

Plastics, Sustainability and the Evolving Consumer Perceptions

Eric Vignola, Leader, Market Management

Eugene Tabone, Market Manager, Durables

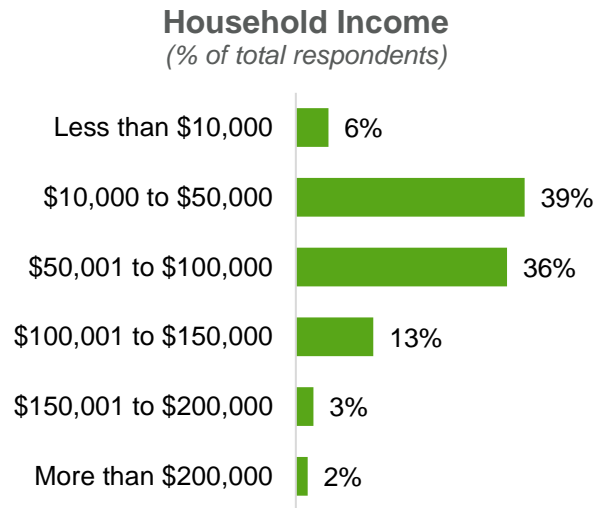
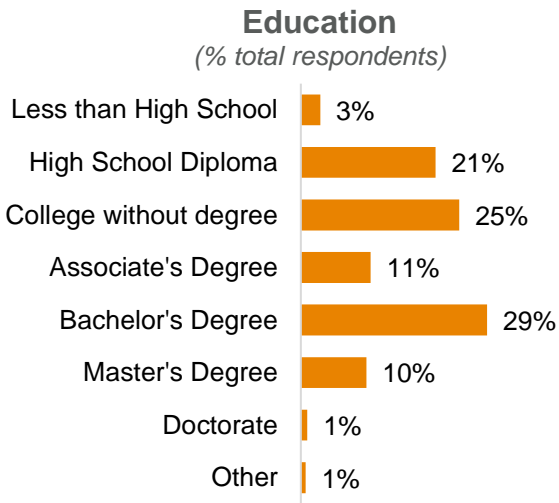
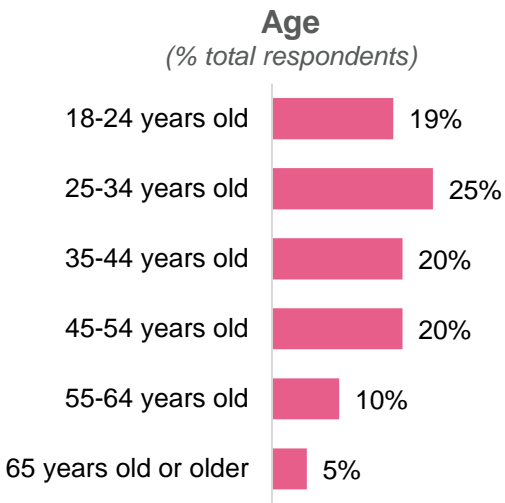
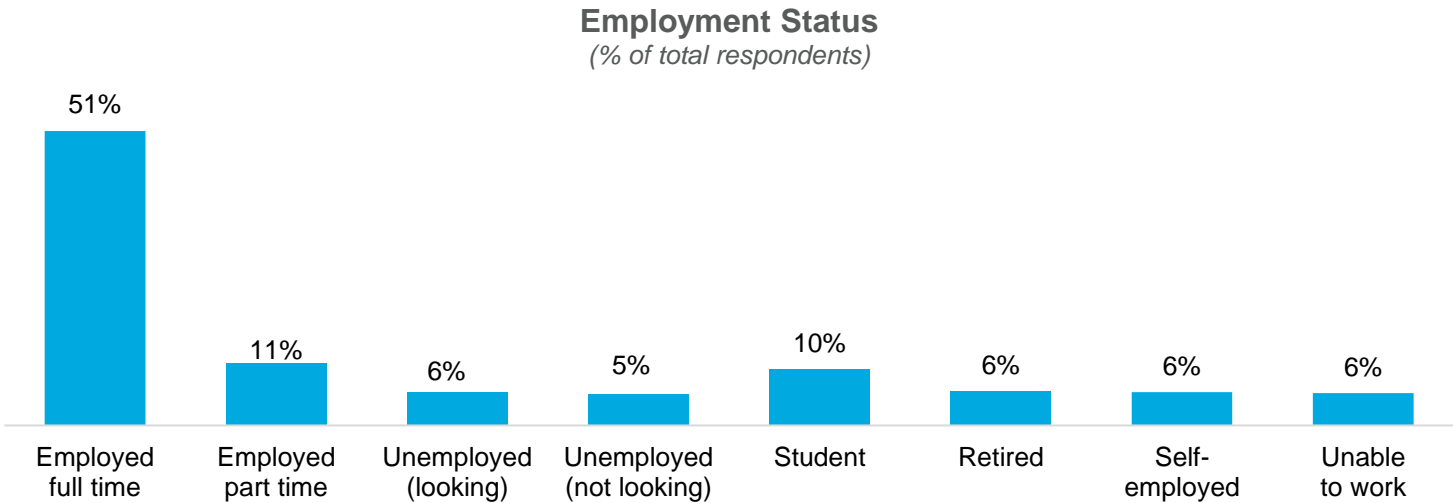
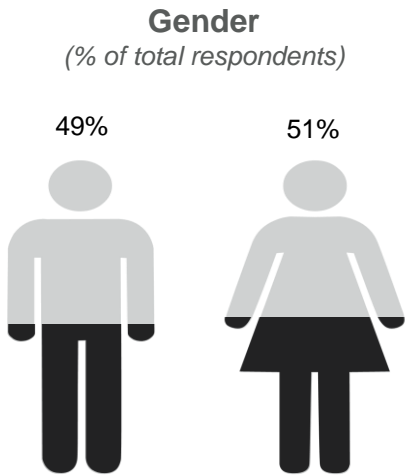
Shifting Consumer Perceptions

Four years of consumer surveys conducted by NOVA Chemicals tracking shifting consumer perceptions about plastic packaging and sustainability:

- What is most important to consumers?
- Can consumers be swayed?
- What can the industry learn from it?



Demographics – Gender, Employment, Education and Income

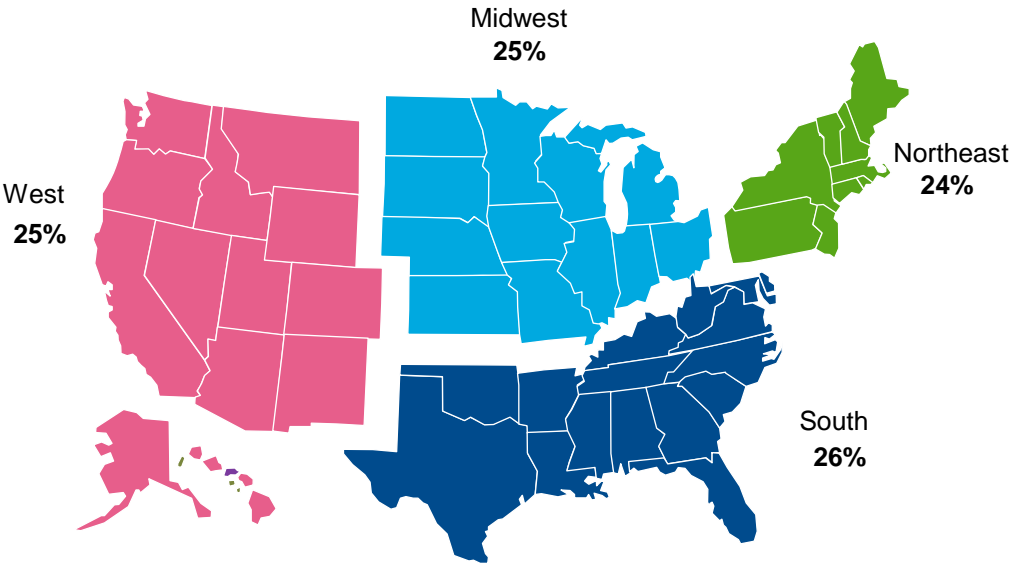


Demographics – Region

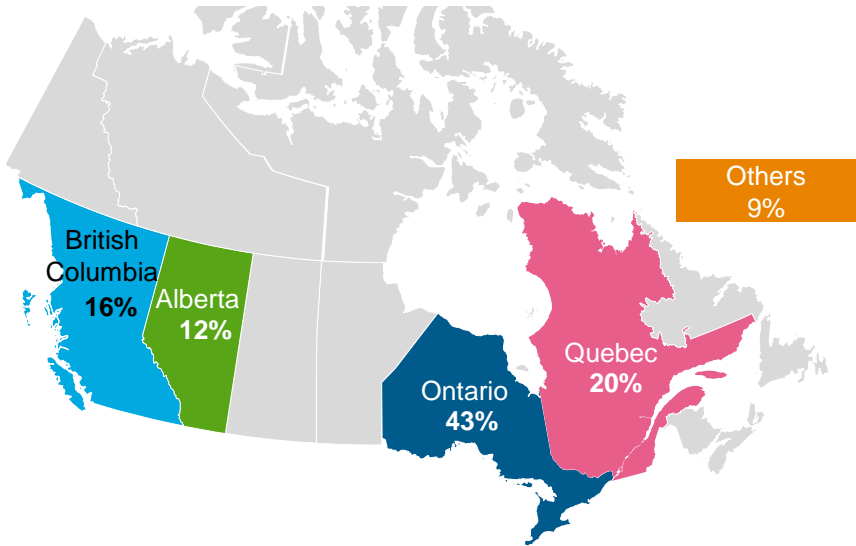
Country
(% of total respondents)



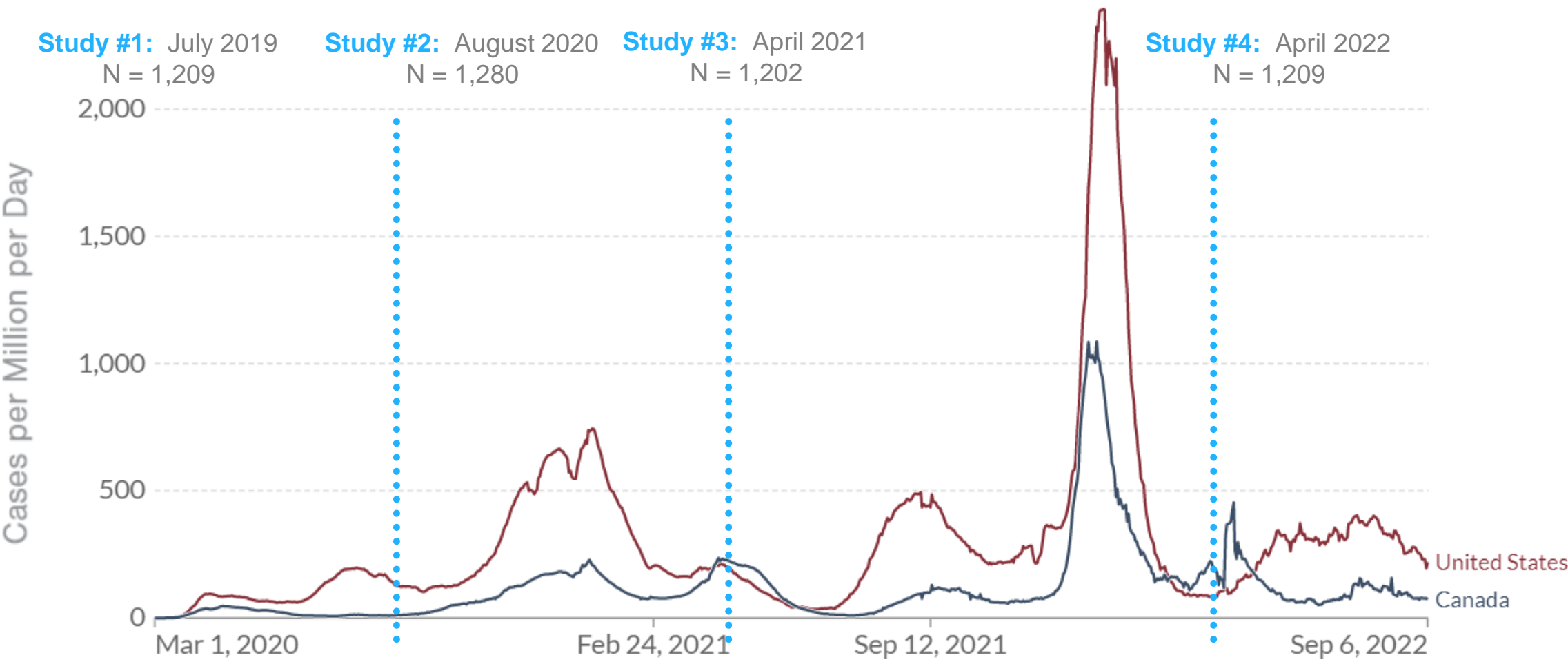
US Regions
(% of US total respondents)



Canada Provinces
(% of Canada total respondents)



Consumer Survey Background & Methodology



Source: Johns Hopkins University CSSE COVID-19 Data

Industry Action



Improving Perception of Plastics

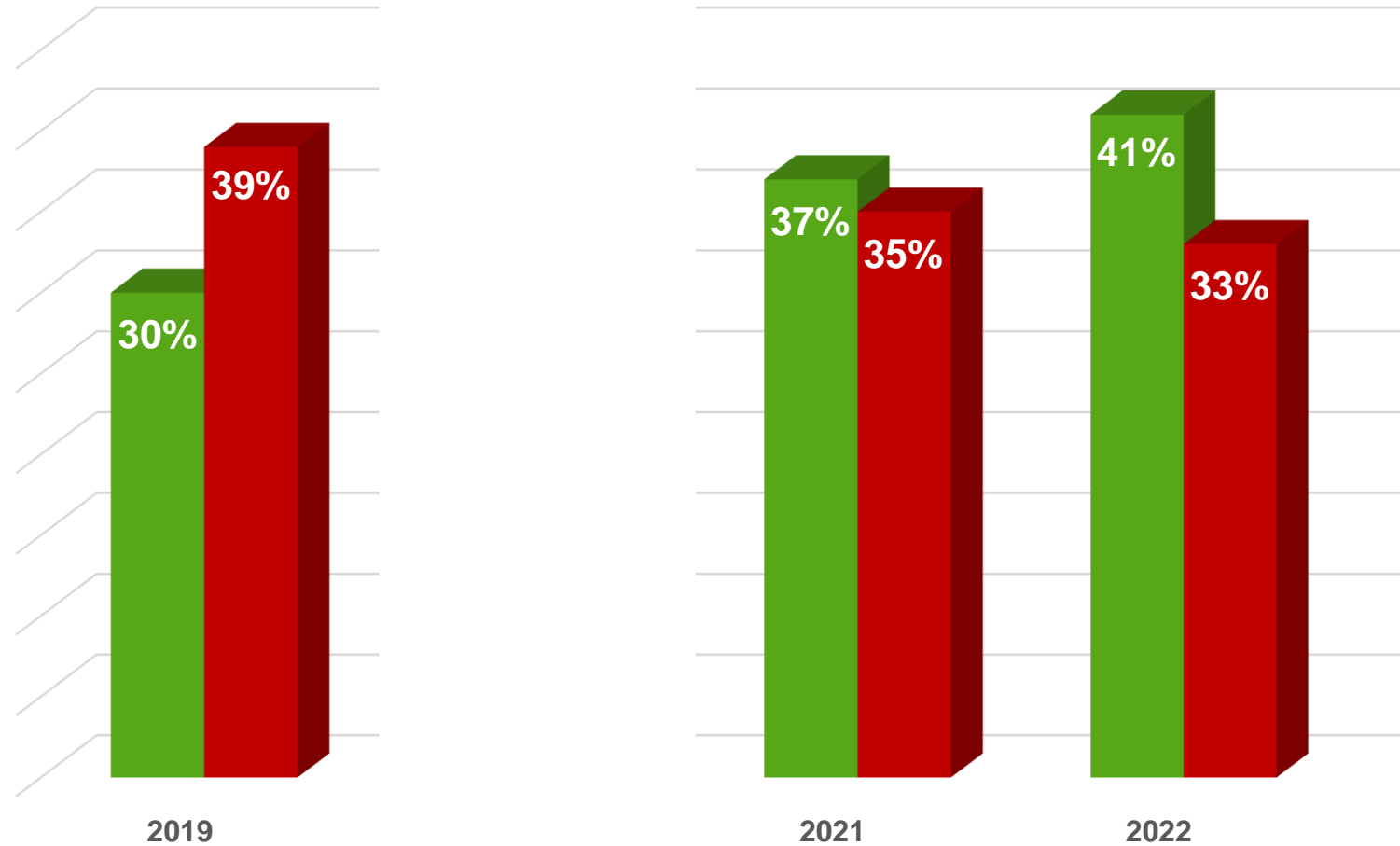
The benefits of plastics have improved plastics perceptions

Do you agree with the statement:

"The benefits of plastics outweigh the risks"

■ Agree

■ Disagree



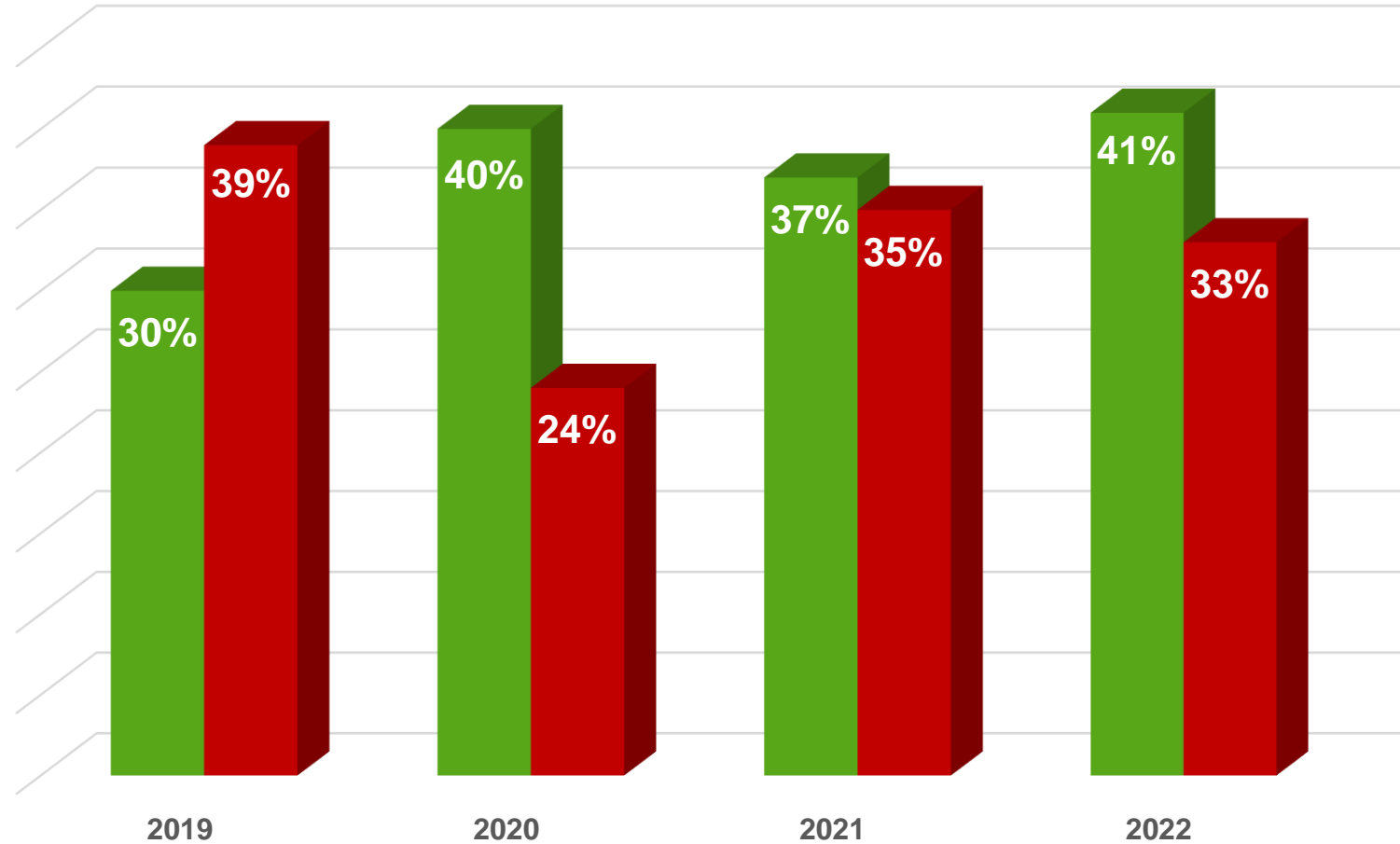
Improving Perception of Plastics

The benefits of plastics have improved plastics perceptions

Do you agree with the statement:

"The benefits of plastics outweigh the risks"

- Agree
- Disagree



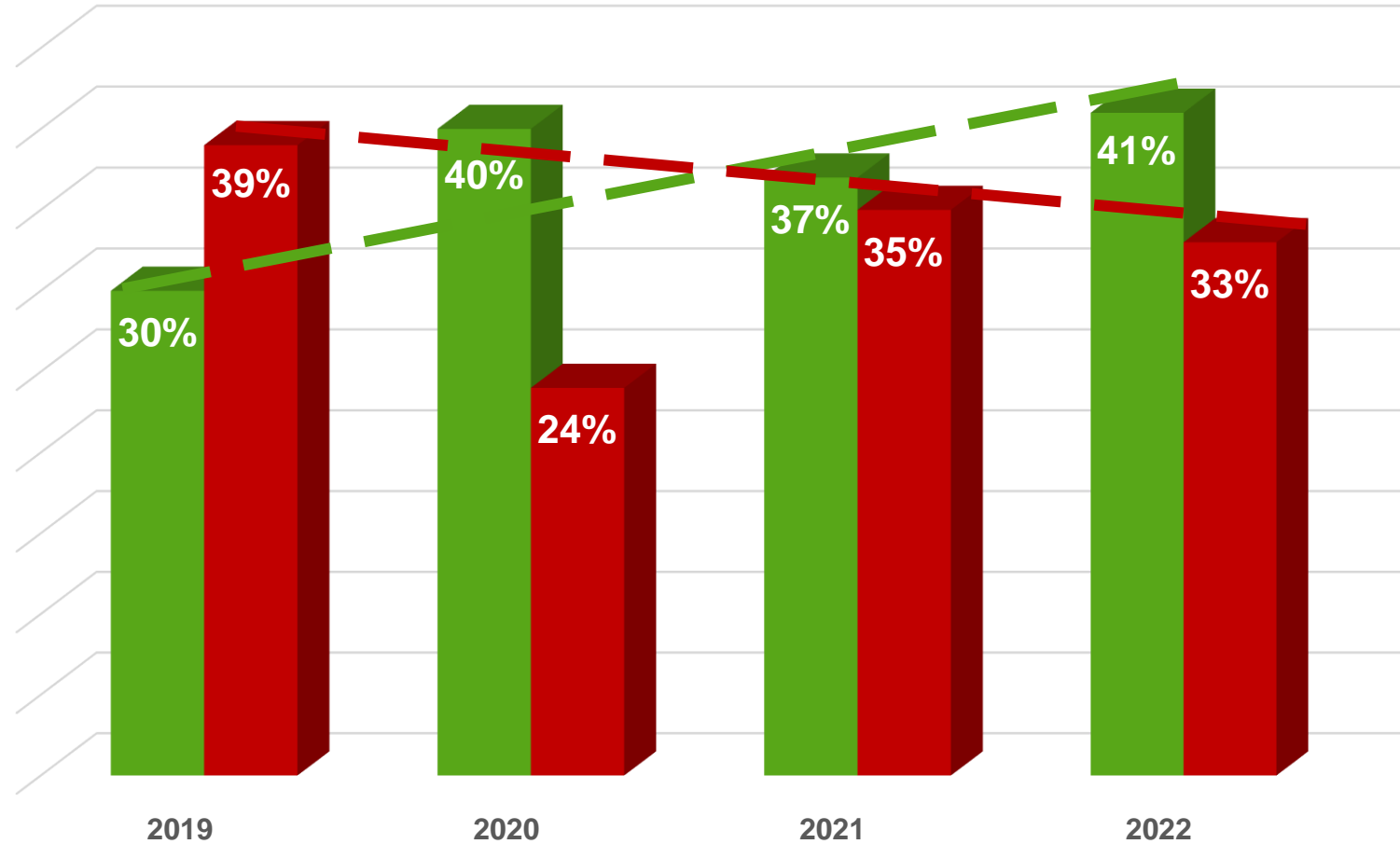
Improving Perception of Plastics

The benefits of plastics have improved plastics perceptions

Do you agree with the statement:

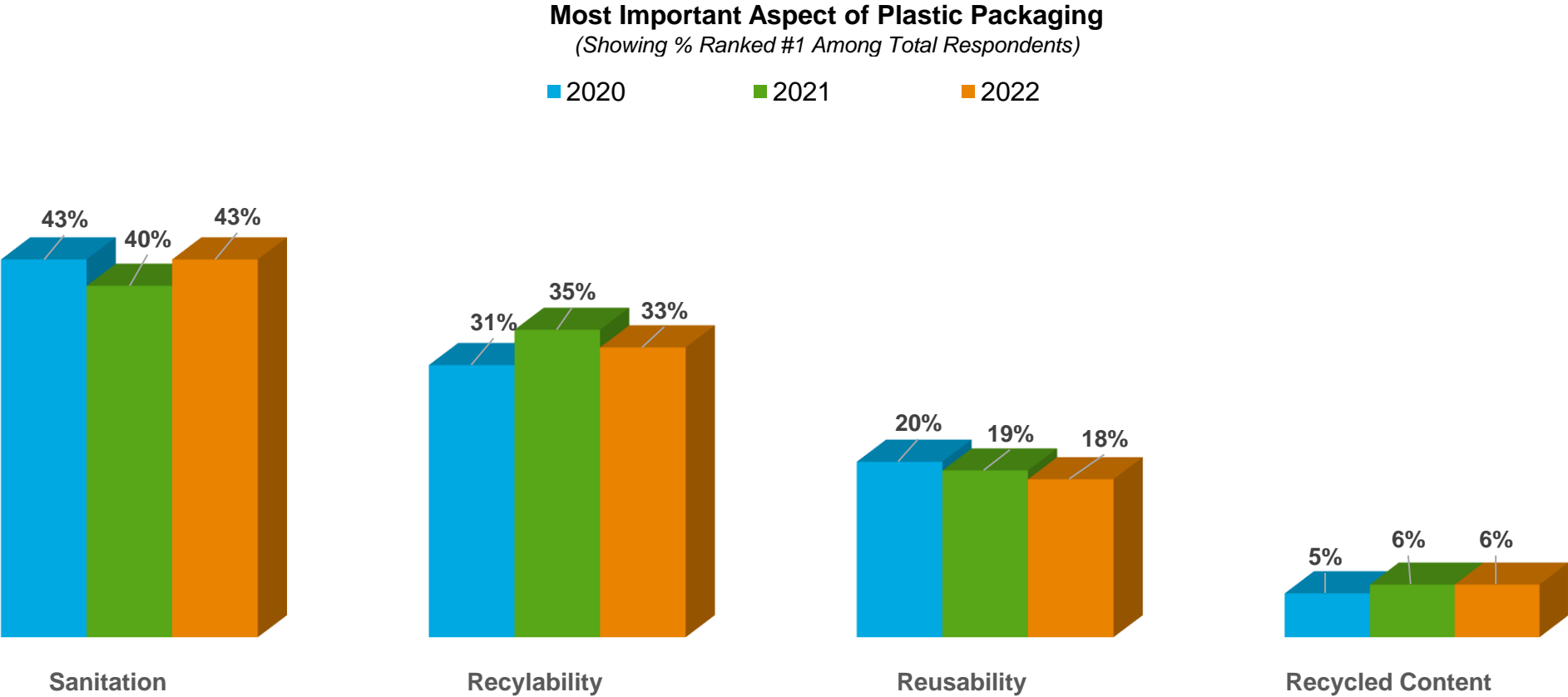
"The benefits of plastics outweigh the risks"

- Agree
- Disagree



Consumer Priorities for Plastic

The order of importance hasn't changed among these four characteristics

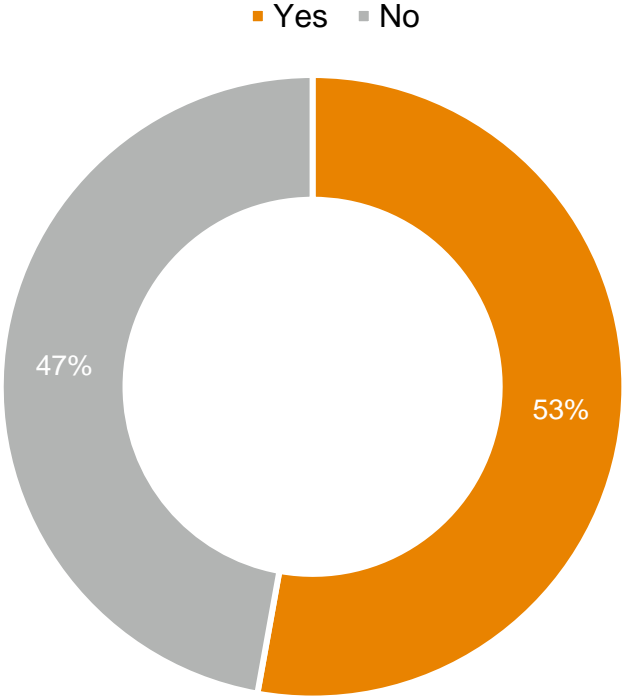


Consumers' Willingness to Buy Recyclable Packaging

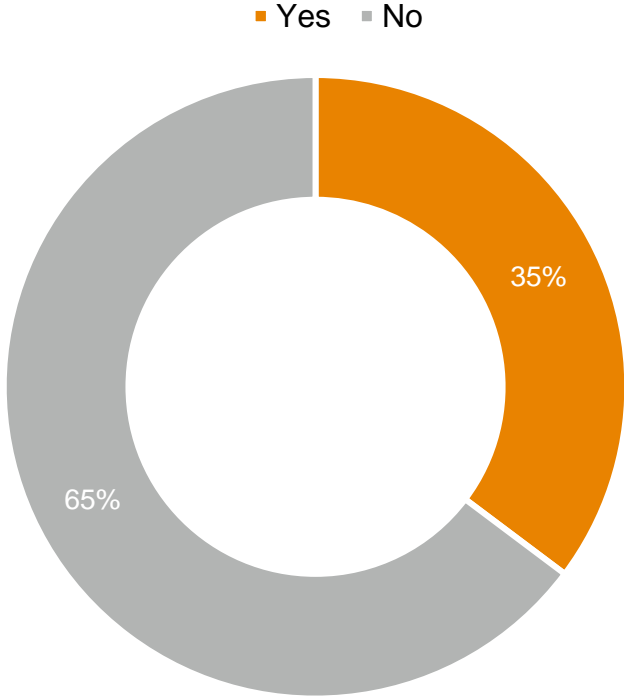
Willing to buy products because of recyclable packaging, but not at all cost

2022

Deliberately Purchased Product Because of Plastic Packaging “Recyclable” Label
(% of Total Respondents)

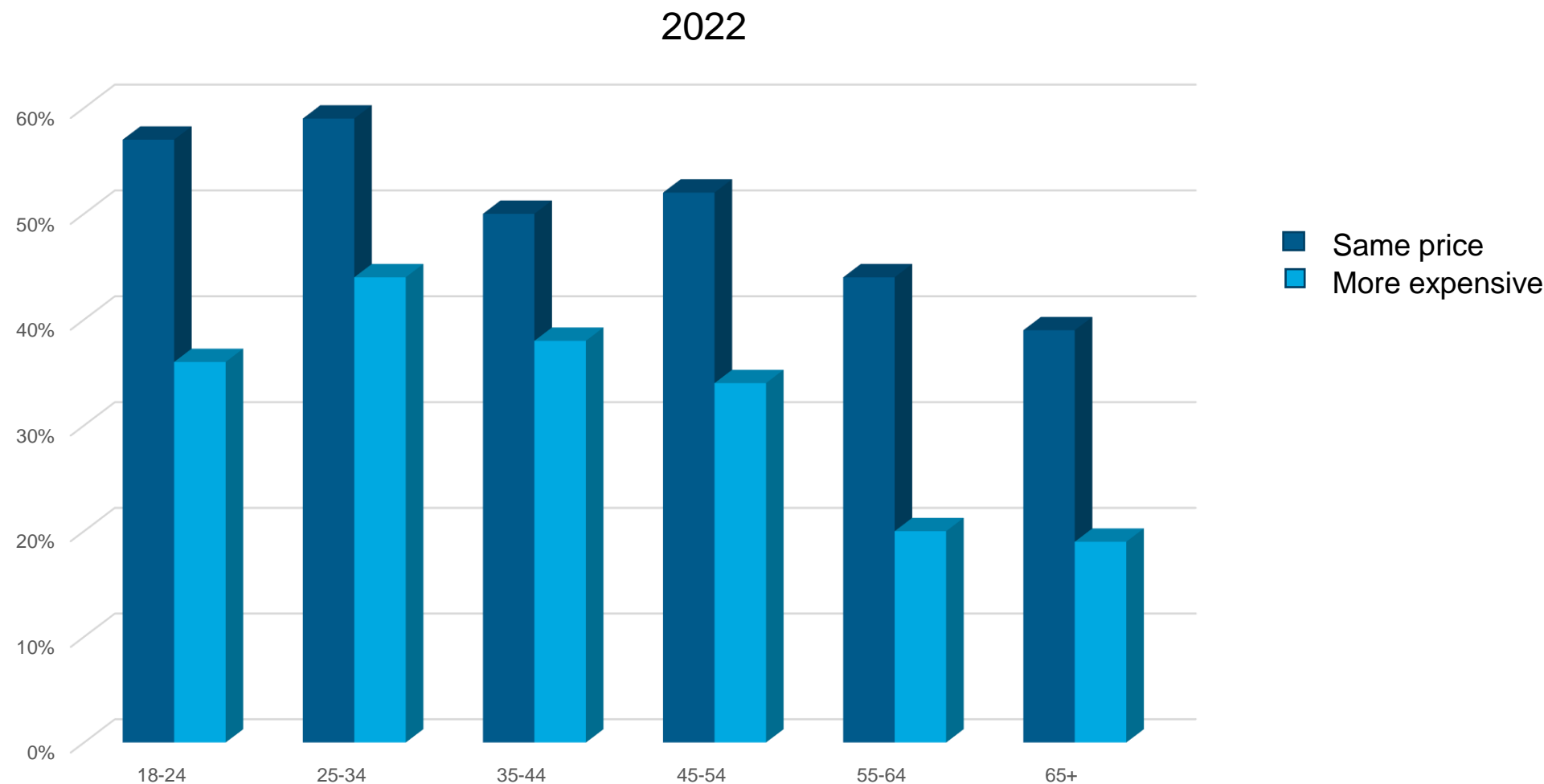


Deliberately Purchased Products That Were More Expensive Specifically Because of Plastic Packaging “Recyclable” Label
(% of Total Respondents)



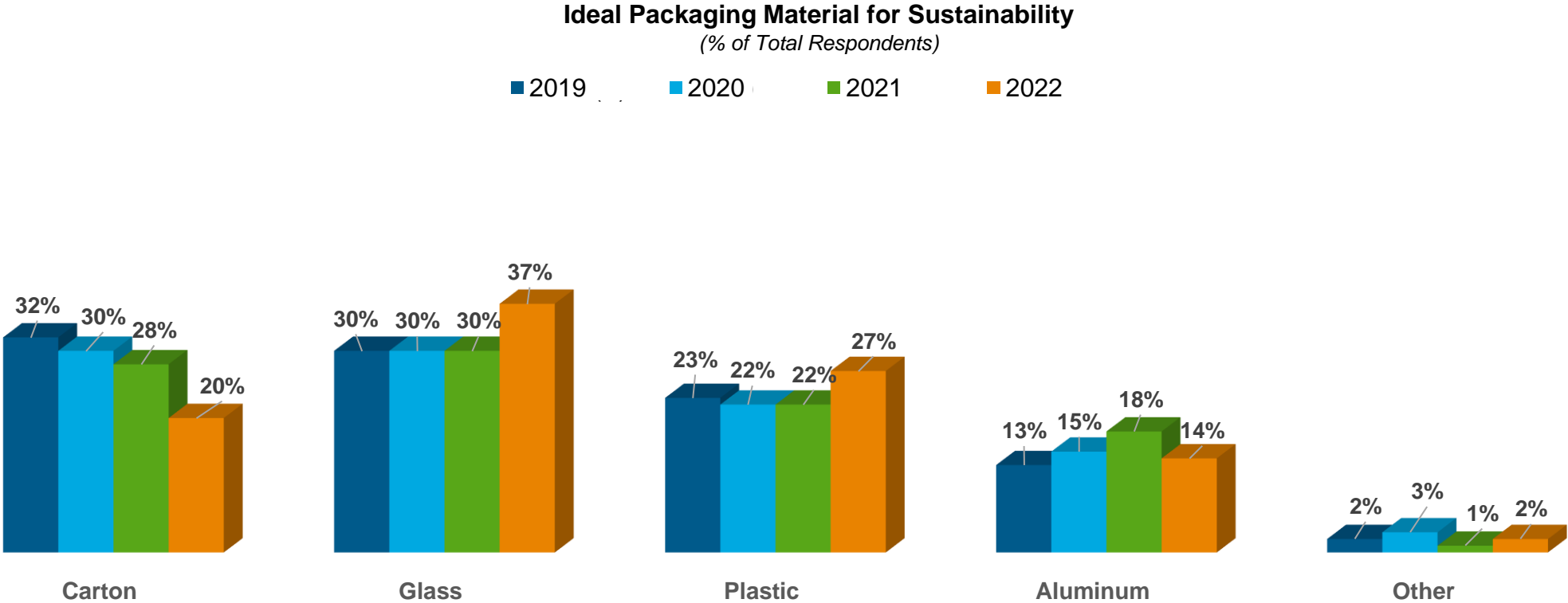
Consumers' Willingness to Buy Recyclable Packaging

Consumers 54 and under are more likely to purchase a product in recyclable packaging even if more expensive

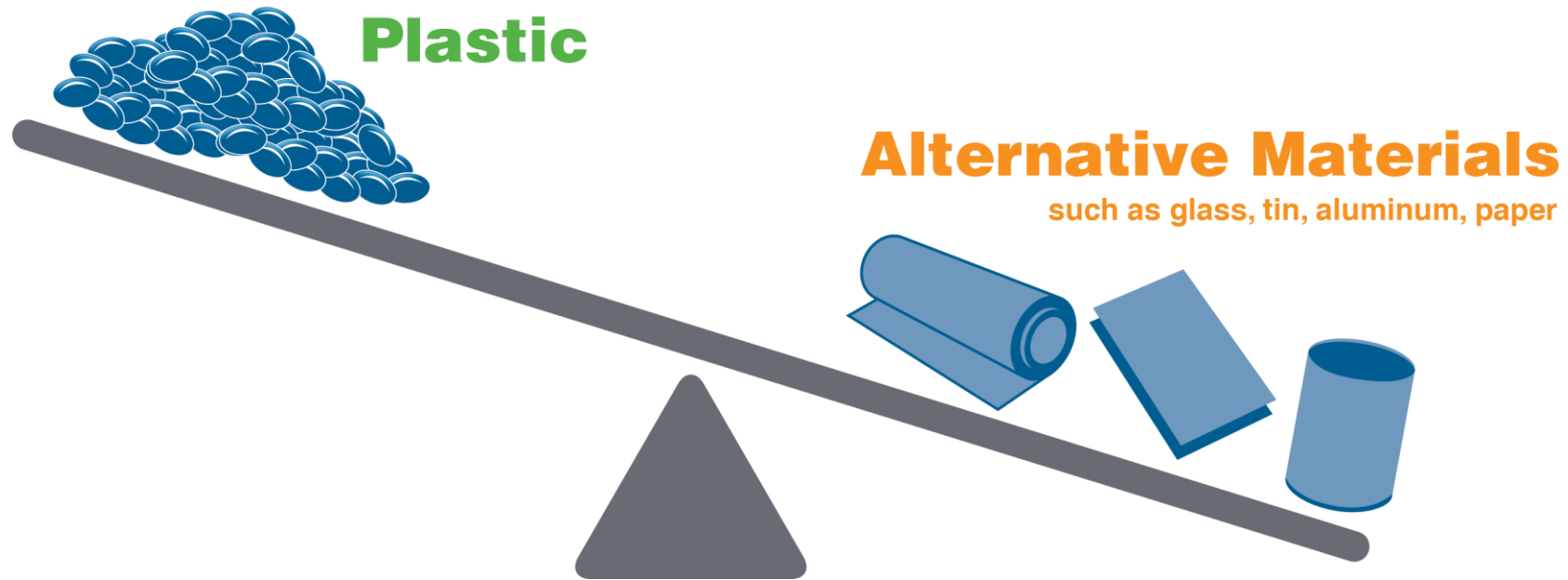


Consumer Priorities for Plastic

The ideal packaging material keeps evolving in consumers' minds



The Full Picture



The environmental cost of plastic in consumer goods is
3.8X less than alternative materials

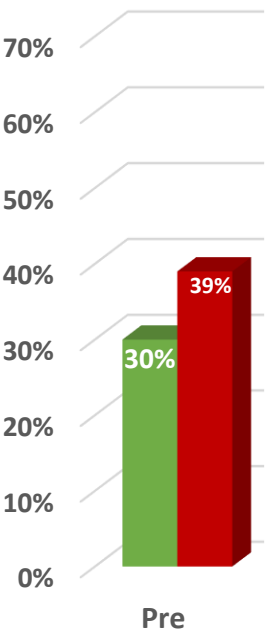


Messaging and Plastics

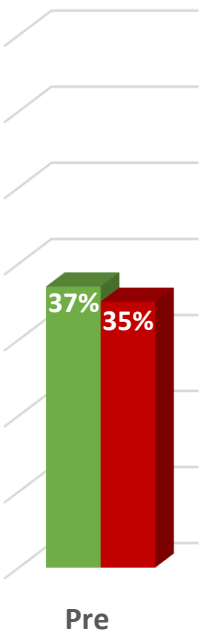
Do you agree with the statement:
“The benefits of plastics outweigh the risks”

■ Agree ■ Disagree

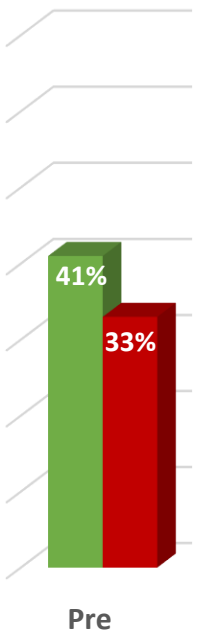
2019



2021



2022



Showed: Factual statement

Did you know: A recent study showed that due to their light weight, durability and ability to limit food waste, plastic packaging contributes up to four times less greenhouse gases than other material alternatives, such as glass or metal*.

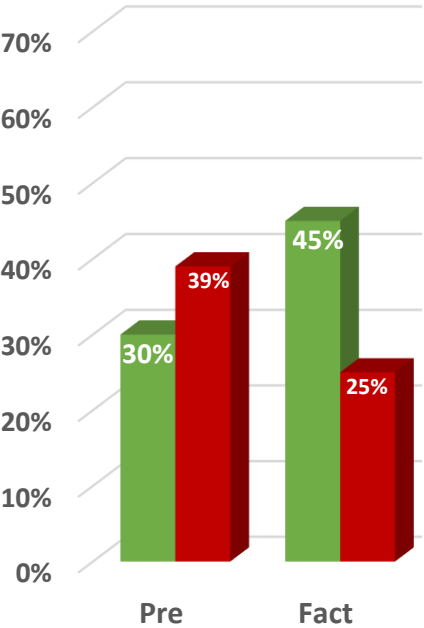
**Plastics and sustainability: A valuation of environmental benefits, costs and opportunities for continuous improvement, prepared by Trucost, July 2016*

Messaging and Plastics

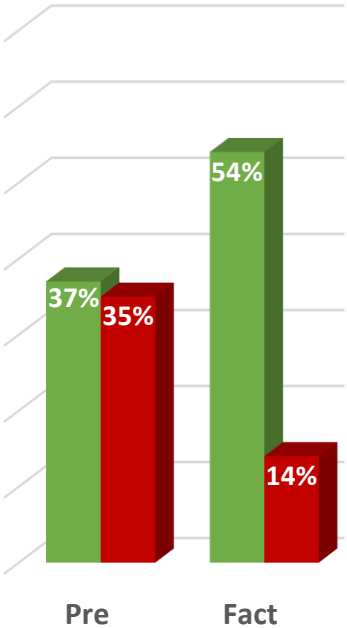
Do you agree with the statement:
“The benefits of plastics outweigh the risks”

Agree Disagree

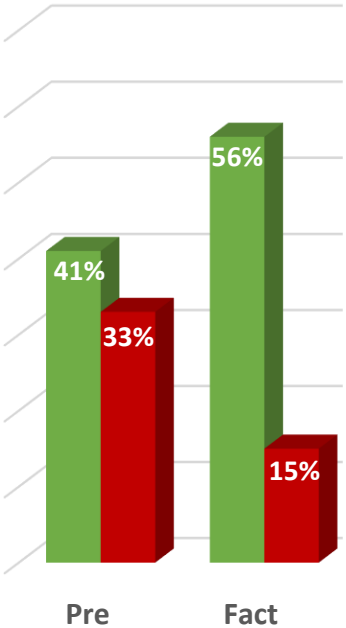
2019



2021



2022



Showed: Factual statement

Did you know: A recent study showed that due to their light weight, durability and ability to limit food waste, plastic packaging contributes up to four times less greenhouse gases than other material alternatives, such as glass or metal*.

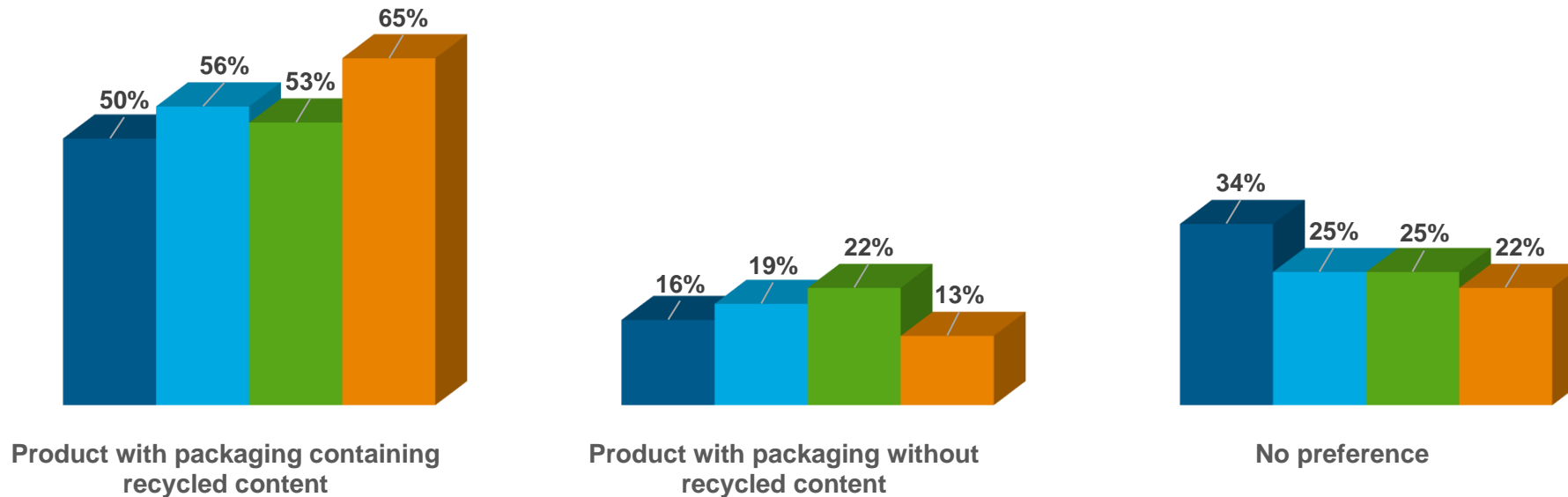
**Plastics and sustainability: A valuation of environmental benefits, costs and opportunities for continuous improvement, prepared by Trucost, July 2016*

PCR (rPE) Incorporation

More than half of consumers would purchase products with recycled packaging

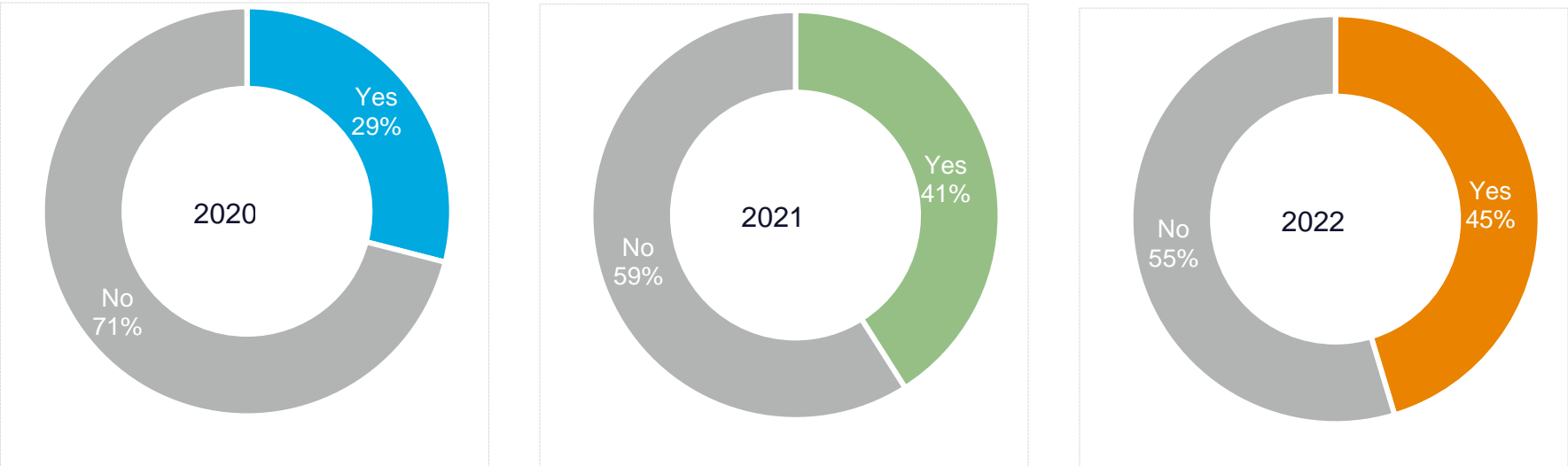
Purchase Decision at Same Price: Package with vs. without Recycled Content
(% of Total Respondents)

■ 2019 ■ 2020 ■ 2021 ■ 2022



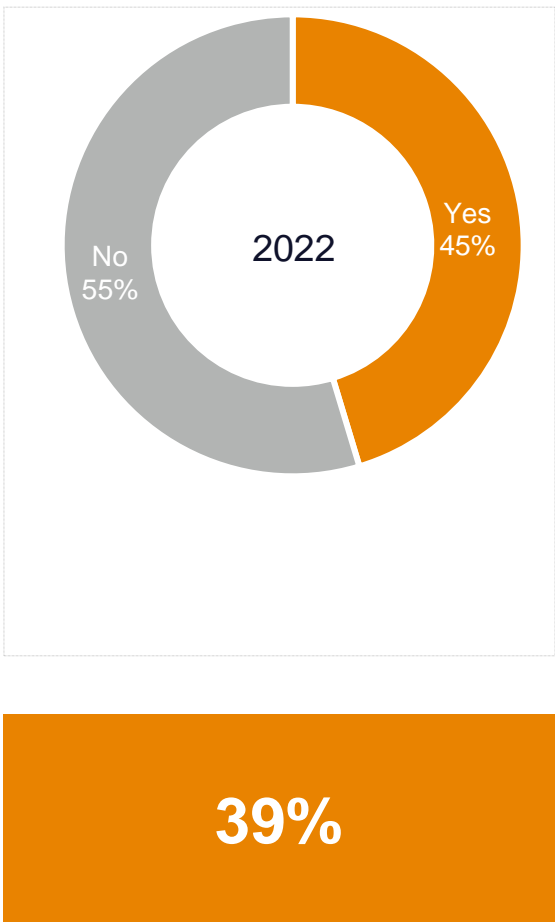
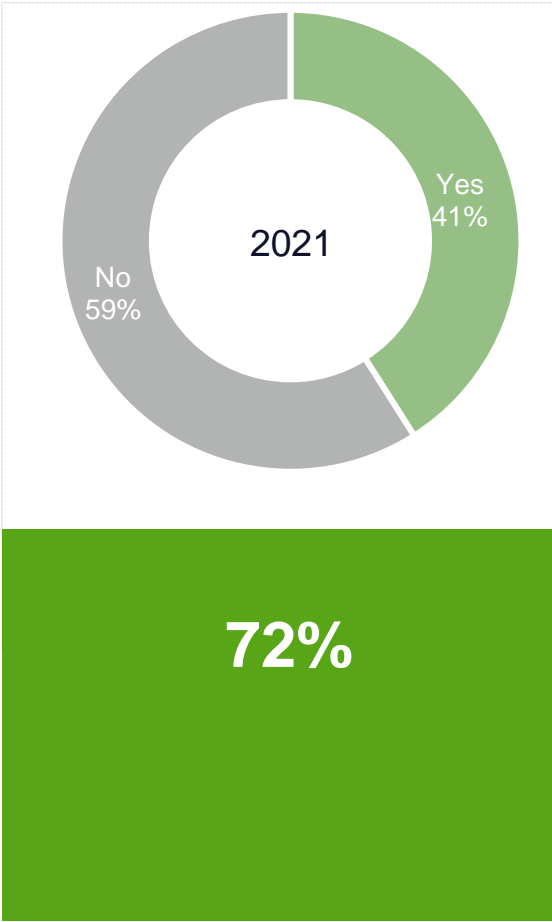
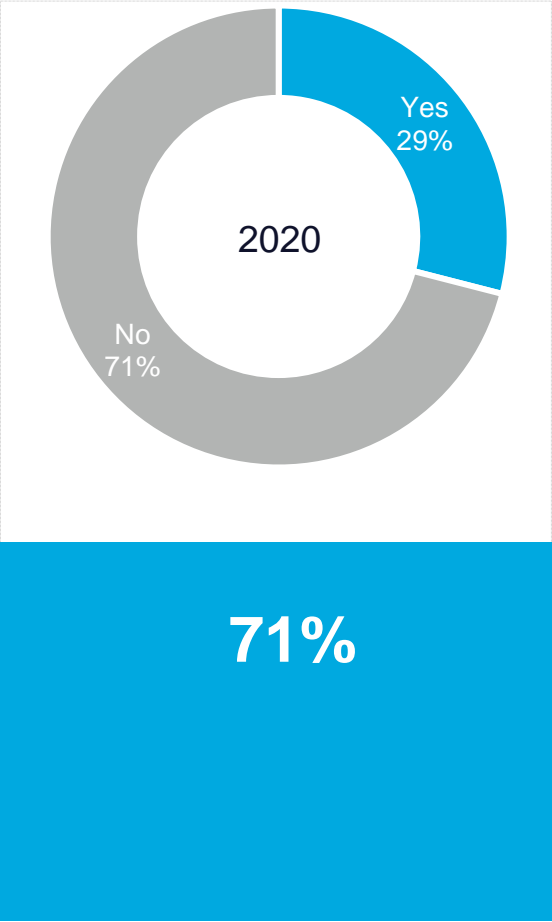
Consumers' Desire for Recycled Content

Consumers actually purchased plastics packaging on the basis of recycled content



Consumers' Desire for Recycled Content

Consumers actually purchased plastics packaging on the basis of recycled content
And were willing to pay more



AND
Of those who
answered **Yes**

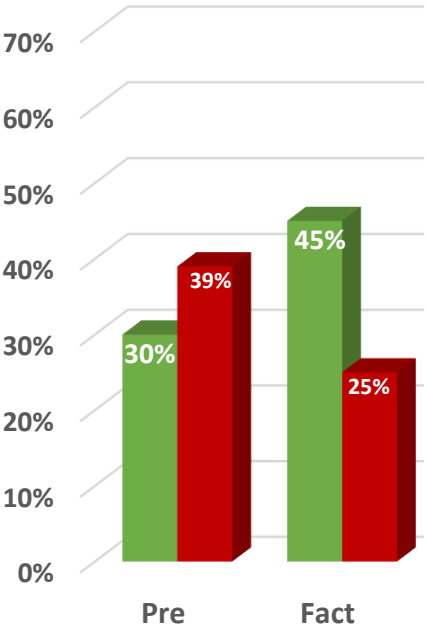
purchased a
more expensive
product

Messaging and Plastics

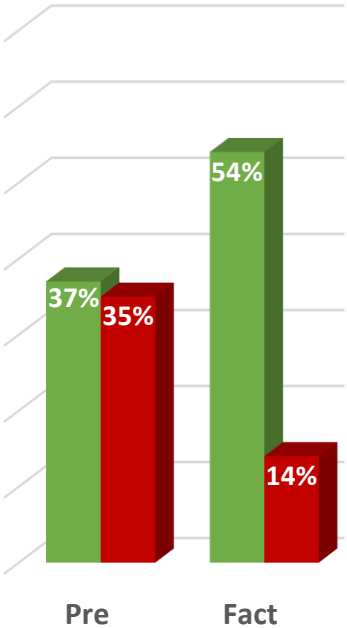
Do you agree with the statement:
“The benefits of plastics outweigh the risks”

■ Agree ■ Disagree

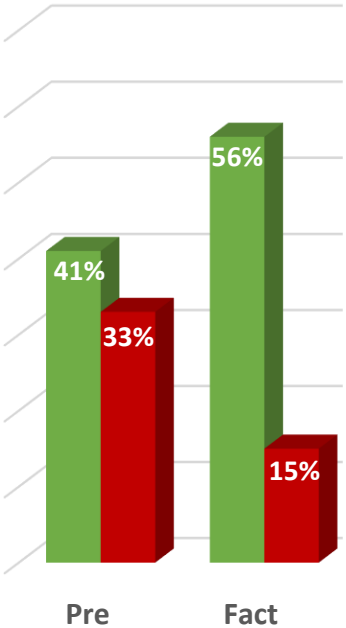
2019



2021



2022



Showed:
Emotional statement

Did you know: Plastic packaging is easy to use and recycle and keeps you safe from food-borne illnesses, such as E. Coli and Salmonella*, and reduces the impact on climate change vs glass or metal containers.

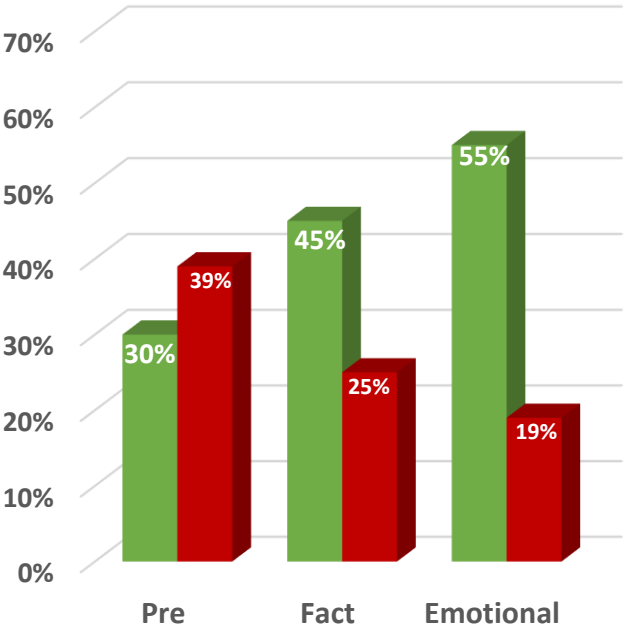
*US FDA

Messaging and Plastics

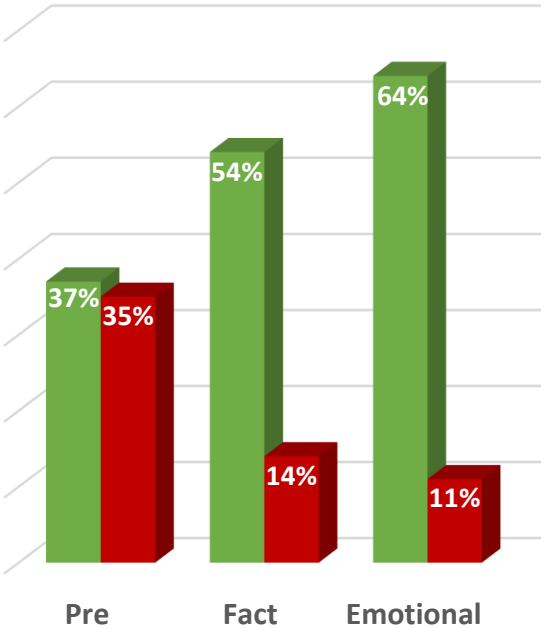
Do you agree with the statement:
“The benefits of plastics outweigh the risks”

■ Agree ■ Disagree

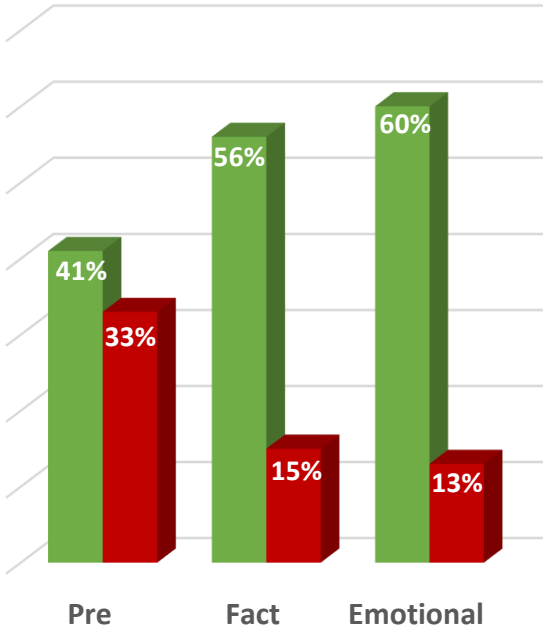
2019



2021



2022



Showed:
Emotional statement

Did you know: Plastic packaging is easy to use and recycle and keeps you safe from food-borne illnesses, such as E. Coli and Salmonella*, and reduces the impact on climate change vs glass or metal containers.

*US FDA



Key Insights

- Consumers are receptive to information on the value of packaging
- The importance of sustainability has not waned
- The 44 and under age demographic is the key towards a more positive narrative
- Value chain collaboration is critical to unlock safe and sustainable packaging opportunities that meet consumers' desire for:
 - Recyclability
 - PCR (rPE) content
 - Safety, Value and Convenience



novachemicals.com



© 2020 NOVA Chemicals - All rights reserved.

The information contained herein is provided for general reference purposes only. By providing the information contained herein, NOVA Chemicals makes no guaranty or warranty and does not assume any liability, with respect to the accuracy or completeness of such information, or product results in any specific instance, and hereby expressly disclaims any implied warranties of merchantability or fitness for a particular purpose or any other warranties or representations whatsoever, expressed or implied. Nothing contained herein shall be construed as a license to use the products of NOVA Chemicals in any manner that would infringe any patent. Nothing herein shall be copied, reproduced, distributed or otherwise used without the express written permission of NOVA Chemicals.

NOVA Chemicals' logo is a registered trademark of NOVA Brands Ltd.; authorized use/utilisation autorisée.

Responsible Care® is a registered trademark of the Chemistry Industry Association of Canada (CIAC).