



BIO BASED CHEMICAL IMPORT REPLACEMENT INITIATIVE

**CHEMICAL MARKETS AND BIOCHEMICAL OPTIONS
FOR ALBERTA**

FINAL REPORT

Prepared for:

**Enterprise and Advanced Education
Government of Alberta**

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Bio Based Chemicals Import Replacement Initiative

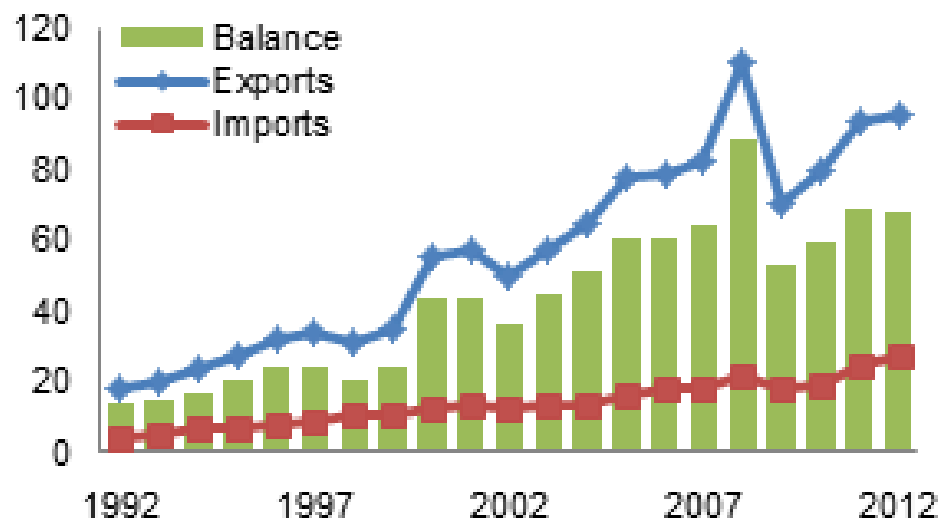
- Project Overview
- Process
- Results
- Next Steps

Project Overview

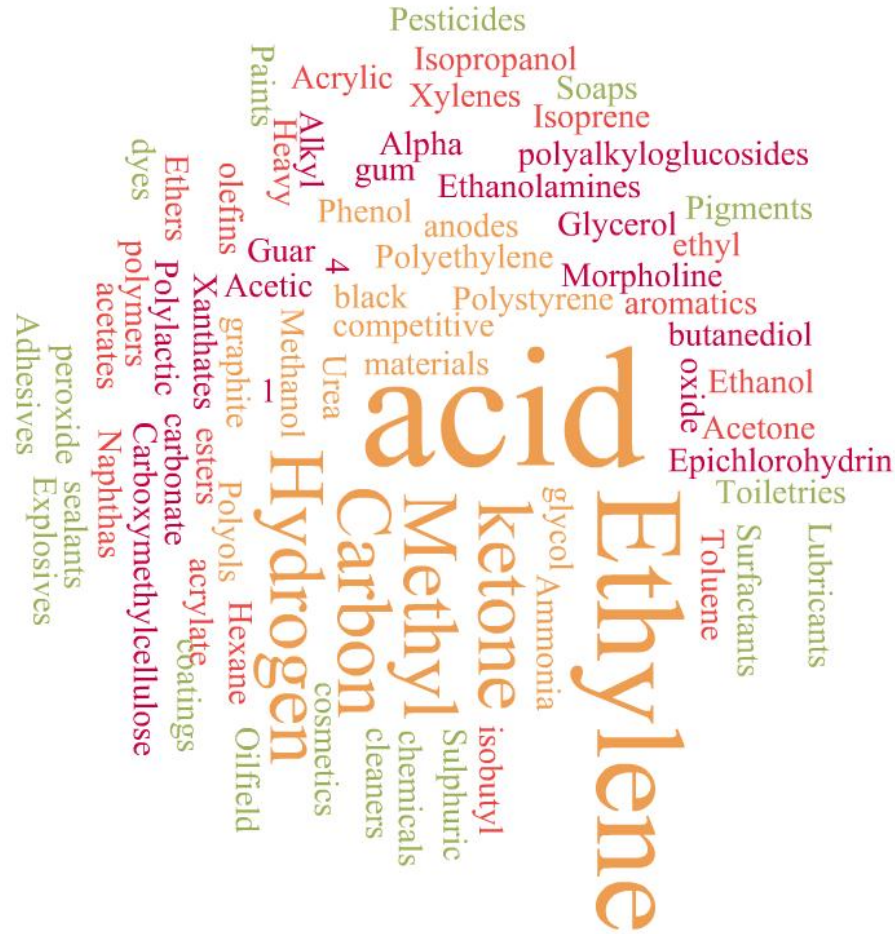
- Theory
- Practical
- Reality

Theory

Merchandise Trade
(\$ billions)



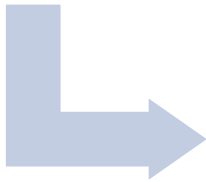
Theory



Practical

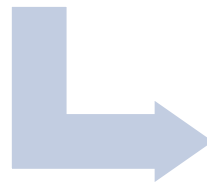
Preliminary Research

- **Scoped about 300 chemicals**
- **Analyzed imports, market data, supplier information, etc.**



Phase I Research

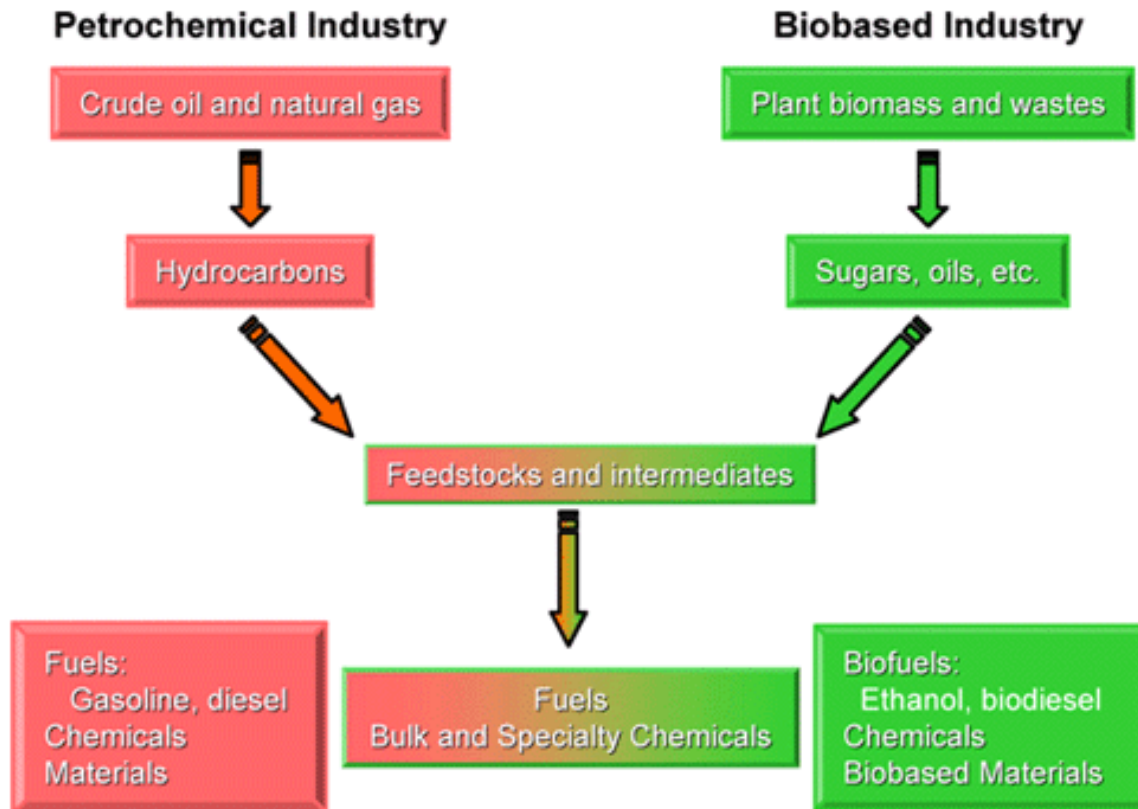
- **Market research on 40 chemicals and 10 market areas**
- **Prepared brief profiles**



Phase II Research

- **More detailed market research on 10 best**
- **6 chemicals, 4 market areas**

Practical



Results

- Solvents
- Glycerol Carbonate
- Lubricants
- Surfactants
- Isopropanol
- Hexane
- Guar Gum
- Carboxymethylcellulose (CMC)
- Alpha Olefins
- Oilfield Chemicals

Phenol

Table 1: Canadian and Alberta Imports of Phenol

	2009		2010		2011		2012	
	(tonnes)	(\$ million)	(tonnes)	(\$ million)	(tonnes)	(\$ million)	(tonnes)	(\$ million)
Canada	70,451	\$67	77,501	\$96	73,812	\$103	75,070	\$110
Alberta	20,913	\$21	30,070	\$37	33,331	\$47	35,666	\$52

Source: Statistics Canada, Canadian International Merchandise Trade

Phenol

Tank Cars



Surfactants

Table 1: Trend in Canadian and Alberta's Imports of Main Surfactants

		Canada	Canada	Canada	Canada	Canada	Canada	Canada
		1990	2009	2010	2011	2012	2012	2012
Canada	HS * Code	(kilotonnes)	(kilotonnes)	(kilotonnes)	(kilotonnes)	(kilotonnes)	(\$ million)	(\$/kg)
Anionic	340211	15.2	52.5	54.6	57.0	59.6	\$120.1	\$2.02
Cationic	340212	2.0	5.9	7.5	7.4	8.1	\$27.7	\$3.41
Non-ionic	340213	24.0	45.5	49.1	48.9	47.2	\$152.7	\$3.23
Other (NES)*	340219	7.8	9.3	9.5	12.1	12.6	\$33.2	\$2.63
Total Canada		49.0	113.2	120.6	125.5	127.5	\$333.6	\$2.62
		Alberta	Alberta	Alberta	Alberta	Alberta	Alberta	Alberta
Alberta	HS Code	1990	2009	2010	2011	2012	2012	2012
Anionic	340211	0.95	3.4	4.6	6.0	7.0	\$19.1	\$2.74
Cationic	340212	0.09	0.3	0.6	0.6	0.6	\$1.9	\$3.40
Non-ionic	340213	1.43	4.4	4.9	5.2	3.4	\$10.5	\$3.06
Other (NES)*	340219	0.61	0.9	1.2	2.7	3.2	\$9.7	\$3.02
Total Alberta		3.1	8.9	11.3	14.4	14.2	\$41.2	\$2.90
of Total Canada		6%	8%	9%	12%	11%	12%	

Source: Statistics Canada, <http://www.statcan.gc.ca/trade-commerce/data-donnee-eng.htm>

* HS stands for harmonized system. NES stands for “not elsewhere specified”.

Guar Gum

	2009		2010		2011		2012	
Canada	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
Imports	2,873	\$8,341	5,582	\$13,386	8,631	\$30,374	9,254	\$97,815
Value (\$/tonne)	\$2,894		\$2,398		\$3,519		\$10,570	
Alberta								
Imports	1,535	\$3,735	3,587	\$7,936	5,812	\$20,345	6,462	\$71,453
Value (\$/tonne)	\$2,433		\$2,212		\$3,501		\$11,057	

Source: Canadian International Merchandise Trade Database, HS 1302320010: Guar Gum.

Note: Export data was not available for this chemical.

Conclusions

Full report available at:

- <https://www.albertacanada.com/industry-reports.aspx>

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