

The Benefits of an Industry-led Stewardship Approach for End-of-Life Electronic Products in New Brunswick

Prepared for:
Atlantic Canada Electronics Stewardship (ACES)

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Introduction

This report explores some of the benefits associated with implementing a consumer paid¹, end-of-life electronic products recycling program with a visible environmental handling fee. This is the approach that has been adopted in all but one other province in Canada and is used in New Brunswick on a variety of similar programs.

Electronic products recycling in Canada is primarily undertaken by regulated, industry-led, not-for-profit entities providing environmental compliance to roughly 2,000 manufacturers, producers, retailers and distributors of regulated electronic products. In each of the six provinces currently operating stewardship programs for end-of-life electronics in Canada (Alberta, Ontario, British Columbia, Nova Scotia, Prince Edward Island and Saskatchewan) an Environmental Handling Fee (EHF) is used to provide the funding required to manage these programs. Manitoba is rolling out a similar program in 2012. Quebec has also introduced electronic stewardship legislation but it is currently unclear how it will be implemented and its direction on this issue needs to be clarified. This leaves New Brunswick and Newfoundland & Labrador as the two provinces yet to implement an industry-led program.

The industry-led, consumer-paid, EHF approach to the responsible recycling of electronic products is becoming the standard not only in Canada but elsewhere as well.

The New Brunswick government has stated its commitment to engaging New Brunswickers about the shared responsibility of environmental stewardship. One of the four goals of the New Brunswick Department of Environment Strategic Plan (2009-2014) is “[t]o engage and educate all New Brunswickers on a shared commitment to environmental stewardship and a sustainable future.” An ideal way to foster this shared commitment is transparency and visibility in the costs associated with environmental stewardship.

This report looks at four main benefits from New Brunswick adopting the EHF approach to the recycling of electronic products:

1. The environmental benefits of electronic products recycling and the importance of having the consumer directly involved in environmental stewardship. There is considerable evidence the public prefers transparency associated with the costs they have to pay for environmental stewardship.
2. To provide transparency and accountability in the recycling process. The visible EHF approach provides transparency to consumers about what they are paying for recycling and it provides a clear and open way to track the costs of the program.
3. To ensure the recycling program doesn’t distort the market and lead to unintended, harmful consequences for the consumer. Hidden recycling fees could end up costing the public more for recycling and/or pushing market participants out of New Brunswick.
4. To ensure the public understands the direct economic benefits to the province from a recycling program such as this. The visible EHF is a reminder to the public not only are they contributing to environmental stewardship in the province but are also supporting jobs, economic development and environmental protection.

¹ The consumer pays for recycling whether the costs are hidden or visible. This paper makes the case for a visible and transparent approach to the recycling costs.

Benefit #1: Recycling consumer electronics is an important part of environmental stewardship

Diverting end-of-life electronic products away from landfills and into recycling programs is an important step in efforts to limit long term environmental impacts and build more sustainable communities. Implementing an end-of-life electronic products recycling program has very important environmental benefits. It also has a direct benefit to municipalities by removing the risk associated with potential remediation costs.

Provincial and national survey data confirm a growing interest among New Brunswickers and Canadians to better manage their environmental footprint. This manifests itself in a wide variety of ways and recycling has become an important part of this commitment.

The New Brunswick government also takes this objective seriously and has attached visible related fees to a number products and services where there are direct costs associated with environmental stewardship including:

- Recyclable cans and bottles have a visible recycling fee that shows up on the merchandise receipt with each purchase.
- Vehicle tires in New Brunswick have a visible recycling fee.
- Consumers pay a visible fee to recycle the oil from their vehicles.
- The purchase of a fishing license in New Brunswick includes a visible fee for fish stocking and another separate fee for conservation activities.

New Brunswickers understand the importance of electronic products recycling as part of an overall commitment to environmental stewardship. In the Corporate Research Associates poll of New Brunswickers mentioned above, 71 percent had a completely or mostly favourable opinion of recycling programs for electronic products and only 24 percent had a mostly or completely unfavourable opinion.

Tire recycling: An instructive example

One of the longest standing recycling programs in New Brunswick is the Tire Stewardship Program (TSP) which charges a visible fee every time a new tire is purchased in the province. A 2010 survey by the Rubber Association of Canada found that Recycle NB's Tire Stewardship Program (TSP) was one of the highest regarded tire recycling programs in Canada.

The survey of 1,800 Canadians showed that New Brunswickers "very well educated about nearly all tire related issues when compared to national averages. For instance, the survey showed that the public awareness level for the existence of a provincial tire recycling program was 81% compared to the countrywide average of just 58%. Additionally, 96% of New Brunswickers revealed they were in agreement on both the satisfaction for how scrap tires were managed as well as the current level of tire recycling fees which fund the program"².

It is clear the visibility of the program combined with consumer education of how the fees were being spent in New Brunswick contributes to the high satisfaction level among consumers.

² Source: Recycle NB (June 2010).

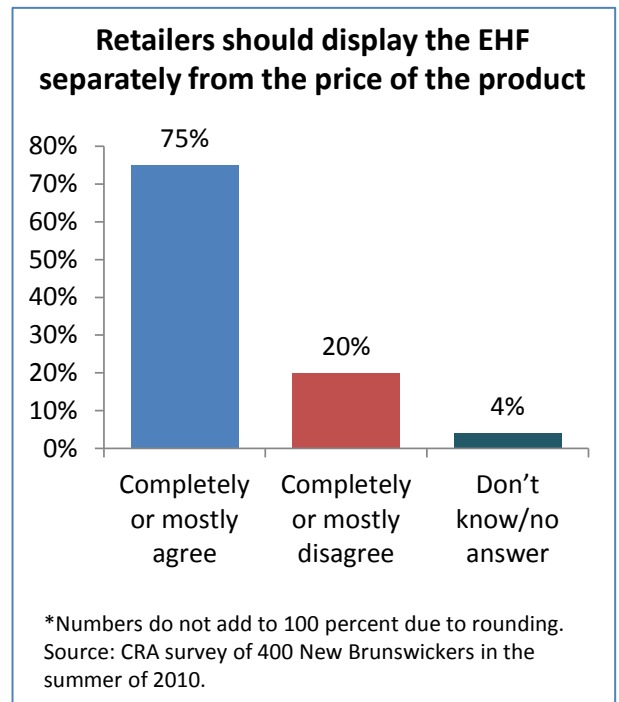
Benefit #2: Fostering transparency relating to environmental stewardship

One of the most important benefits of a visible Environmental Handling Fee (EHF) is that it is consistent with the public's growing expectation of accountability and transparency related to government mandated programs.

New Brunswickers understand there are costs associated with environmental stewardship. According to the CRA survey, 95 percent of New Brunswickers believe they are personally responsible for their impact on the environment. As mentioned above, the New Brunswick Department of the Environment has a strategic priority to engage New Brunswickers about the shared responsibility of environmental stewardship. One of the best ways to do this is by making the costs of environmental stewardship visible and transparent to the consumer.

A clear majority of New Brunswickers want to see the electronics products environmental handling fee to be identified separately from the price of the product. In the Corporate Research Associates survey, 55 percent wanted the fee visible compared to 40 percent who wanted it included in the price of the product.

A visible environmental handling fee would ensure the consumer clearly understands how much they are paying for the recycling program and, even more importantly, they will know when the costs of the program are changing. For example, the industry reviewed the EHF program in August 2009 and that process ended with most fees dropped or stayed the same in Nova Scotia³. This transparency itself is a mechanism to keeping the costs of recycling low as consumers will balk if the costs rise too high.



³ Environmental Handling Fees (EHF's) for Phase I products (Intergroup Consultants – April 2009)

Benefit #3: Ensuring a healthy, competitive electronic products marketplace

Electronic products are an integrated and important part of life for New Brunswick families. In the 21st century, households are integrating technology into their day to day lives. The average household in New Brunswick spends close to \$2,000 per year on electronics and computer equipment and related services.

According to Statistics Canada household survey data, three quarters of New Brunswick households own at least one home computer and more than 70 percent still own video cassette recorders (one in five households have two or more VCRs in the home). The vast majority of New Brunswickers own DVD and CD players and 91 percent either have satellite or cable TV services and the related equipment.

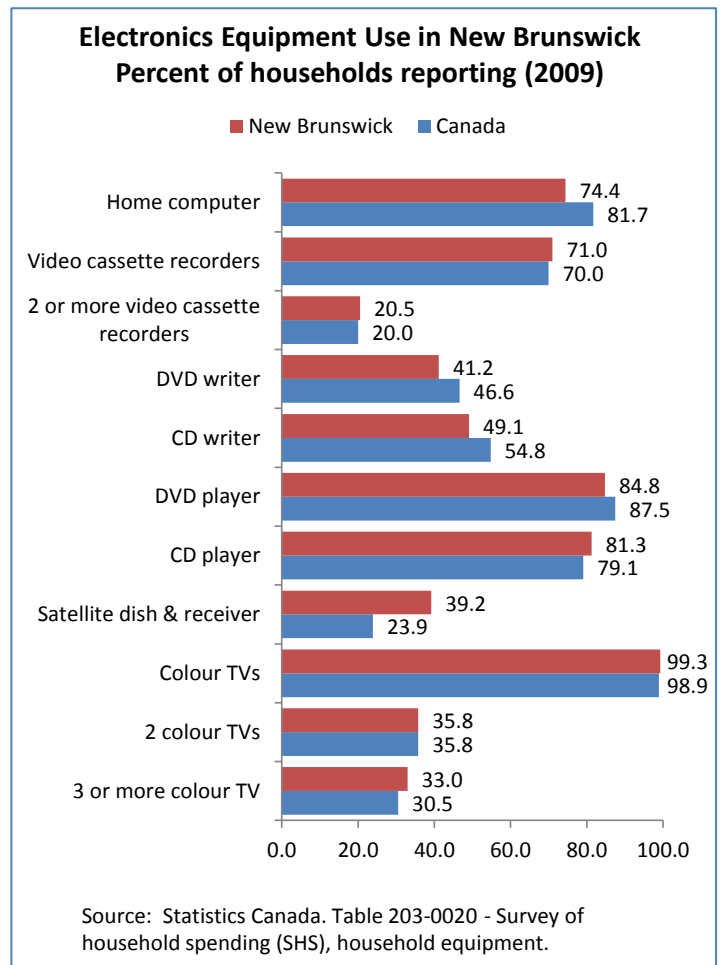
Thirty-six percent of households have two colour televisions and fully one third of New Brunswick households have three or more colour televisions.

New Brunswick has a competitive marketplace

Despite its distance from the Canada's large population centres, there is no evidence that New Brunswickers pay more, on average, for electronic products. Despite having a similar ownership profile (i.e. the amount of electronic products in the home), New Brunswickers spent a lower percentage of their household income on computer, photographic and home entertainment equipment and services than the average household across Canada⁴.

In 2009, the average New Brunswick household spent 1.6 percent of its disposable income on these products compared to 1.9 percent across Canada.

Another source that confirms the competitiveness of the electronic products marketplace in New Brunswick is the consumer price index over time on related products.



⁴ Source: Statistics Canada. Table 203-0010 - Survey of household spending on recreation.

Before the late 1990s, inflation (CPI) on the cost of home entertainment equipment and related products in New Brunswick was well above the national average. However, increasing competition in the provincial market (specialty retailers and general merchandise companies) combined with the emergence of online shopping has led to consumer price trends that have mirrored the national average for more than a decade (see the figure).

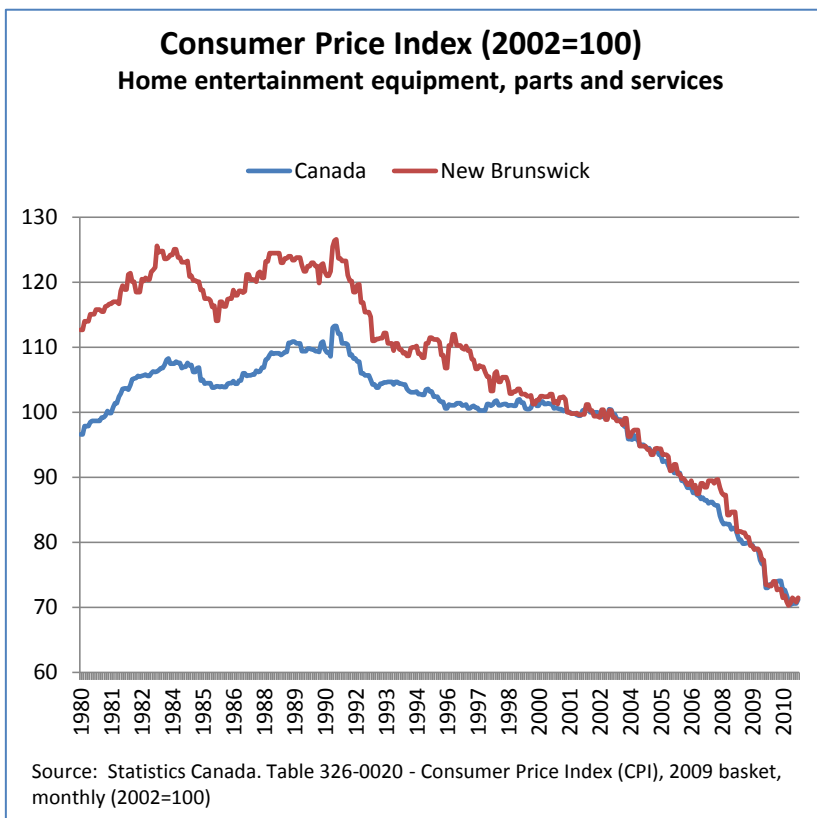
In fact, the CPI on home entertainment equipment, parts and services has been steadily declining across New Brunswick and Canada for almost 20 years.

The visible Environmental Handling Fee (EHF) has been widely adopted in Canada and elsewhere and the industry has developed a model that is effective for the consumer and the industry. Forcing companies to adopt a different model in New Brunswick that includes the hidden recycling costs could distort the market and eventually lead to higher prices for consumers. Smaller companies might pull their products out of the provincial market altogether and larger firms might force up prices over time.

According to Atlantic Canada Electronics Stewardship, the flexible management of the EHF program already in place on PEI and in Nova Scotia effectively accommodates the needs of small, large, national, regional and local firms. In addition, it is much easier to track throughout the supply chain, and thus is less likely to be artificially inflated as it is passed onto the eventual consumer.

In support of interprovincial regulatory harmonization

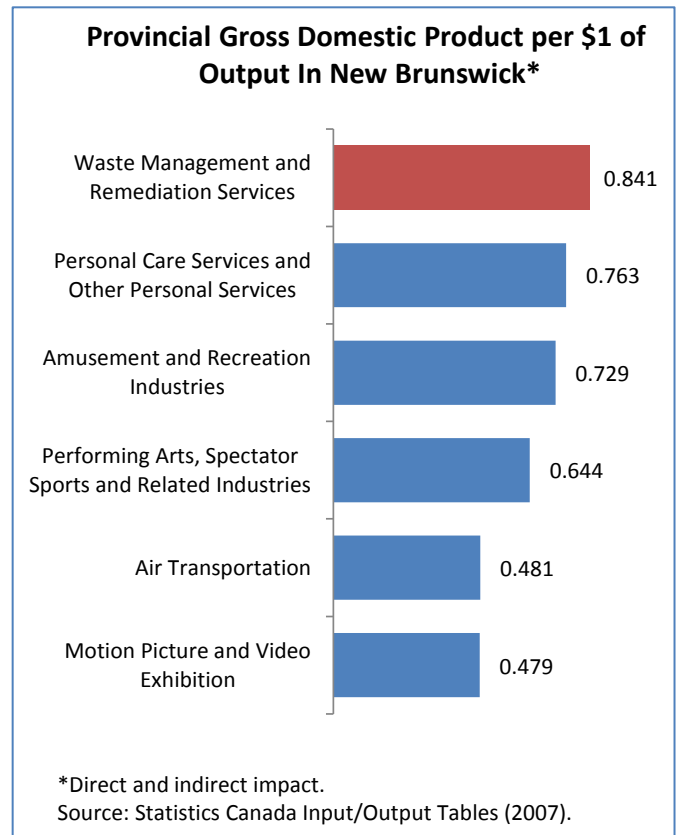
There is growing consensus that interprovincial trade and regulatory barriers hurt the economy in Canada and in particular Atlantic Canada. The four governments have spent considerable time and effort looking at ways to harmonize their approach to trade, tax and regulatory policy. The visible Environmental Handling Fee (EHF) for electronic products has been adopted and is working well in Nova Scotia and on Prince Edward Island. Alignment with other Atlantic Provinces on this issue would be another positive example of harmonization and send a positive signal to the business community in the region.



Benefit #4: Communicating the economic impact

Money spent on recycling and remediation is not only good for the environment but it has positive economic impacts as well. Most of the money spent on waste management and remediation activities stays in New Brunswick. As the figure shows, according to Statistics Canada estimates for every dollar of spending in the waste management and remediation sector, there are more than 84 cents worth of provincial gross domestic product (GDP) created (direct and indirect)⁵. Money spent on recycling has a much greater impact in New Brunswick compared to such activities as sporting events or going to the movies.

One of the important advantages of a visible EHF is that it can be linked to the economic benefits in the province. Tying the economic activity in New Brunswick to the environmental handling fee has been a key part of the success of the Tire Stewardship Program (TSP) in New Brunswick (as outlined on page 3).



According to Atlantic Canada Electronics Stewardship, the fees for recycling electronic products range from 40 cents on a computer mouse to \$40.00 for a large television. The recycling program in Nova Scotia collects about 4,300 metric tons – or a collection rate of 4.35 kg/per person/year. Assuming a similar collection rate in New Brunswick, this would equate to approximately 3,400 metric tons collected here in a typical year. This level of collection activity in Nova Scotia generates about \$7 million in revenue. Adjusting for population size this would mean the program in New Brunswick would take in about \$5.7 million each year in New Brunswick.

Estimating economic impact

Statistics Canada does not have a specific industry code for electronic products recycling but it does analyze the economic impact in New Brunswick of the broader Waste Management and Remediation Services industry. This sector includes the *direct* activity associated with the collection of waste, storage and remediation activities and all associated overhead. It also includes any *indirect* economic activity through the supply chain.

⁵ Based on the Statistics Canada M Level industry classifications.

An economic impact assessment can be developed using Statistics Canada’s analysis of the direct and indirect impacts at the provincial level for the industry⁶.

\$5.7 million worth of spending in the Waste Management and Remediation Services industry in New Brunswick generates an estimated **\$4.8 million worth of gross domestic product (GDP)** in the province and **support 56.5 full time equivalent jobs** across the province (direct and indirect impacts).

The **\$2.4 million worth of employment income** generated from these 56.5 direct and indirect jobs supports **\$1.8 million worth of consumer spending** each year in the New Brunswick economy on such things as housing, food, transportation, etc. Governments receive **an estimated \$565,000 worth of taxes** – personal income tax, property tax and harmonized sales tax (HST).

Annual Economic Impact from \$5.7 Million Worth of Spending in the Waste Management and Remediation Services Industry

Annual Revenue	\$5,700,000
Total Gross Domestic Product (GDP)	\$4,800,000
Total Employment (FTEs)	56.5
Employment Income	\$2,400,000
Consumer Spending	\$1,800,000
Taxation (income, HST, property)	\$565,000

See Appendix A for details on the model.

Visible fees can be more easily tied to local economic activity

It is more difficult to explain the economic benefits from an electronic products recycling program where the costs are hidden in the price of the product because they cannot be easily decoupled from the overall price of the product. As in the example shown above, because there is clear and transparent accounting of the direct costs, the economic impacts from waste management and remediation be developed using standard Statistics Canada economic multiplier models.

The direct economic activity from electronic product recycling will come from several areas. In Nova Scotia, the Atlantic Canada Electronics Stewardship program has 36 depots throughout the province based on a distance and population density formula. There would likely be in the range of 30 depots across New Brunswick. There would also be at least one consolidation center, plus the trucking to move the material from the depots to consolidation center. The program also generates a considerable amount of advertising and promotion activity through television, radio and print media.

⁶ See Appendix A for details on the methodology.

Initial demand will be strong

Even though the recycling fees are attached to new purchases, the program will apply to existing electronic products and there is evidence the demand will be high. According to research conducted by Corporate Research Associates in 2010 for Atlantic Canada Electronics Stewardship, 30 percent of New Brunswickers have either televisions or VHS recorders/players that either do not work or are not being used. One fourth of households have telephones, DVD players, computer monitors and/or printers that either do not work or are not being used.

According to a recent article in the Telegraph-Journal⁷ citing Statistics Canada data, New Brunswickers sent 35.8 per cent less waste to landfills or incinerators in 2008 compared to 2006. The article states that a main reason for this decline was the shifting of metals, paper and plastics to recycling facilities. New Brunswickers are embracing recycling.

⁷ Province taking out the trash. Telegraph-Journal (July 4, 2011).

Conclusion

Like other costs, those associated with the safe and effective recycling of electronic products are borne by the consumer. The question is whether or not these fees should be integrated into the product end price or should be visible and a separate line item (such as the HST) for the consumer to see.

There are many benefits to adopting a visible approach to environmental handling fees (EHF) on electronic products in New Brunswick. The visible approach also ensures a competitive market for electronic products in the province. Hidden fees could lead to higher prices and could also push smaller market participants out of New Brunswick. Consumers will be better able to tie the cost of the program to the economic benefits.

New Brunswickers want to see what they are paying for recycling. Adopting this approach to electronic products makes sense.

Appendix A: Economic Impact Example: *Waste Management and Remediation Services*

Economic Impact Multiplier Effects (Direct and Indirect)

Industry: Waste Management and Remediation Services

Multipliers and ratios per \$1 of exogenous industry output shock

Jobs effects per million dollars of output

Direct effect	<i>GDP components</i>	Indirect Taxes on Products	0.02
		Indirect Taxes on Production	0.02
		Wages and Salaries	0.30
		Supplementary Labour Income	0.03
		Mixed Income	0.02
		Other Operating Surplus	0.31
		Total GDP	0.70
		Output	1.00
		International Imports	0.02
		International exports	0.23
		<i>Jobs</i>	Number of jobs
Number of full-time equivalent jobs	7.68		
Direct and indirect effects within province	<i>GDP components</i>	Indirect Taxes on Products	0.02
		Indirect Taxes on Production	0.02
		Wages and Salaries	0.38
		Supplementary Labour Income	0.04
		Mixed Income	0.02
		Other Operating Surplus	0.36
		Total GDP	0.84
		Output	1.28
		International Imports	0.06
		Number of jobs	11.11
		<i>Jobs</i>	Number of full-time equivalent jobs
Direct and indirect effects all provinces	<i>GDP components</i>	Indirect Taxes on Products	0.02
		Indirect Taxes on Production	0.03
		Wages and Salaries	0.43
		Supplementary Labour Income	0.04
		Mixed Income	0.03
		Other Operating Surplus	0.39
		Total GDP	0.93
		Output	1.44
		International Imports	0.07
		Inventories and other leakages	0.00
		Sum of GDP, imports, and leakages	1.00
<i>Jobs</i>	Number of jobs	12.17	
	Number of full-time equivalent jobs	10.88	

Source: Statistics Canada Industry Accounts Division / System of National Accounts Input-Output Tables Provincial Input-Output Multipliers, 2007 (New Brunswick)

Statistic:**Source/Methodology:**

Estimated annual revenue from the electronic products recycling program

Atlantic Canada Electronics Stewardship

Direct and indirect employment, employment income and GDP estimates

Uses Statistics Canada Input-Output multiplier and impact estimates at the M industry level – Waste Management and Remediation Services.

Estimated consumer spending impacts

Derived using Statistics Canada Table 203-0001 - Survey of household spending (SHS) for 2009.

Personal income taxes paid

Derived using several sources including Statistics Canada Table 202-0501 - Income tax, by economic family type and after-tax income quintiles and Table 202-0707 and Statistics Canada Table 203-0001 - Survey of household spending (SHS) for 2009.

Property taxes paid

Derived using Statistics Canada Table 203-0001 - Survey of household spending (SHS) for 2008.

HST paid

Based on the ratio of HST collected to total provincial personal income in 2010 (Source: provincial budget documents).

Appendix B: Source List

- New Brunswick Department of Environment Strategic Plan (2009-2014).
- Nova Scotia electronic product recycling program data - Atlantic Canada Electronics Stewardship.
- Corporate Research Associates survey and analysis, 2010. Commissioned by Atlantic Canada Electronics Stewardship.
- Statistics Canada CANSIM Table 203-0020 - Survey of household spending on household equipment.
- Statistics Canada CANSIM Table 203-0010 - Survey of household spending on recreation.
- Statistics Canada CANSIM Table 326-0020 – Consumer Price Index (CPI), 2009 basket, monthly (2002=100).
- Statistics Canada Industry Accounts Division / System of National Accounts Input-Output Tables
- Provincial Input-Output Multipliers, 2007 (New Brunswick).
- Statistics Canada Table 202-0501 - Income tax, by economic family type and after-tax income quintiles.
- Rubber Association of Canada survey of tire stewardship programs across Canada (2010) – summarized on the Recycle NB website.
- Intergroup Consultants - Environmental Handling Fees (EHF's) for Phase I products in Nova Scotia (April 2009).
- Province taking out the trash. Telegraph-Journal (July 4, 2011).

Appendix C: About Jupia Consultants Inc.

New Brunswick, Canada-based Jupia Consultants Inc. is a full service research and planning support consultancy specializing in the area of economic development. Specific focus areas include:

- Economic impact assessments
- Strategic planning
- Socio-economic and industry profiling
- Labour market studies and people attraction strategies
- Competitive intelligence briefings
- Economic assets portals and analysis
- Business retention strategies
- Community branding/marketing
- Community capacity building
- Best practices in economic development
- Downtown development strategies
- Corporate and competitor profiling
- Industry reviews
- Market assessments (geographic and socio-demographic)

Our lead consultant, David Campbell, has over 20 years' experience working with companies, communities, economic development agencies and government departments in six Canadian provinces and four U.S. states.

David authors a daily online blog entitled "It's the Economy, Stupid" as well as a twice weekly economic development column in the New Brunswick Telegraph-Journal. He is also a published author. David is a frequent commentator on radio and TV and guest lectures at several Maritime universities.

For more information visit www.jupia.ca or contact David Campbell at 506-874-3797. You can also follow our Twitter feed at www.twitter.com/jupia.