March 9, 2005

Port Colborne Energy Park Backgrounder

Proponents

Proponents for the development are the City of Port Colborne, Port Colborne Energy and Nyon Oil Inc. The City will be selling the appropriate lands to Port Colborne Energy who will then enter into a joint venture with Nyon Oil. Port Colborne Energy is a municipally owned utility company under the Business Corporations Act.

NYON Oil Inc. is a privately owned Ontario company which for the previous four years has identified and worked on the development of this energy project, including the negotiation of arrangements with the St. Lawrence Seaway Authority, the City of Port Colborne and Government of Canada to advance this project. Each of the four components of the energy farm will be operated and managed as a separate business entity by companies sophisticated in those areas which NYON Oil Inc. will be partnering with.

NYON Oil Inc. is proud of the Port Colborne Energy Park, a facility that will be the only LNG project slated to meet the ever increasing demand for natural gas by the heartland of industrialized North America, will become a leader in green and renewable energy production through wind power, the answer to the significant lack of petroleum storage capacity in Ontario and the primary facility in providing safe and reliable storage and distribution of polymer. NYON Oil Inc. looks forward to continuing to work closely and co-operatively with the St. Lawrence Seaway Authority, the City of Port Colborne, the Niagara Region and all other levels of government.

Development

The development of a 290 hectare (725 acre) site for industrial purposes – the Port Colborne Energy Park. Particularly, a tank farm, a polymer storage facility, a wind farm and LNG facilities. The preliminary land budget for the Park, based upon the Concept Plan (Schedule 1) is:
LNG Facility 40 hectares (100 acres)
Tank Farm 49 hectares (120 acres)
Polymer Storage 16 hectares (40 acres)
Wind Farm 20 hectares (50 acres)
Future Tank Farm Area 118 hectares (290 acres)
Buffer/Setback Areas

Internal circulation, Office 50 hectares (125 acres)

Location

The site is located on the western boundary of Port Colborne, between Highway 140, the Welland Canal and Forkes Road.

Access
Site access will be from Provincial Highway 140, which is a controlled access highway at, or, in the vicinity of Kleinsmith Road. It is anticipated that improvements will be required which may include acceleration and deceleration lanes on Highway 140, dedicated turning lanes on Highway 140 and Kleinsmith Road, northbound and southbound through lanes on Highway 140 and adequate queuing lanes on Kleinsmith Road for stacking purposes for vehicles accessing Highway 140. An expected 32 to 36 tanker trucks are expected to enter and exit the site per 24 hour period.
Forks Road and Third Concession Road are not to be used for access purposes, except emergency access.

Rail
Rail is to be extended into the interior of the site via the existing rail line at Forks Road and Highway 140. Frequency of use is anticipated at one train per day. The City of Port Colborne is the owner of the rail line.

Wharfage
A 1,400 metre (4,600 foot) wharf is to be constructed along the east bank of the Welland Canal. The length is based upon the proponents desire to berth four vessels at any given period of time.

Safety
Each component of the Energy Park is to be fenced, in addition to perimeter fencing. Onsite security is to be provided.
A number of strategically located fire cannons are to be installed as well as on-site foam storage. Water supply for fire protection is from the Welland Canal and located throughout the site are pump houses which will provide the required water volumes and water pressures. In addition to the water cannons and pump houses a number of foam houses are strategically located for fire protection purposes. The risk management program for the complex and fire protection program shall be to the satisfaction of the Port Colborne Fire Chief.
In addition to the above, the site will be designed in accordance with the Secondary Containment requirements of the Liquid Fuels Handling Code – the construction of dikes to ensure that the dike can contain 110% of the capacity of the tanks. A stormwater management program to address water quality issues and a ground water monitoring program will also be required.
Components of the operation will have to be designed to address air quality requirements of the Liquid Fuels Handling Code and the Ministry of Environment Certificate of

Approval program. These requirements would apply, in part, to the loading and unloading systems of the site – vessel, rail and truck.

Polymer Storage and Distribution Facility

Vinyl is the world's most versatile plastic, used to make everything from food wrap to auto body parts. Vinyl is composed of two building blocks – chlorine, based on common salt, and ethylene, from crude oil.

The resulting compound, ethylene dichloride, is converted at very high temperatures to vinyl chloride monomer gas. Through the chemical reaction known as polymerization, vinyl chloride monomer gas becomes a chemically stable powder, polyvinyl chloride resin. Polyvinyl chloride resin is then transported in its original state (a powder) or alternatively, processed into the shapes of pallets, cubes, blocks or beads for transport. In 2002, more than 14 billion pounds of vinyl (polymer) were produced in North America.

It should be emphasized, that the Port Colborne Energy Park is not manufacturing polyvinyl chloride resin at the site rather storing and distributing the final product.

The Port Colborne Energy Park is proposing the construction of 20 tanks for polymer storage. Proposed tank size is 37 metres (121 feet) in diameter by a height of 18 metres (60 feet). With each tank having the ability to store 25.2 million pounds of polymer, the polymer facility has the ability to store, at any given time, 500 million pounds of polymer.

Polymer will be arriving by ship for storage and subsequent distribution. It is noted that each ship is capable of carrying 30 million pounds of product. The polymer will then be distributed to manufacturing facilities, primarily in the Great Lakes Basin by rail, truck or barge.

Petroleum Tank Farm and Distribution Facility

Initially, 58 tanks with a storage capacity of 100,000 barrels per tank (15.9 million litres) are to be constructed for the storage and subsequent distribution of gasoline, bunker fuels, heating oil, diesel fuel and other petroleum products. Typical tank sizes are 37 metres (121 feet) in diameter by 18 metres (60 feet) high.

Presently, there are six major facilities in Ontario which refine, store and distribute petroleum products not only throughout Ontario, but also into Quebec and the United States. Principally, the product stream is coming from Western Canada by pipeline and then refined and/or stored and transshipped to other production facilities or the end consumer.

The development concept of the Port Colborne Energy Park embraces the following principles:

> The Great Lakes/Seaway System is the most cost efficient and environmentally responsible route to the mid continent. Marine transport uses less fuel, has fewer emissions and is safer than other modes of transport for equivalent cargoes and distances. Prospective customers are long-term, high volume consumers. To provide storage capacity to take advantage of buying on overseas markets. The subject site is centrally located to the market place and product distribution can occur via ship, rail, truck and

pipeline – a multi-modal transportation hub capable of accommodating the supply requirements of a multitude of consumers.

Wind Farm

The production of electricity, on a commercial basis, is a relatively new phenomenon in Ontario and Niagara.

The first commercial wind farm in Ontario is Huron Wind which comprises five 1.8 megawatt wind turbines with a combined output of nine megawatts.

If the Huron Wind project is used as a model for the Port Colborne Energy Park then the following general information is of consequence:

the turbines are 117 metres tall from the ground to blade tip;
the power-house, or nacelle, sits on top of a 78 metre tower and connects to a three blade rotor;
the rotor spins at a constant 15.5 revolutions per metre, cutting an 80 metre swath through the air;
the turbines begin to produce electricity when wind speeds reach 14 kilometres per hour, and reach maximum output at 58 kilometres per hour;
and
the separation distance between towers is generally five to nine rotor diameters apart which coincides generally with tower heights.

The construction of the wind farm is intended to complement the large electric plants (nuclear, water, thermal) and to help offset the pollution caused by fossil fired plants. In fact, with the Provincial Government planning to phase out more than 7,000 megawatts of coal-fired generation in Ontario over the next 5 years heightens the significance of wind farms.

In both the Huron Wind and Wainfleet Wind projects, one of the key site selection criteria was suitable wind conditions. The Wainfleet Wind Screening Report indicated that wind resources are highest near the Lake Erie shoreline. With the subject site being somewhat removed from the Lake Erie shoreline regard was had to the Canadian Wind Energy Atlas which indicated that the subject area had the same attributes as the southerly located shoreline. Furthermore, development of the wind farm would occur on the higher reaches of land which are some 8 to 12 metres above normal grade.

Principle concerns expressed over wind farms are appearance (visual pollution), noise and the threat of bird collisions. In both the Huron Wind and Wainfleet Wind projects none of these issues were proven to be detriments to the projects.

LNG Facility

It is undisputed that the demand for natural gas is ever increasing. In fact, in a number of American studies it has been indicated that the demand for natural gas is expected to increase by in excess of 30% over the next 10 years. Furthermore, it has been stated that natural gas production in Western Canada, even with new sources coming on line, will

not be able to meet demand in North America. As a result, providers are looking elsewhere in the world for supplies, in the form of LNG for export to North America. LNG facilities will increase in popularity in Canada as a means to increase the long-term availability in natural gas and contribute to price stability and reliability in periods of high demand.

LNG is natural gas that has been converted to a liquid state by cooling it to minus 161 degrees Celsius (260 degrees Fahrenheit). Liquefaction consists of five stages:

- Natural gas is delivered to the liquefaction plant from the gas field.
- Impurities like carbon dioxide and some sulphur compounds are removed.
- Water is removed through a dehydration process. (This process prevents the gas from turning to ice crystals during liquefaction).
- Other hydrocarbons, like ethane, propane, and butane are removed leaving methane, the primary component of LNG.
- The processed gas is then cooled until it reaches about minus 161 degrees Celsius (260 degrees Fahrenheit) where it becomes a liquid at atmospheric pressure.

LNG is a clear, colourless, odourless liquid. It is neither corrosive nor toxic. When exposed to atmospheric temperatures and pressure, LNG vaporizes or regassifies to about 600 times its liquid volume. This makes the transportation of LNG over long distances much more affordable. The development of the liquefaction process (converting natural gas to LNG) has made natural gas more available throughout the world, and has significantly increased interest in the use of the product.

Detailed engineering and authorizations will determine the exact details and configuration of the Port Colborne Energy Park.

BENEFITS

The benefits of the Port Colborne Energy Park to the local and Regional community are significant and are summarized as:

- effectively make use of underutilised lands;
- reinforcing Port Colborne as an industrial leader within Regional Niagara;
- taking advantage of the multi-modal transportation network;
- the Port Colborne and Regional industrial base is being expanded;
- economic multipliers throughout Niagara are being increased as the role of the Welland Canal is being expanded and strengthened;
- the provision of a renewable energy source and contribution to the reduction of greenhouse gases;
- providing a supplemental source of electrical power;
- providing an alternative source of natural gas;
- providing increased storage capacity in the market place for petroleum products;
- introducing a polymer storage facility to the Great Lakes Basin;

- the Energy Park acting as a catalyst to the development of the Mid-Peninsula Transportation Corridor;
- capital investment for the development of the Port Colborne Energy Park exceeds $1.6 Billion