

# Update on Our Growth Projects

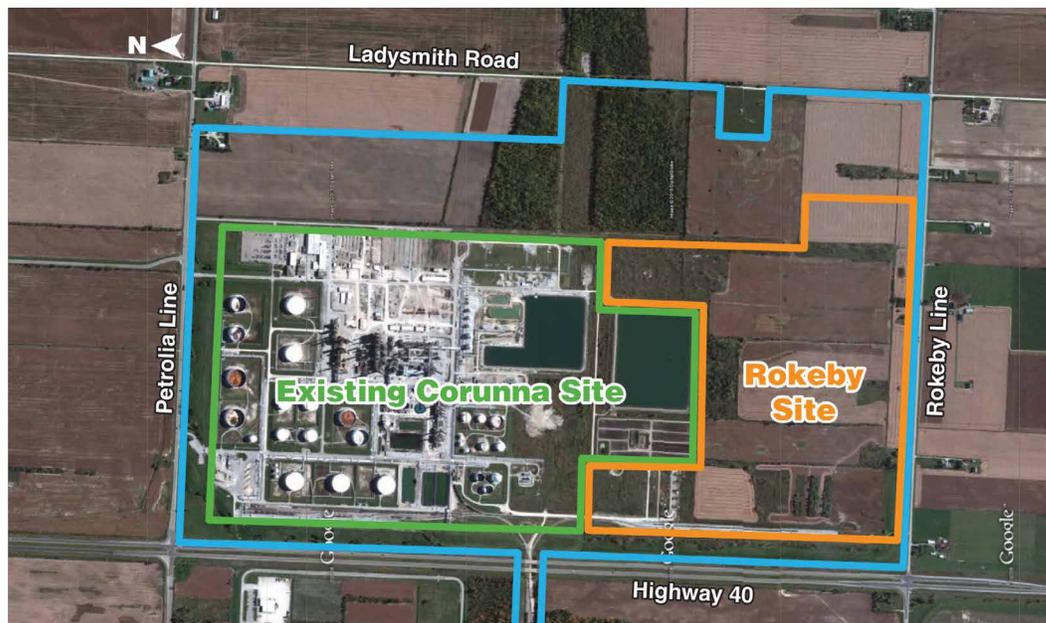
## Manufacturing East

December 2017

**NOVA Chemicals recently approved two significant projects for our Ontario operations involving a capital investment of approximately \$2 billion.**

### 1. New Polyethylene Facility

A second Advanced SCLAIRTECH™ technology facility (AST2) will be located at the new Rokeby Site, adjacent to our Corunna Site. With a capacity of approximately one billion pounds of polyethylene per year, the facility will allow us to continue to grow our polyethylene business in high performance applications and will provide greater supply reliability for our customers. Site preparation is underway with start-up targeted for late 2021.



### 2. Corunna Cracker Expansion (Phase 3)

This project is linked to the new polyethylene facility as it will provide ethylene feedstock. The expansion will increase the existing unit's current ethylene capacity by more than 50%, up to the rate currently approved by regulators. Expected completion is targeted for late 2021.

***With these projects, we are not only expanding our Sarnia-Lambton asset base and improving our competitiveness, but we are also bringing new technology to Ontario, growing manufacturing exports and strengthening the area's long-term economic viability.***

We estimate these projects will create approximately 150 permanent full time jobs between NOVA Chemicals direct hires and contractors. Applying the Chemistry Industry Association of Canada's commonly used multiplier effect for investments in the manufacturing sector of five indirect jobs from every direct job, we estimate the projects may also create approximately 750 additional new jobs in the local community.

**For more information on these projects and other updates, please visit our web site.**

### Our Operations in Ontario

To help put our growth projects into perspective, here is a brief overview of NOVA Chemicals' current operations in this area.

The Corunna Site is a petrochemical facility that can produce 1.8 billion pounds of ethylene and up to 700 million pounds of co-products annually. It began operations in late 1977 and was purchased by NOVA Chemicals in 1988.

It was the first fully integrated cracker and petrochemical complex in North America. The recent decision by NOVA Chemicals to proceed with two significant linked projects complements a series of major upgrades — some still underway — to our Corunna facility as well as to our facilities at the Moore and the St. Clair River Sites. We have invested nearly \$1.2 billion into our Ontario facilities during the last 10 years.

Moore and St. Clair convert ethylene supplied by Corunna into up to 1.3 billion pounds of low-density and high-density polyethylene.

Our customers then use these products in everyday applications such as food packaging, caps and closures, drums and heavy duty sacks.



**NOVA Chemicals owns and operates three petrochemical facilities in St. Clair Township in Ontario.**

# Other Ontario Growth Projects in Various Stages

## Corunna Site Projects

### **Corunna All-Ethane Conversion Underway**

This \$400-million project will convert the Corunna ethylene cracker to utilize up to 100% ethane feedstock. This project builds on the 2014 revamp of our Corunna cracker to use ethane feedstock from the Marcellus Shale Basin via the Genesis Pipeline Extension completed in 2013.

Planned completion is targeted for 2018.



### **Corunna Second Feed System to Diversify Supply**

The fully converted cracker will use our existing ethane feedstock capacity as well as additional feedstock from a second pipeline connection through the Kimball Pipeline Replacement Project. Connectivity is scheduled for early 2018.

This second feed system will provide us with access to the Utica Shale Basin via a number of connected pipelines, which will diversify feedstock supply and transportation.

## Moore Site Projects

### **Emissions Reduction and Rail Yard Expansion Projects Underway**

The Emissions Reduction Project involves installing a new regenerative thermal oxidizer (RTO) to oxidize off-gases created during the polyethylene manufacturing process. The new RTO will reduce atmospheric emissions of ethylene and other volatile organic compounds.

The Rail Yard Expansion Project involves the construction of new tracks that will increase our capacity to store rail cars on-site. It will reduce the number of cars stored at third-party storage yards, shorten shipping times to customers, and increase control of the rail yard fleet. This project will not change production volumes, air emissions, or rail traffic to or from the Moore Site.



## **Highlights: Project Schedules**

Genesis Pipeline Extension	Completed 2013
Corunna Revamp	Completed 2014
Corunna All-Ethane Conversion	Completion targeted for 2018
Corunna Second Feed System	Connectivity 2018
Moore Emissions Reductions	Completion targeted for 2019
Moore Rail Yard Expansion	Completion targeted for 2018
Rokeby Polyethylene Facility	Completion targeted for 2021
Corunna Cracker Expansion (Phase 3)	Completion targeted for 2021

## **A Snapshot of Our Current Economic and Community Activity in Ontario**

We are the largest private employer in the region

- About **1,000 permanent employees**
- About **300 contractors**
- **\$144 million** in salaries and benefits paid annually
- **\$43 million** in personal income taxes annually

### **Corporate**

- **\$40 million** in Ontario income taxes annually
- **\$2.3 million** in property and pipeline taxes annually

We believe community involvement is an important part of doing business. Locally, we have contributed nearly **\$4 million** over the last 5 years through our community investment program. Our employees are also active volunteers in the community.



**Responsible Care®**  
Our commitment to sustainability.

## **We Are a Responsible Care Company**

We are committed to Responsible Care and sustainability in our daily operations and our future growth.

As part of this commitment, community outreach is important to us. We make concerted efforts to understand and respond to concerns and seek input about our plans and operations through public consultation and communication.

### **We value your input and suggestions. Please contact us:**

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[www.novachem.com/pages/sarnia-lambton/sarnia-lambton.aspx](http://www.novachem.com/pages/sarnia-lambton/sarnia-lambton.aspx)