

**Presentation to
Nova Scotia
Environmental Assessment Board**

**In the matter of
Keltic Petrochemicals Inc.
Environmental Review**

**Antigonish Area Partnership
November 24, 2006**

1) Introduction

- a) The Antigonish Area Partnership is a public-private partnership comprised of 54 investors from the business, public and NGO sectors primarily located in the Antigonish area, as well as also investors from Pictou, Inverness and Halifax counties. Of the total investors, 47 are private businesses of varying sizes and types; the remaining 7 are municipalities, NGOs or institutions.

The Partnership's mission is to promote and foster real, sustained economic growth in our region. Our key strategy is employ market intelligence, data and analysis in order to assist our investors and our community in making informed and responsible decisions leading to economic prosperity.

The purpose of our appearance before the Environmental Assessment Panel is to present relevant information about the economic benefits of the Keltic Petrochemicals project in Goldboro, Nova Scotia. In so doing we aim to provide context for the Panel's deliberations, based on valid statistical facts and analysis from acknowledged experts in the field. Our presentation addresses significant, long-term benefits to the economy and the environment.

We wish to emphasize that we view the environment from a holistic perspective which recognizes that the kind of economic context in which people live has a relationship to the natural environment, and which recognizes that where we find people living and working we find economic activity and thus various effects embodying various impacts.

- b) This presentation addresses four issues:

- Demographics
- Economic benefits
- Spin-off opportunities and benefits
- Adherence to due process

We have chosen these topics because they are important considerations when weighing any major industrial project. We have not chosen to directly address the technicalities of the environmental science related to this review process for the obvious reasons that (a) the Proponents have authored a comprehensive document outlining their plans and compliances, and (b) it is the task of this Panel to render an informed opinion as to the Proponent's success in meeting standards.

All the same, our Board wishes to emphasize that, as in our previous letter of strong support for the project, our position is based on sound environmental compliance standards and practices throughout the project.

2) Demographics

- a) Based on data obtained from Nova Scotia Community Counts and Statistics Canada, we have developed a comparative table showing the current state of age cohorts in the five counties region most likely to be directly or indirectly affected by such a major industrial development as Keltic Petrochemicals. As the table shows the population in these areas, most notably Guysborough County, is aging. As the age cohorts also show, the next generation is not large enough to replace those on the cusp of retirement, even if they all remained in the area. Moreover, population shifts and declines confirm that both a decreasing birth rate and an increasing emigration rate contribute to a negative population bomb that will, if unchecked, further and profoundly devastate many

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communities in eastern Nova Scotia. A major initiative such as Keltic Petrochemicals proposes will create well-paying, skilled jobs that will be a major force in the attraction and retention of workers and their families. Considering the number of permanent jobs proposed, the increase in residents will be considerable, and their economic effect significant.

Comparative Population by Selected Age Groups¹:

	Demographics											
	Population by Selected Age Groups											
	Pictou County		Antigonish County		Guysborough County		Richmond County		Inverness County		Counties Totals	
	2001 Census		2001 Census		2001 Census		2001 Census		2001 Census		2001 Census	
	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Total Reporting	46,965	100.0	19,580	100.0	9,825	100.0	10,225	100.0	19,935	100.0	106,530	100.0
By Selected Age Groups												
Pre-School Age (less than 5 yrs)	2,370	5.0	1,080	5.5	400	4.1	490	4.8	1,080	5.4	5,420	5.1%
Elementary/Secondary School Age (5-19 yrs)	9,380	20.0	4,615	23.6	1,870	19.0	1,980	19.4	4,230	21.2	22,075	20.7%
Labour Force Ages												
20-34 yrs	8,105	17.3	3,595	18.4	1,365	13.9	1,610	15.7	3,285	16.5	17,960	16.9%
35-54 yrs	14,725	31.4	5,865	30.0	3,090	31.5	3,095	30.3	6,065	30.4	32,840	30.8%
55-64 yrs	4,945	10.5	1,870	9.6	1,245	12.7	1,230	12.0	2,320	11.6	11,610	10.9%
Seniors												
65-74 yrs	3,665	7.8	1,190	6.3	1,045	10.6	965	9.4	1,495	7.5	8,360	7.8%
75+ yrs	3,780	8.0	1,210	6.8	815	8.3	845	8.3	1,440	7.2	8,090	7.6%

b) These trends are further reinforced by the size and type of households in the region². The vast majority of people live in single family households (72%) and the vast majority of those households (74.9%) contain 3 or fewer residents. In fact the average number of people per household in the region is about 2.5. In Guysborough County, the area most likely to achieve direct benefits from the project, the household density is below average (2.3/household) with 78.5% of households containing 3 or fewer residents. Combined with an aging population, these household densities clearly demonstrate that, along with many other communities in Nova Scotia, the region is facing significant population challenges which will have huge impacts on the tax base, and therefore, on such public responsibilities as health care, education, and social services. Mitigation of these trends through economic development is the obvious strategy and an important consideration if we value the human element in a given environment.

c) Furthermore, established population trends³ underscore the need for meaningful economic development in these communities. From 1991 to 2001 the counties in question experienced the following population changes:

- Guysborough County: -16.2%
- Antigonish County: +1.8%
- Pictou County: -5.4%
- Richmond County: -9.2%
- Inverness County -7.8%

¹ Data from Nova Scotia Community Counts from Statistics Canada Census, 2001

² Ibid

³ Nova Scotia Community Counts: Demographic Estimates and Projections, 2006

While the Antigonish County population remained basically stable, the surrounding counties showed steady population decline despite, in the cases of Pictou and Inverness counties, significant industrial establishments. Clearly, the amount of activity and resulting opportunities must increase if these counties are to continue to be able to maintain services at the current levels.

Current projections⁴ indicate that between 2006 and 2031 the following population changes will occur assuming no major changes in the current characteristics of these counties:

- Guysborough County: -27.1%
- Antigonish County: -6.4%
- Pictou County: -9.7%
- Richmond County: -21.3%
- Inverness County -12.9%

Clearly these trends reinforce the urgency of reinvigorating the population base of these communities. Without economic opportunity characterized by meaningful, well-paying employment for an increasingly well educated and skilled cohort of young people, the chances of rebalancing this trend are slim.

3) Economic Benefits

a) Direct and indirect benefits from project economic activity:

i) Wages - Operations

Current estimates put the annual gross payroll at about \$42 million. That is based on an estimate of 600 FTE jobs averaging about \$70,000 including all benefits and mandatory deductions. Accounting for various deductions (at maximum levels):

Gross pay	\$70,000.00
CPP (Maximum)	\$729.00
EI (Maximum)	\$1,910.70
<u>Income Tax (at top level)</u>	<u>\$19,159.00</u>
<u>Total deductions</u>	<u>\$21,798.70</u>
<u>Net income</u>	<u>\$48,201.30</u>
Total net income (600 jobs averaging \$70,000)	\$28,290,780.00

Assuming savings of about 10%, that leaves about \$26 million per year in circulation. Until that spending activity commences, it is impossible to know how much will remain in the local area and how much will leak out in various ways. One way or the other, there will be a large amount of new money flowing into the community from wages alone.

ii) Wages – construction period

Keltic Petrochemicals estimates that their construction will require 33 million hours to complete. During that period they will employ approximately 3,000-3,500 workers fulfilling a variety of mostly highly-skilled functions. Our survey of wage scales for experienced workers

⁴ Nova Scotia Community Counts: Demographic Estimates and Projections, 2006

in those trades and professions in the Antigonish, Guysborough and, where necessary, Cape Breton areas⁵ revealed that over the 24 month intense construction the gross pay could reach in the vicinity of \$825 million.

If we apply a similar model to the one above for permanent wages, we arrive at about \$511 million in net wages flowing to workers (generating around \$200 million in taxes).

iii) Procurements

Keltic Petrochemicals estimates that their annual domestic procurements will total about \$62 million. As noted below, once a local multiplier is applied those procurements will have a significant positive economic effect on the region.

iv) About the "local multiplier effect."

At this stage it is impossible to perform a comprehensive local multiplier effect calculation of the Keltic Petrochemicals project as there are many unknowns that can only be accounted for once the plant is in operation. We do know that there will be an effect as the wages generated and procurements made cycle through the economy. A recent study at StFX University⁶, for example, identified a local multiplier of 1.8 based on the wages, spending habits, procurements and value-added attributed to faculty, institution and suppliers respectively.

A 2001 study⁷ about various marine industries was more optimistic and pegged the oil and gas multiplier at 2.8. This seems very high, and is noted only to place the StFX estimate in context as a conservative approach.

If we focus only on the impact of the operating wage package, we can at least estimate the impact of these new permanent jobs on the region. Considering the education, pay scales and skills levels of the plant employees, we may apply the StFX calculation as a model. In the StFX study they found that about 80% of disposable income was spent locally. Using the \$26 million net disposable income level, we come to about \$21 million per year filtering into the local economy from wages paid at the plant. If we then apply the multiplier, we arrive at a direct and indirect wage effect of about \$38 million.

Furthermore, applying the multiplier to the procurement budget, we estimate that this will result in an overall \$111 million in direct and indirect goods and services expenditures.

This brings to total multiplier to about \$150 million in economic impact. It is prudent to suggest that the multiplier could be lower due to various opportunities for leakage, and we suggest that a range of between \$125 and \$150 million in economic impact per year.

b) Other Local Economic Effects

i) Housing construction and renovation

While it is not possible to predict the exact number of new workers and their families that will be drawn to the area, given the number of full-time permanent jobs, there is no doubt that the

⁵ Service Canada: wages for Antigonish, Guysborough and Cape Breton regions(<http://www.labourmarketinformation.ca/>)

⁶ The economic Impact of StFX University, XEDC, June 2005

⁷ Economic Study of Canada's Marine and Ocean Industries (For Industry Canada and National Research Council), Acton White, 2001

demand for new and/or renovated residences will increase. New home construction positively affects many businesses and associated services (real estate sales, land surveying, etc).

ii) Local and Regional Infrastructure and Services

Depending on the influx of employees to staff the plant there may be new demands upon infrastructure and services in the region. The unknown at this point is how much will be added to the municipal tax base, and what kinds of resulting demands will be placed on local infrastructure and services.

If this new plant results in a certain amount of “in-fill” – in other words, denser housing resulting in more efficient use of existing infrastructure such as sewer and water, roads, and so on, that would be a long-term benefit.

On the services side there could be an increased demand for teachers, social services workers, health care workers, etc. The net cost or benefit will depend on the increase to the tax base, and the nature and magnitude of demand.

iii) Co-located Industries

Basically the petrochemicals plant itself is a co-location based on the proximity of LNG. The availability of the required liquids from the gas is a key element as the gas is coming ashore and flowing westward. The liquids from the gas are employed in the plant, but most of the volume of the gas moves on to market. Thus the co-location of the LNG terminal and, thus the availability of the liquids, is what makes this work.

The location of the Keltic Petrochemicals Plant, the associated LNG terminal and a co-generation plant suggest the potential for more, related industries to move to that location to share infrastructure and other resources. There is potential for this entire area to become a substantial manufacturing location, attracting more investment, creating more jobs, and thus revitalizing what is currently a shrinking economy and depopulating region. The economics have a direct, positive effect on the demographics.

4) Spin-off opportunities and benefits

a) Co-generation

The Keltic Petrochemicals project includes a significant co-generation plant which will provide electricity and heat derived from the use of LNG as fuel. As gas is one of the cleanest burning hydrocarbon fuels, the environmental benefits of generating power and heat in this way are obvious. Moreover, if the co-generation plant is of sufficient capacity so as to have power available for co-located industrial users, that makes this site more attractive and in tune with the objective of fostering economic development while also being an environmentally friendly as possible.

The model for this kind of development isn't revolutionary. The forestry industry, particularly in western Canada, has been using wood scrap for cogeneration for decades. It is a sensible model.

b) Port Development

The development of the Goldboro harbour opens up more opportunity for the region, As one of the best deep-water, ice free ports on the eastern seaboard, Goldboro has potential that can be further realized once the ball gets rolling.

c) Regional Development and Gateway

The vision of an expanded economic role for northeastern Nova Scotia and the Strait Area requires significant projects to help enhance the industrial base of the region, and to provide a credible counterweight to competing areas. Locating Atlantic Canada's first major petrochemical plant in this region will lend a lot of strength to this vision, and will serve as both an attractor of other business, and as a symbol of what can be done in the region.

d) A note about safety

In 2004 the Antigonish Area Partnership conducted a review of the safety record of LNG plants world wide during the 60 year period from 1944 to 2004. Our investigation uncovered 195 fatalities and 299 injuries resulting from three accidents, one in 1944 at Cleveland, Ohio, one in 1973 at Staten Island, NY, and one in Algeria in 2004. In all we found 18 incidents world wide. Aside from those noted above, the majority of the other incidents were limited to the sites proper, and while they did result in economic costs and some temporary dislocations, there were no fatalities or injuries reported in those cases.

In comparison, during the 19 years from 1986 to 2005, scheduled commercial airline fatalities for US air carriers alone⁸ totaled 2,221.

5) Adherence to due process

We are heartened by the due process demonstrated by the rigor of the Keltic Environmental Assessment submission and by this process. Our own experience with this process revealed a strict adherence to policy and process, and we congratulate the Panel accordingly.

A project of this magnitude is always vulnerable to various forces, some transparent, others less so. We support the process and fervently hope that due process, fueled by informed, competent and rational information and judgment will rule the day.

Thank you for allowing us this opportunity to appear.



Brian G Segal, President & CEO

November 22, 2006

⁸ Aviation Accident Statistics, US National Transportation Safety Board web site (<http://www.ntsb.gov/aviation/Stats.htm>)