

# Case Study: A&W

## Group 12

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## Introduction

A&W, a Canadian based food services company, is an organization known for its commitment to sustainability. According to *Guide to PAS 2050* (British Standards Institution, 2011), amongst the first steps in sustainability strategy is to identify the “hotspot” of emissions, and that is precisely what A&W has done, their next hotspot is disposable cups.

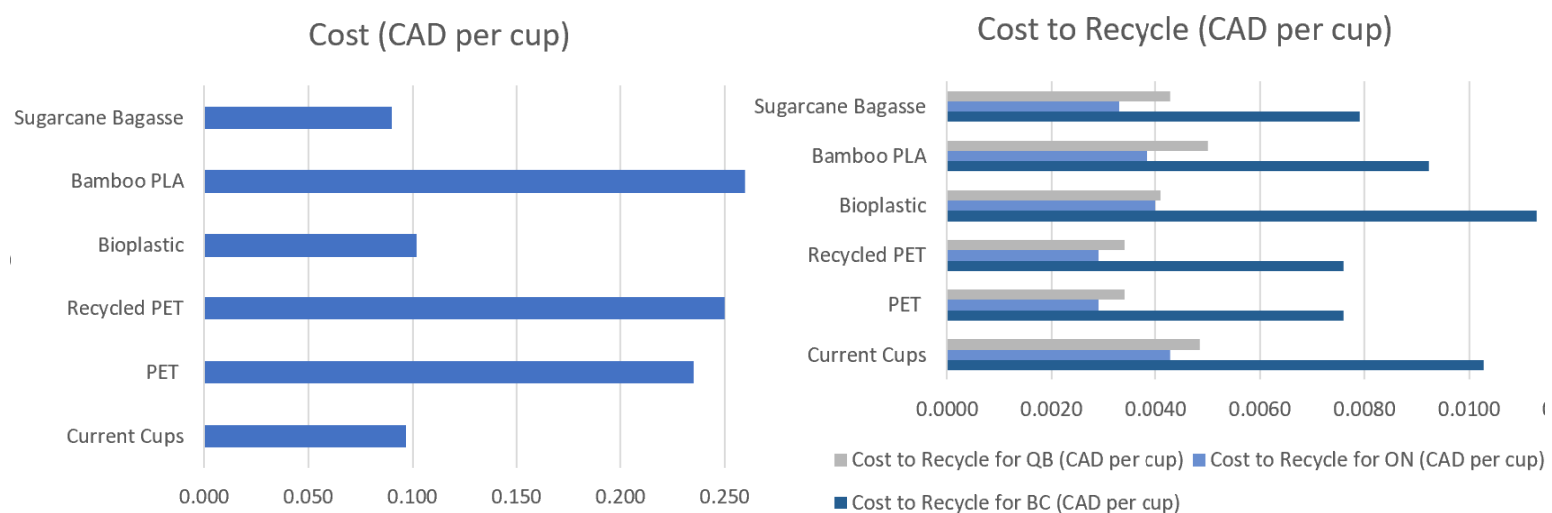
To make a recommendation for this case study, our team will analyze different alternatives through the framework of the Triple Bottom Line (Elkington, 2018), and gauge which of these options is more beneficial for all stakeholders of the firm.

## Summary of current challenge

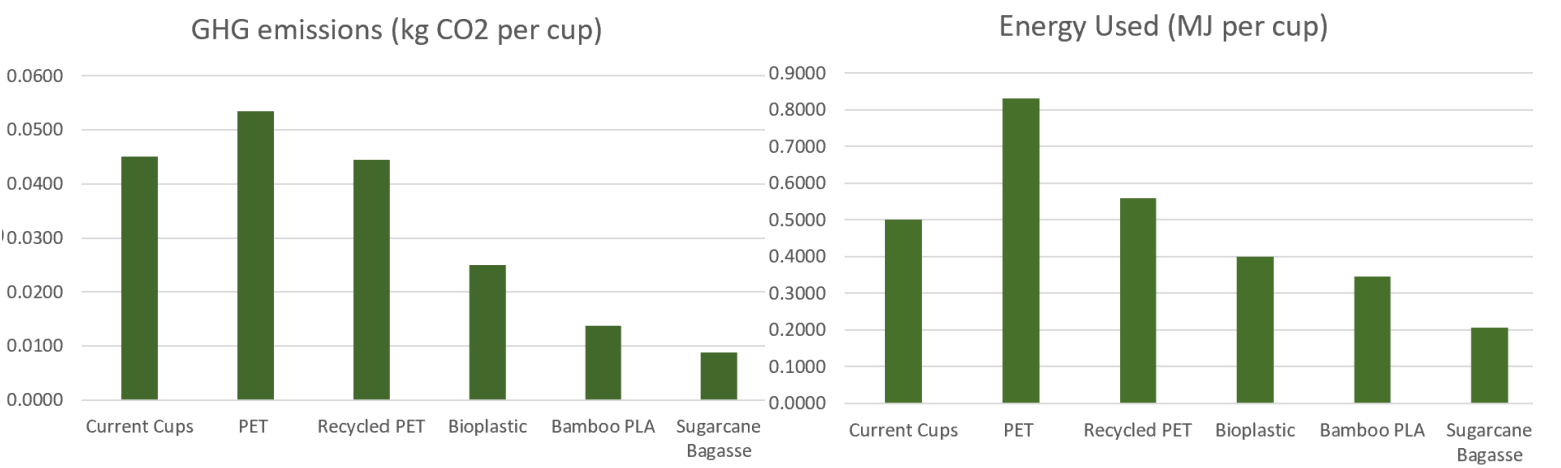
Disposable cups make the bulk of A&W’s total waste. Even though theoretically recyclable, the reality is that they are rarely actually recycled, and mostly end up in landfills or the ocean. In fact, according to a 2017 report from the UK’s House of Commons Environmental Audit Committee, only 0.25% of cups get recycled (Guardian, 2020). A&W Canada intends all packaging reusable, compostable, recyclable, which includes beverage cups which is the challenge we have at hand.

## Evaluating Options

For the evaluation of the cups, we applied the *triple bottom line sustainability framework* to the available material options and A&W’s few factors. In the case of economical sustainability, we used the *cost per cup (in CAD)* and the *cost to recycle (per province per cup in CAD)* functional metrics given below.



In the case of environmental sustainability, we used the material’s *greenhouse gas (GHG) emissions (kg CO<sub>2</sub> per cup)* and the *energy used (MJ per cup)* metrics per life cycle.



Our analysis, as per the triple bottom line, also includes non-quantitative metrics for environmental and social performance: *recyclability*, *compostability*, and *disposal*.

	Current Cups	PET	Recycled PET	Bioplastic	Bamboo PLA	Sugarcane Bagasse
Recyclability	Recyclable but Difficult	Recyclable	Recyclable	Non-recyclable	Non-recyclable	Recyclable
Reason	Mixed materials	Easily recyclable	Easily recyclable	Cannot be recycled	Cannot be recycled	Easily recyclable
Compostability	Not Compostable	Resists Decomposition	Resists Decomposition	Compostable but Difficult	Compostable	Compostable
Ease of Disposal by Customers	Hard to Dispose	Easy to Dispose	Easy to Dispose	Hard to Dispose	Hard to Dispose	Hard to Dispose
Reason	Usually to general waste	Mostly correct	Mostly correct	Mistaken with PET	Mistaken with Paper	Mistaken with Paper

It is also important for A&W to track the key performance indicators of success by gauging customer satisfaction. Hence, *concerns* were also compared.

	Current Cups	PET	Recycled PET	Bioplastic	Bamboo PLA	Sugarcane Bagasse
Customer Experience Concerns	No concerns	Heat retention uncertain	Heat retention uncertain	Less heat retention and cannot hold carbonated drinks	No concerns	Only 1 size available and becomes soggy quickly

Social Performance Initiatives

*Educational Program for Cup Disposal:* This initiative aims to educate consumers on how to better dispose A&W cups, however, it could have a broader reach. There are reasons for optimism should this program be relaunched. A study from the University of Michigan which measured the effectiveness of recycling education campaigns such as this one, found that up to 42% of participants had intensified their recycling habits after the campaign (De Young, 1990). To put that into perspective, if the educational campaign succeeds in changing the behavior of say 30% of their

customers, and get them to adequately recycle A&W cups, it could reduce total waste by half a million kilograms. It is a cost efficient and socially responsible initiative that would have a massive positive impact.

*Reusable Cups:* Although this initiative was viewed as not feasible in its past iterations, the possible reward is too tantalizing to ignore. Generally speaking, reusing is more energy efficient and less wasteful than recycling. A study proposed offering financial incentives to customers who brought their own cup (Nicolau et al., 2022). Their research found that 92.61% of consumers were willing to bring their cup if said incentives were provided (Nicolau et al., 2022). Currently British Columbia has instituted a tax of \$0.25 that consumers will have to pay for single use packaging. This initiative would remove the burden from the customers of A&W. We also presume that other provinces will follow suit and therefore this initiative is crucial.

## **Recommendation**

After weighing different materials we recommend Griffiths (A&W) to opt for **Bamboo PLA** cups. Although Bamboo is more expensive than other materials, it is by far the one with the lowest emissions and energy use while serving the same or better social performance. This is also coherent with A&W's strategy previously with straws: changed to thrice more expensive straws with the difference accounted for as marketing. It is also important to note that although making and recycling these bamboo cups is expensive, advancement on the learning curve, new technologies, and EPR regulations might make it a more financially sound reason in the future.

In addition to these, we urge the company to relaunch the recycling education program and the reusable cups initiative. These programs will feed the firm's three bottom lines, saving costs, creating positive environmental impact, and long lasting social changes.

## **Limitations**

There are a few limitations pertaining to our recommendation that the company needs to be aware of when making the final decision. Bamboo PLA cups are non-recyclable and difficult to dispose of. Composting this material also proves to be a challenge as there are municipalities that do not have the necessary infrastructure. It is crucial for the company to educate its consumers in this matter.

In addition to our recommended material, we also suggest the company look into a new material, Frugalpac. Frugal Cup made from this material is the only paper cup that can be recycled as part of the mainstream waste process. It is made with 96% recycled paper and 4% PE liner that is easy to separate. Frugal Cup also claims to have the lowest carbon footprint of 24.7 grams CO<sub>2</sub>e per cup compared to 60.9 per conventional cup. (Frugal Cup, n.d.; The Porto Protocol, n.d.).

### **Additionally Recommended Actions**

*Raising awareness among consumers about compostable materials:* many don't know well about compostable plastics and how to dispose of it correctly (Brassaw, 2019). This also requires packaging manufacturers to make compostable plastic more recognizable, this should be combined with educational programs.

*Stronger commitment from the government in EPR programs:* correctly handling disposable cups on a big scale requires the same EPR program in all Canada. This means that municipalities have to speed up the uniformity of their local EPR efforts. However, the pattern of following British Columbia's efficient EPR program gives us a trend of following suit. Hence, it is crucial to identify British Columbia as a hotspot and comply with the EPR in that province on priority, then Ontario, and then Quebec.

*Infrastructures required for compostable plastics:* Out of five materials introduced to A&W in this case, three are compostable (bio-based materials). Yet composting facilities in Canada are not widely available (Chung, E., 2020). Therefore, Canadian municipalities need to invest in a collection system for compostable plastics and in composting facilities as this investment goes towards all bio-based food containers, not only cups. Fortunately, for A&W, the more enterprises use compostable materials as consumer awareness rises, the cheaper it will be to compost their packaging because economies of scale picks up and more facilities are available. Also, if need be, A&W should lobby for this change using unions and other supporting organizations.

*Being ahead of municipal EPR programs:* As mentioned in the case, Ontario is considering replacing EPR fees with IPR (Individual Producer Responsibility) policy. A&W branded as the sustainability leader should be the pioneer to look into establishing their own system and even collaborate with other companies to

accelerate this progress. Company's innovation team can contribute and devise a strategy for this.

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## Appendix A

	Current Cups	PET	Recycled PET	Bioplastic	Bamboo PLA	Sugarcane Bagasse
Cost (CAD per cup)	0.097	0.235	0.250	0.102	0.260	0.090
Cost (CAD per kg)	6.79	23.5	25	10.2	20.28	8.19
Cost to Recycle for BC (CAD)	0.72	0.76	0.76	1.13	0.72	0.72
Cost to Recycle for ON (CAD)	0.3	0.29	0.29	0.4	0.3	0.3
Cost to Recycle for QB (CAD)	0.34	0.34	0.34	0.41	0.39	0.39
Cost to Recycle for BC (CAD per cup)	0.0103	0.0076	0.0076	0.0113	0.0092	0.0079
Cost to Recycle for ON (CAD per cup)	0.0043	0.0029	0.0029	0.0040	0.0038	0.0033
Cost to Recycle for QB (CAD per cup)	0.0049	0.0034	0.0034	0.0041	0.0050	0.0043
Weight (grams per cup)	14.1	10	10	10	12.81	11
Number of cups per kg	70	100	100	100	78	91
GHG emissions (kg CO <sub>2</sub> per kg)	3.15	5.35	4.45	2.50	1.07	0.8
GHG emissions (kg CO <sub>2</sub> per cup)	0.0450	0.0535	0.0445	0.0250	0.0137	0.0088
Energy Used (MJ per kg)	35	83	56	40	27	18.8200
Energy Used (MJ per cup)	0.5000	0.8300	0.5600	0.4000	0.3462	0.2068

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