

Plastics 2014 – What You Don't Use – You Can't Waste

RCBC 40th Zero Waste Conference

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Association Canadienne de
l'Industrie des Plastiques





Today's Discussion

- Who is CPIA?
- Some of the Benefits of Plastics
- Some Initial Results from the 2014 Franklin Associates Report

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National Value Chain Association

- CPIA is a member-driven advocacy association representing the Canadian plastics industry
 - 90,000 employees
 - Over 3000 businesses
 - \$27 billion revenue
- Members from across the value chain: resin producers, processors, equipment manufacturers, recyclers and brand owners

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Plastics Industry in BC

- 290 small & medium sized firms employing 10,000 people including highly skilled engineers, technicians and machine operators
- Largely clustered in the Metro Vancouver & Fraser Valley area
- Has evolved by aggressively and innovatively serving local markets & export markets in US & Asia
- Generates \$2.2 Billion in annual revenues

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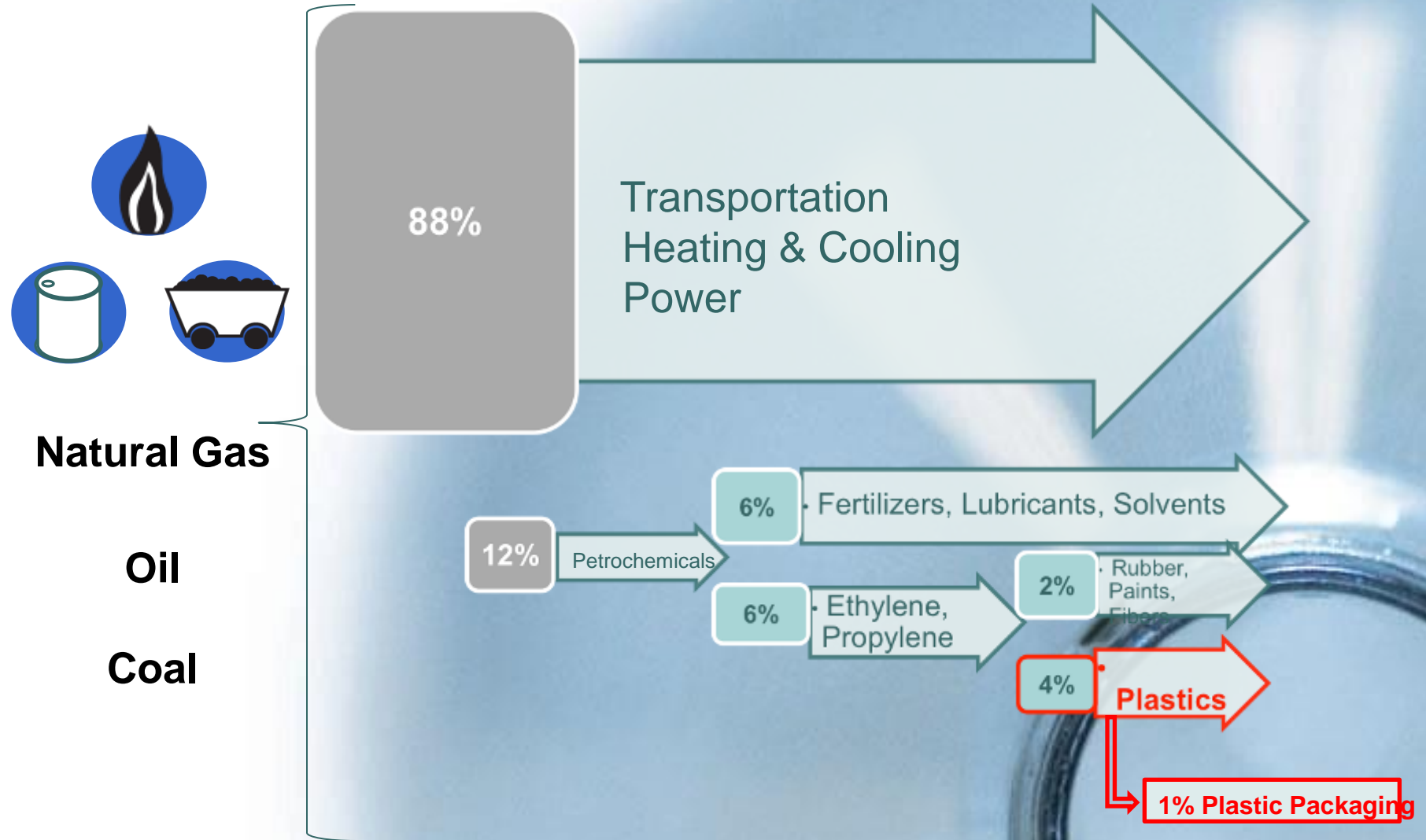
Plastics' Contributions – Providing Many Benefits



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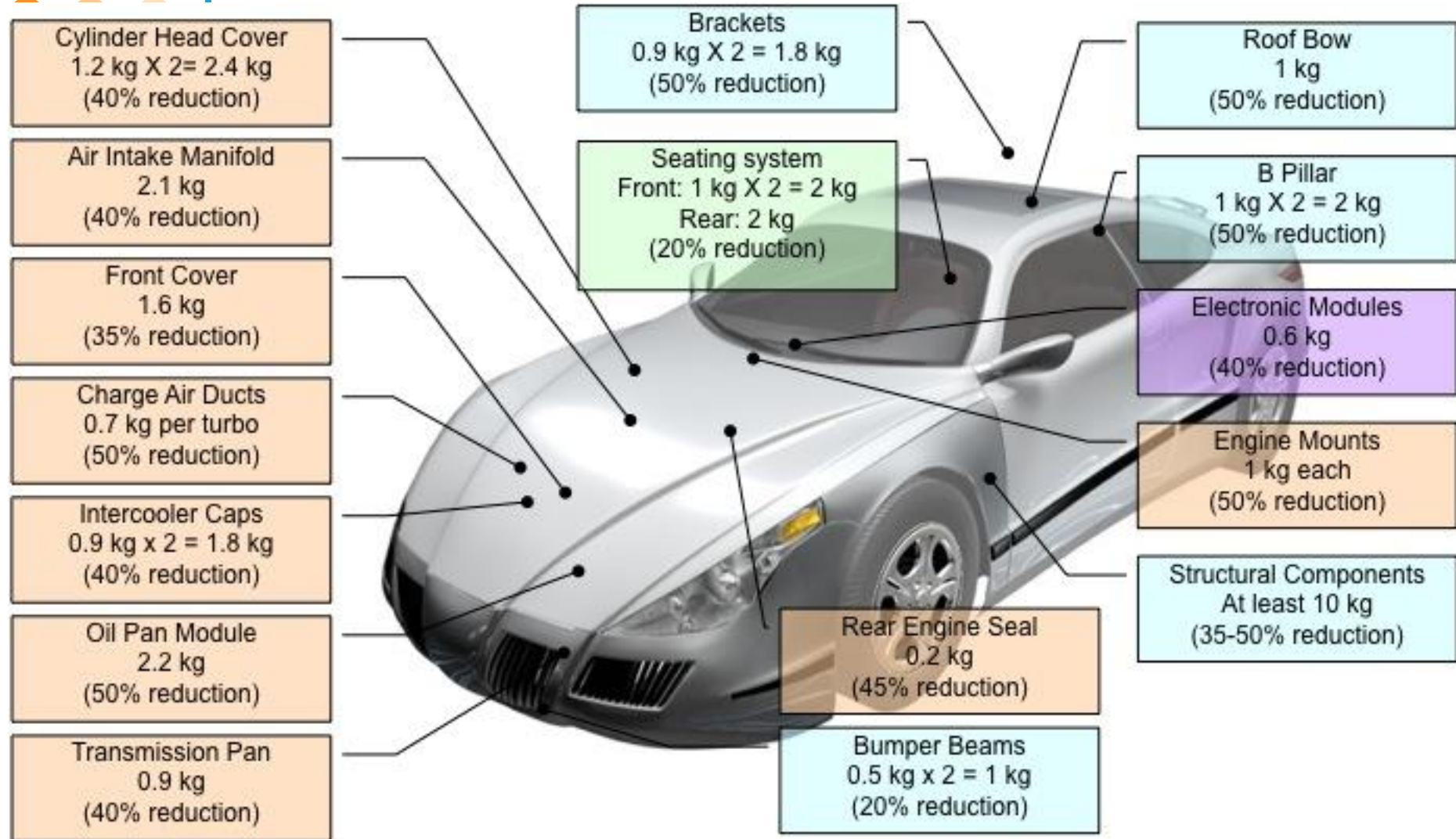


Plastics Consume a Tiny Fraction of Hydrocarbons, Mostly Natural Gas



Source: Canadian Plastics Sector Council (CPSC) / American Chemistry Council

Weight Reduction



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Retailer Experience – Reducing Use of Resources by Upgrading to Plastic Packaging

Previously - used heavy corrugated boxes

Now – use plastic film

- Less weight
- Less transportation costs
- Less warehouse space



From: 14 skids of corrugated boxes

To: 1 skid of plastic film

Plastic Packaging Reduces Waste

Cucumbers wrapped in plastic film prevents moisture loss and extends shelf-life from **3 days to up to 14 days**



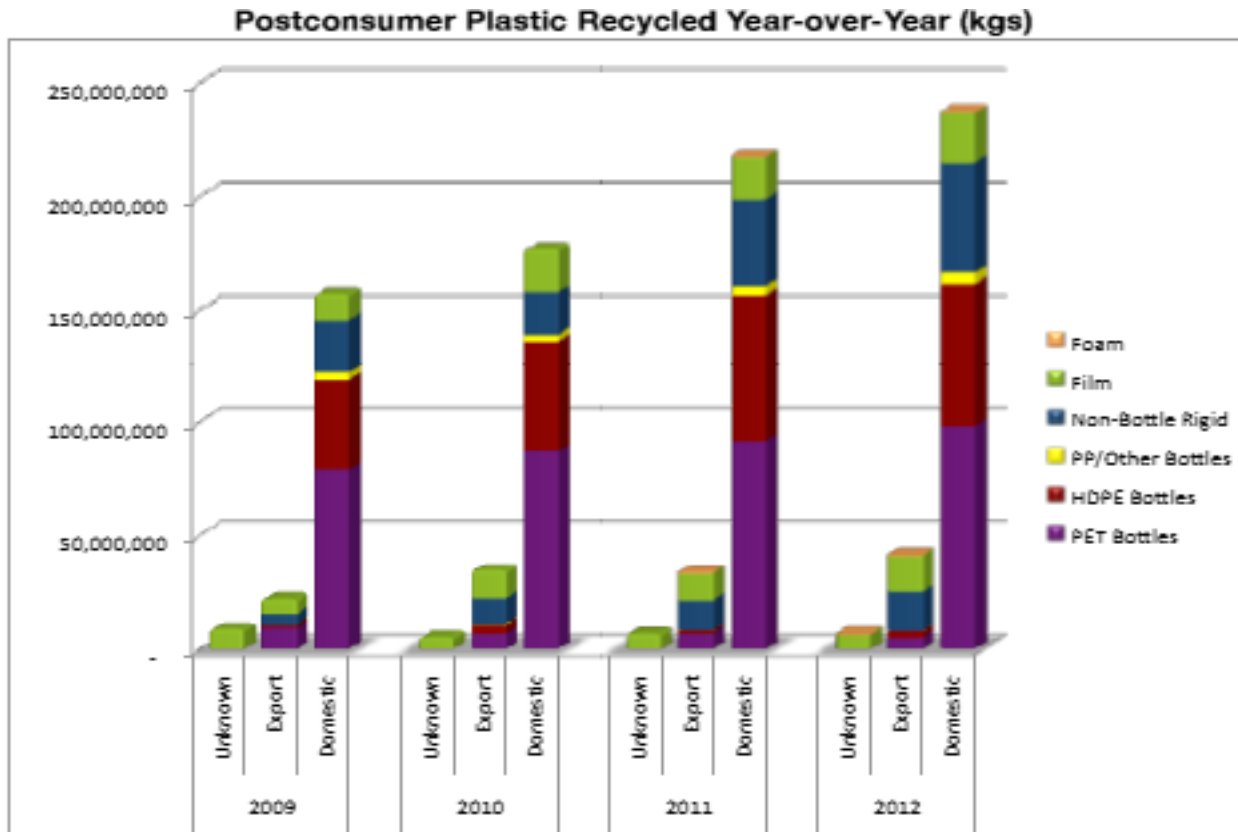
Apples packed in a shrink wrapped tray reduce damage and waste by **27%**

Source: Industry Council for Packaging and the Environment (INCPEN) Study: Table for one 2009

A Cucumber is How Much?

- .5KWh per pound
- 150 million pounds of GH in Canada
- ~ 75 M KWh per year
- 1/3 wasted
- ~ 25 M KWh per year
- @ 12 K KWh/hld/year = ~ 6000 homes

Plastics Recycling in Canada - Growing Every Year



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The Franklin Report - 2014

**IMPACT OF PLASTICS PACKAGING ON LIFE CYCLE
ENERGY CONSUMPTION & GREENHOUSE GAS EMISSIONS
IN THE UNITED STATES AND CANADA
Substitution Analysis**

PREPARED FOR

**The American Chemistry Council (ACC) and
The Canadian Plastics Industry Association (CPIA)**

BY

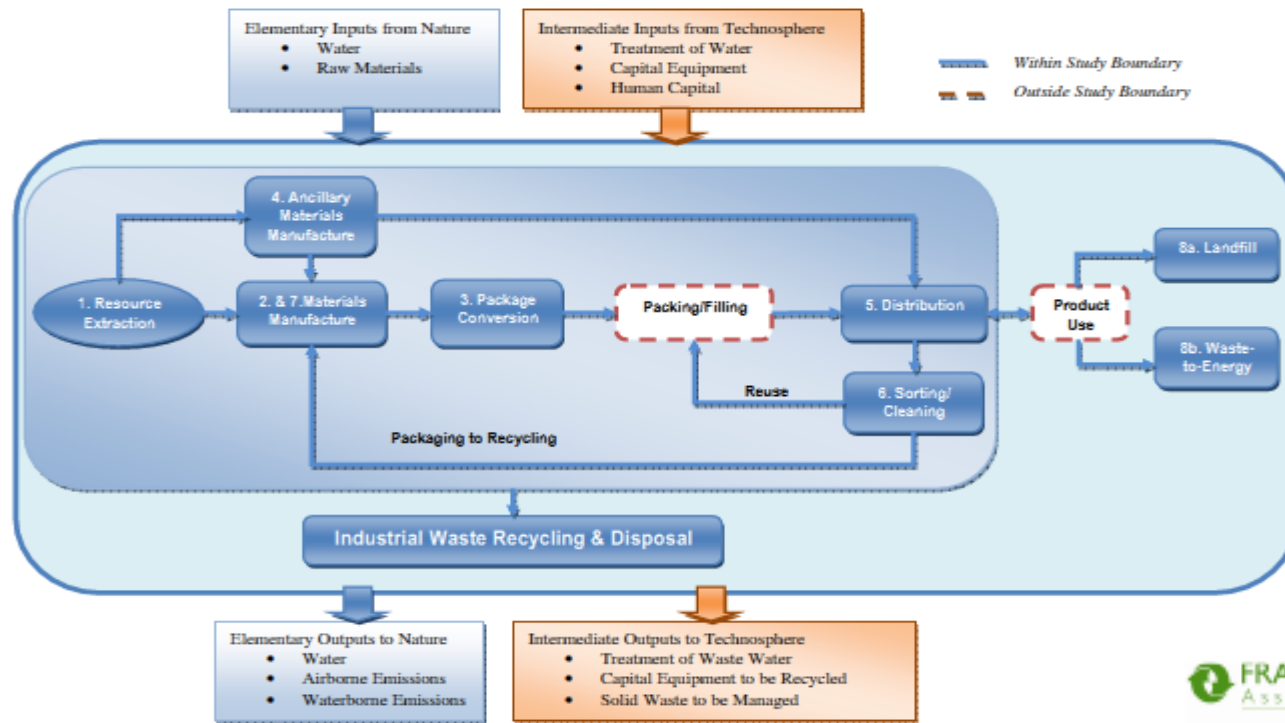
**Franklin Associates, A Division of
Eastern Research Group (ERG)**

January 2014

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Packaging Products System Boundaries



Packaging Categories Included in the Study

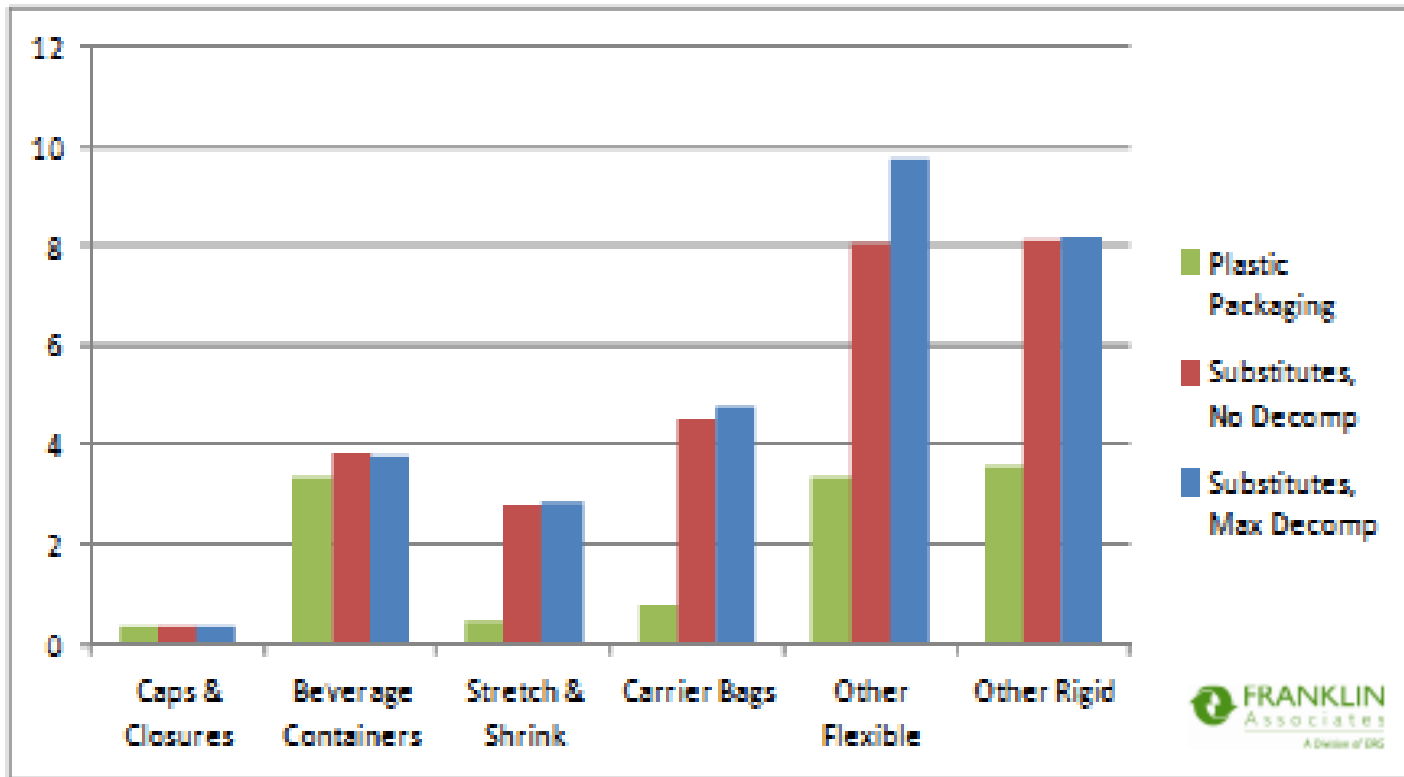
Category:	Functional Unit of Comparison for Alternative Material Weight Required:
Other Rigid	Volume Capacity for Non-Bulk & Bulk Rigid Packaging
	Protective Performance for Protective Packaging
Other Flexible	Volume Capacity for Converted & Bulk Packaging (except strapping)
	Protective Performance for Protective Packaging
	Unitizing Performance for Flexible Bulk Strapping
Beverage Containers	Volume Capacity
Carrier Bags	Number of Units (adjusted for difference in capacity)
Stretch & Shrink	Square Footage adjusted for performance
Caps & Closures	Number of Units



Plastics and Alternatives Included in the Study

PLASTIC RESIN TYPE	ALTERNATIVES
Low Density PE (LDPE)	Steel
High Density PE (HDPE)	Aluminum
Polypropylene (PP)	Glass
Polyvinyl Chloride (PVC)	Paper – OCC, packaging paper, cardboard,
Polystyrene (PS)	Molded Fibre
Expanded Polystyrene (EPS)	Paper based composites & laminates
Polyethylene Terephthalate (PET)	Fibre based textiles
	Wood

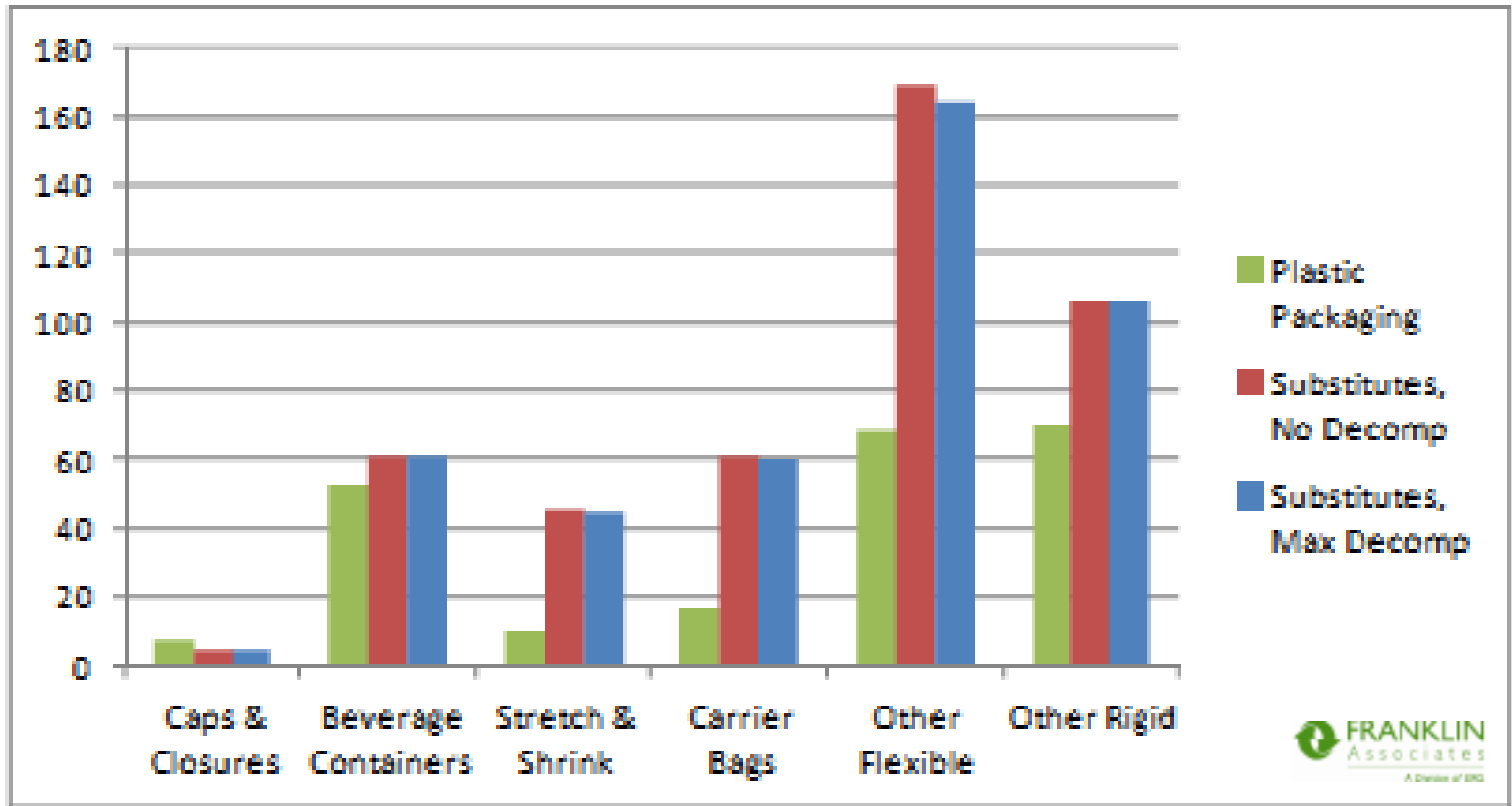
GWP Results by Category for Canadian Plastic Packaging & Substitutes (MMT CO2 eq.)



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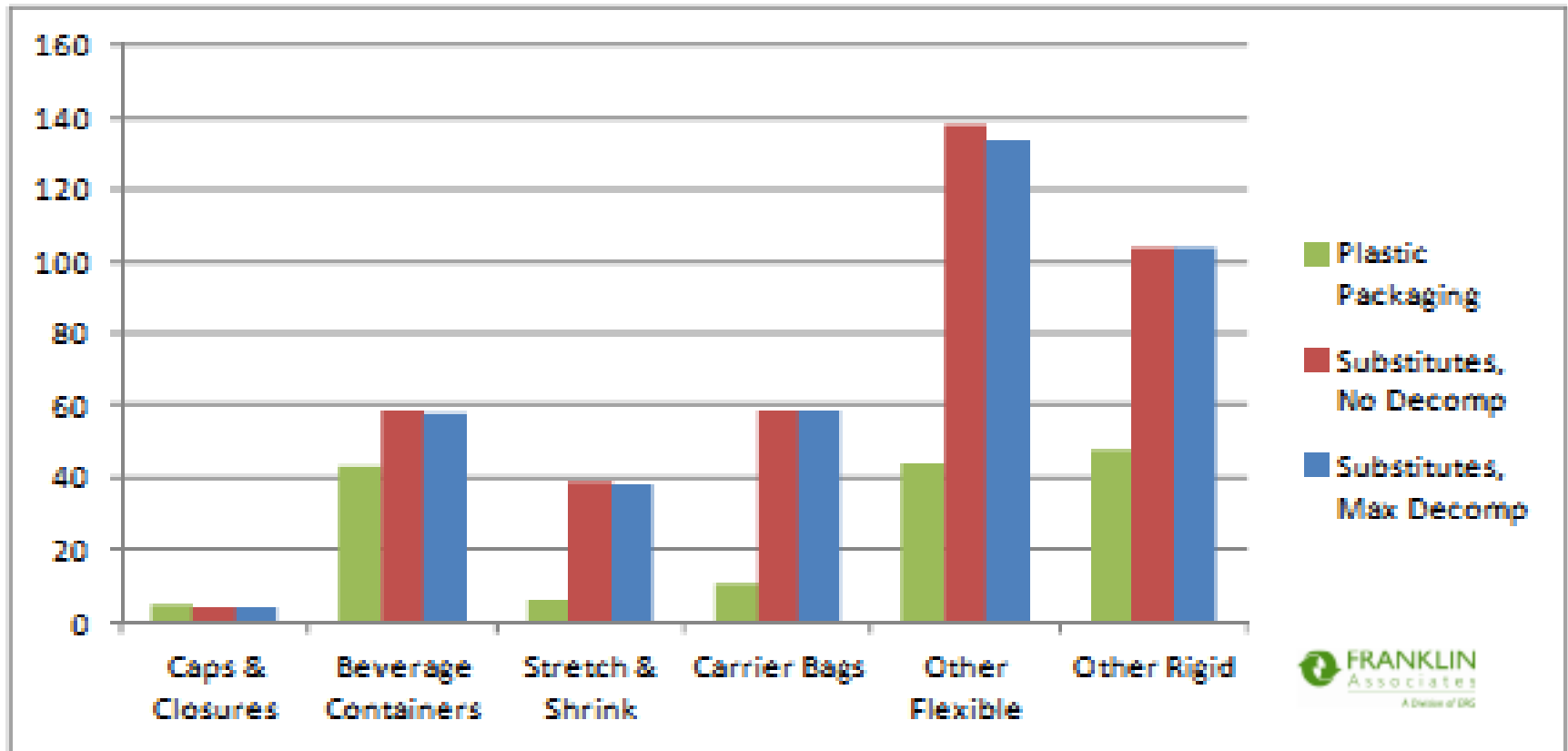
CED Results by Category for Canadian Plastic Packaging & Substitutes (Billion MJ)



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Expended Energy by Category for Canadian Plastic Packaging & Substitutes (Billion MJ)

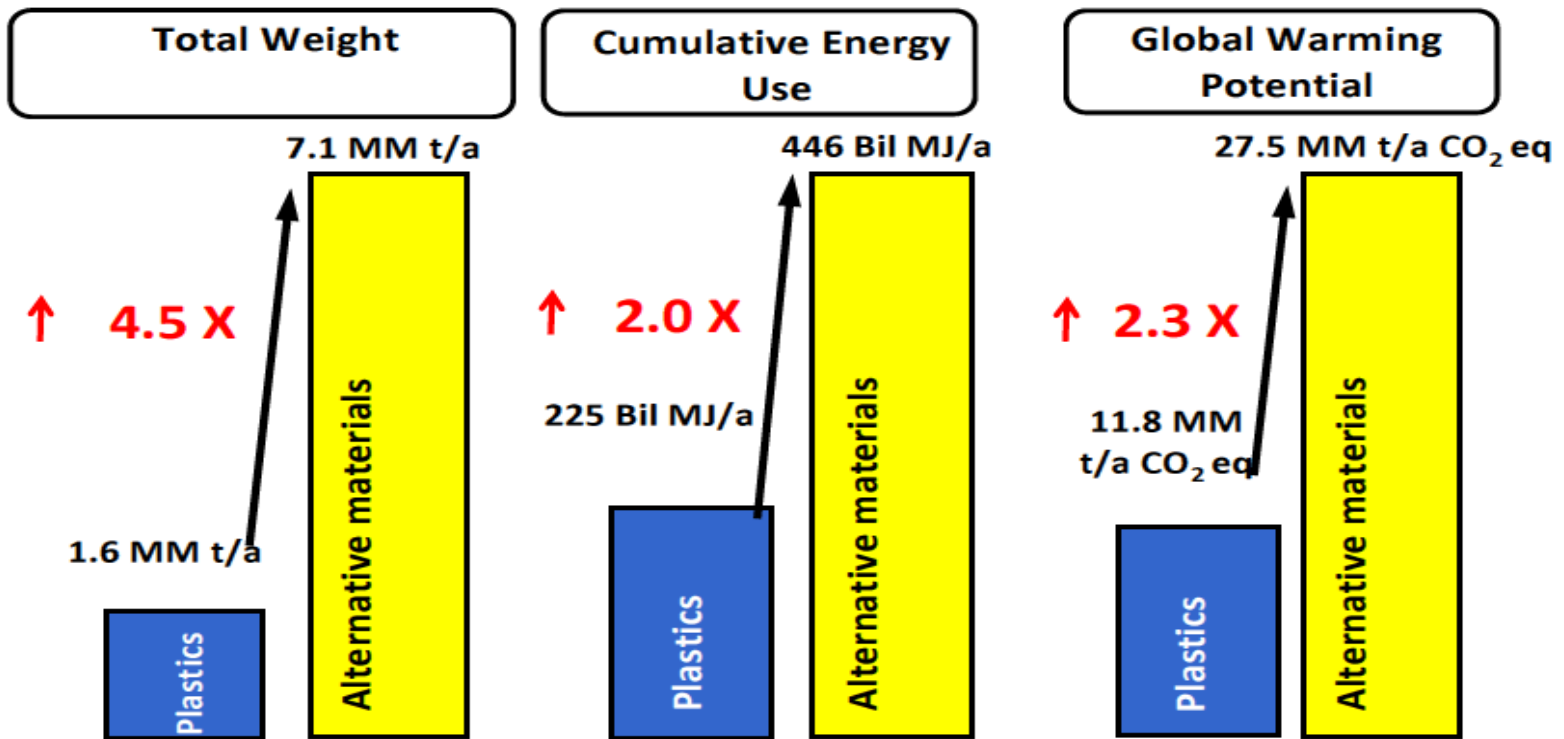


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ACIP
CPIA
Canadian Plastics
Industry Association

Plastic Packaging Reduces Mass, Energy Consumption and GHG



Source: Impact of Plastics Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in the United States and Canada, Franklin Associates, January 2014



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Reductions in Cumulative Energy Use Due to Plastics

Equivalent to saving 1.5 billion gallons of crude oil filling over 18 supertankers lined up for 8 km.



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Some of the Conclusions from the Report

- Against a mix of competitive materials, plastics significantly reduce material use, energy consumption and greenhouse gas generation
- A material's strength to weight ratio is a key predictor of environmental impact
- From a climate change perspective a material's biodegradability is not necessarily a benefit



A Key Implications Coming from the Report

- Plastic packaging reduces overall energy consumption making the role of plastics and plastic packaging more critical to waste prevention than most people realize
- What you don't use to start with – cannot become a waste



THANK YOU

- CPIA

- www.plastics.ca

- Moore Recycling Report 2014

- http://www.plastics.ca/_files/file.php?fileid=itemxtyIOHgHtA&filename=file_2012_Canada_Plastic_Recycling_Report_Final_3.4.14.pdf

- Franklin Report

- <http://www.plastics.ca/EnvironmentalSustainability/Packaging/index.php>

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