and demand.

Peak conditions are the result of increased demand (driven by economic growth) and scarcity of supply (a consequence of limited investment in new capacity), which lead to higher operating rates, increased prices and improved earnings.

The relationship between operating rates and earnings in the form of chain margins can be seen in the CMAI data in Figure 1, which also illustrates the cyclicality of our industry.

2. NOVA Chemicals' Business Income (Loss) vs. Industrial Production Index

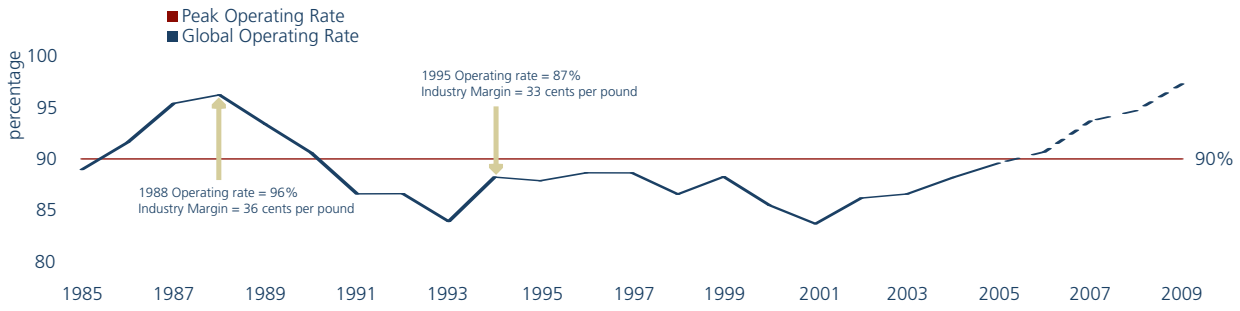


(1) Income (Loss) includes results specific to NOVA Chemicals' is Olefins/Polyolefins and Styrenics businesses
(2) Industrial Production Index is an economic indicator that tracks the total output of U.S. factories, mines and utilities
Source: Global Insight

Emerging from the Trough

NOVA Chemicals' income from our Olefins/ Polyolefins and Styrenics businesses tends to correlate with the U.S. Industrial Production Index (2), as seen in Figure 2. In 2004, the U.S. Industrial Production Index grew by 4.1%. Income from our two principal businesses grew to $186 million in 2004 from a loss of $109 million in 2003. Global Insight, a leading economic consulting firm, predicts Industrial Production will continue to grow for the next three years. Experts also anticipate strong growth for the chemical industry after three years of trough market conditions.

3. Global Polyethylene Operating Rate



Operating rates based on nameplate capacity
Source: American Plastics Council (APC), Nexant Chem Systems and NOVA Chemicals

Polyethylene Demand Outpaces Supply

In the ethylene and polyethylene chain, it is the supply/demand dynamics for polyethylene that usually drive margins. Peak market conditions exist during periods of tight polyethylene supply and result in rising prices and higher producer margins. When polyethylene operating rates rise above the 90% threshold, product becomes scarce and profits increase.

Global Polyethylene — Tight

As shown in Figure 3 (APC and Nexant Chem Systems), global polyethylene operating rates in 2004 reached 88%, an increase from the 86% operating rate in 2003. Global polyethylene demand is projected to grow at a rate of 5.5% per year while supply capacity is forecasted to grow an average of only 3.9% per year from 2004 through 2009. This ongoing imbalance is expected to tighten supply and raise operating rates by 1% to 3% per year.

COMMODITY HIGH-DENSITY POLYETHYLENE

Blown Film

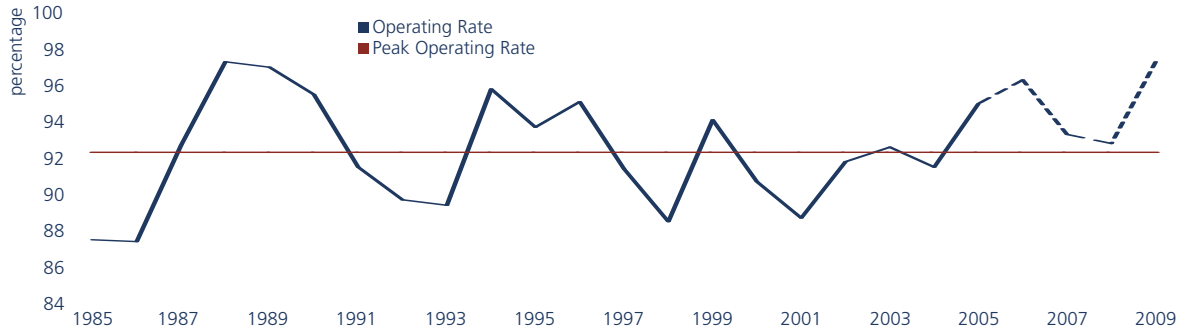
The translucent fresh produce bag. . . .manufactured by the billions and available in fresh food markets around the globe. This is a basic “one-time use” application; a commodity staple that provides consumers with convenient and hygienic fresh food packaging. Additionally, retailers have instant product identification for faster, more accurate pricing at checkout, as well as reduced pilferage. The total food packaging market for polyethylene film in North America is 3.6 billion pounds annually, including both commodity and performance resins.

COMMODITY CRYSTAL POLYSTYRENE

Food Packaging Foam Trays

Billions of polystyrene foam trays for food packaging are produced and used around the world. The reason for this popularity is simple — these trays are a cost-effective way to protect and preserve small quantities of food. Foam trays were originally used for meat packaging, but today are used to protect perishable items, such as cheese, fruits, nuts, and vegetables. Food can be packaged directly at the store, in varying sizes and quantities based on local consumer needs. NOVA Chemicals' 2004 polystyrene sales for the food packaging market segment increased 24% over 2003.

7. Global Styrene Monomer Operating Rate



Operating rates based on nameplate capacity Source: Chemical Market Associated, Inc., NOVA Chemicals

Styrenics Chain Growth

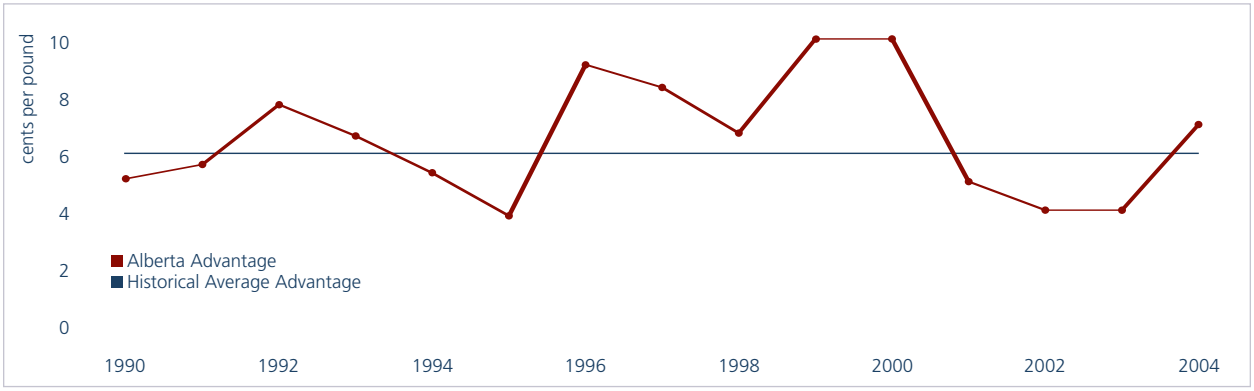
Styrenics chain margins are driven by the same supply and demand fundamentals as the ethylene and polyethylene chain, with one significant difference. In the styrenics chain there is less styrene capacity than there is derivative capacity to consume it. As a result, styrene is the bottleneck in the styrenics chain, and global styrene operating rates are the key indicator of supply and demand tightness and potential producer profitability.

The industry normally cannot sustain styrene operating rates above 92% utilization, so at that point markets tend to tighten, producer profitability increases and peak market conditions emerge. As seen in Figure 1 (page 12), margins for the styrenics chain historically track styrene monomer operating rates.

In 2004, global demand for styrene grew by 4%, supply grew by approximately 5% and operating rates declined to 91%. Current CMAI supply/demand forecasts suggest this trend will reverse going forward. Styrene demand is projected to grow at a rate of 4.5% per year while supply capacity is expected to grow an average of 3.5% per year from 2004 to 2009. As indicated in Figure 7, styrene operating rates are expected to continue to rise and remain above the 92% threshold for the forseeable future, potentially setting the stage for a long and strong global peak in styrenics.

NOVA Chemicals — Delivering More

8. Alberta Ethylene Cost Advantage



We are highly leveraged to the ethylene and polyethylene chain and the styrenics chain, which according to industry experts look as if they will peak soon and at roughly the same time. While all companies in our industry will benefit from a cyclical upswing; we believe NOVA Chemicals is positioned to deliver substantially more value. Our leverage, combined with successful efforts to improve our balance sheet and the quality of our business, position us to take full advantage of the upcoming peak and opportunities to enhance shareholder value.

Feedstock Advantage

In 2004, feedstocks were a competitive advantage for NOVA Chemicals. Our Alberta ethylene cost advantage expanded, and at Corunna we exploited the crude oil/naphtha price differential and our earnings from energy co-products rose dramatically.

Our Joffre, Alberta site has two major competitive cost advantages: feedstock and scale. The feedstock portion of the Alberta Advantage is based on the natural gas transportation cost differential between delivery from Western Canada and the U.S. Gulf Coast (USGC) to major markets. The scale advantage includes the operating and energy efficiency of these world-scale assets and the infrastructure that supports them. During the last 15 years, our Joffre ethylene cost advantage has averaged 6¢ per pound. In 2002 and 2003, excess supply reduced the price for ethane relative to natural gas on the USGC and our advantage dropped to an average of 4¢ per pound. In the second half of 2004, demand for ethane began to improve on the USGC and for 2004, our average ethylene advantage increased to 7¢ per pound.

The feedstock flexibility at NOVA Chemicals' Corunna, Ontario site provides a number of competitive advantages. Our flexi-cracker has the capability to switch from using almost 100% heavy-based (crude oil, naphtha and condensates) feedstocks to using a balance of both heavy- and light-based (natural gas liquids) feedstocks, and can do so based on market conditions for feedstocks, ethylene and co-products. Most North American crackers do not have this flexibility. When the price of naphtha increases at a faster rate than crude oil, our Corunna flexi-cracker's capability to use crude oil as a primary feedstock provides a sizable cost advantage. The Corunna plant also produces a wide range of co-products, such as propylene and butadiene. Earnings from co-products, primarily from our Corunna flexi-cracker, increased by 29% in 2004 over 2003 as the rise in energy prices, and higher demand, led to increased co-product values.

SURPASS PERFORMANCE POLYETHYLENE

Rotational Molding

In 2004, the first two SURPASS rotational molding grades were commercialized — targeting the large tank and custom molding markets, a 560 million pound market in North America. SURPASS rotational molding products exhibit significantly greater stiffness and toughness than conventional polyethylene. They also provide the superior finish that is required for designer applications such as kayaks. Our customers can run SURPASS in their equipment at higher production rates — in some cases up to 30% faster, which effectively increases their capacity with no capital outlay.