Colgate-Palmolive Internal Carbon Pricing Report

Mikhail Yakhnitskiy, Ryan Davis, and Martin Aguilar

School of Sustainability, Arizona State University

EMS 593: Applied Project

Dr. Jacob Bethem and Prof. Jessica Morrison

July 03, 2024

Table of Contents

Problem Framing

Colgate-Palmolive is a consumer products company focused on oral care, personal care, home care, and pet nutrition (Colgate-Palmolive Co, 2024a). Founded by William Colgate in 1806 as a starch, soap, and candle business, the company now has over 34,000 employees with their products serving millions across more than 200 countries and territories (Colgate-Palmolive Co, 2024a). The company prides itself on being a caring and innovative growth company, centering itself around its core values of Caring, Inclusive, and Courageous (Colgate-Palmolive Co, 2024c). As such, the company understands its role in impacting climate change and has been working to address the issues for over 20 years, most recently setting Science Based Target initiatives (SBTi) of reducing Scope 1, 2, and 3 emissions by 20% by 2025, 42% by 2030, and reach Net Zero emissions across the value chain by 2040, all against their 2020 baseline (Colgate-Palmolive Co, 2024b).

As part of these Science-Based Target initiatives, Colgate-Palmolive has been looking into carbon pricing and how the company can utilize an internal price to help drive its decarbonization efforts, but the starting point is still uncertain, therefore our group has been tasked with benchmarking the current internal prices other organizations are using and how they are utilizing the prices to drive changes with the final goal of recommending a strategy that would best fit Colgate-Palmolive's needs.

Landscape Analysis

Deep Dive into Colgate-Palmolive

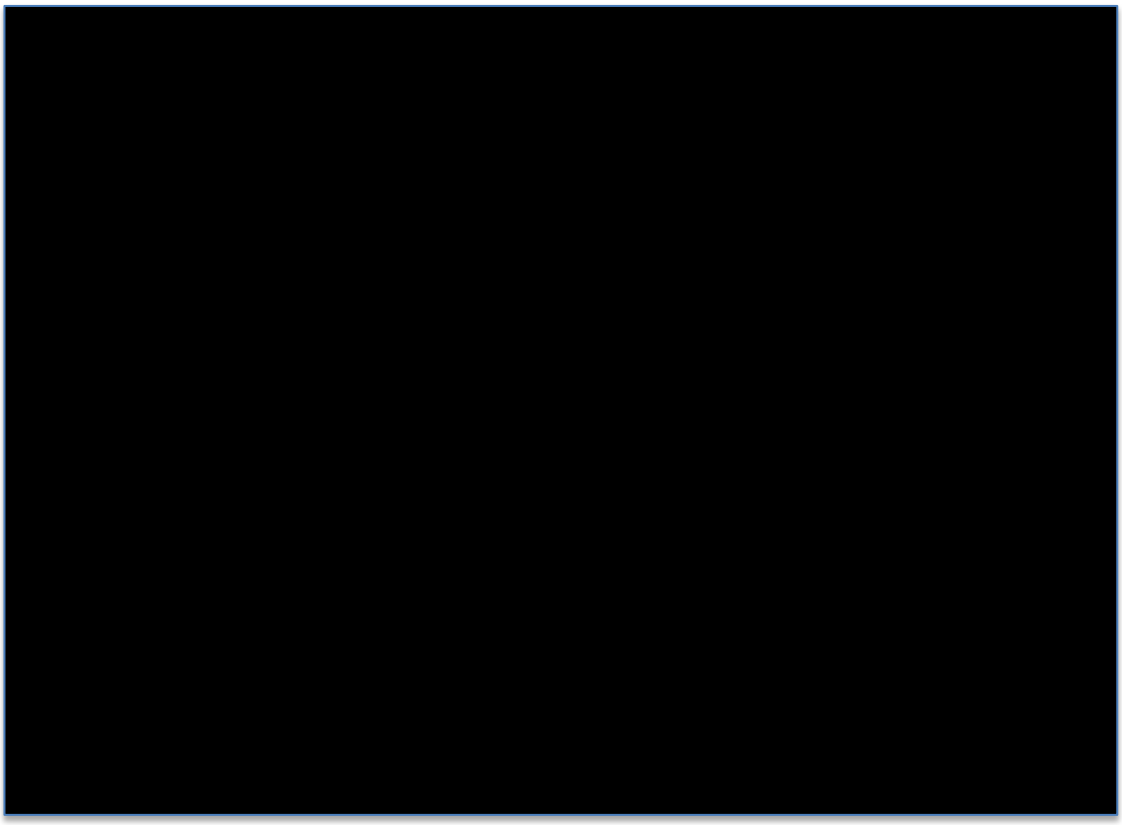
To understand the changes the organization is trying to make, we must first understand where Colgate-Palmolive is in its Net Zero journey. The company began tracking its CO_2e data in 2002 and established its first reduction targets in 2006 (Colgate-Palmolive Co, 2024a). The company tracks its emissions across all 3 scopes, with scope 1 being made up of direct emissions from the combustion of fuels in their facilities and fleet, scope 2 being the indirect emissions from the generation of energy that

Colgate-Palmolive uses, and scope 3 comprised of the indirect emissions from services, activities or products that are a result of company's business activities both upstream and downstream (Colgate-Palmolive Co, 2024b). According to their most recent data, Colgate-Palmolive estimates that 80% of their carbon footprint comes from consumer use and disposal of their products, with a remaining 15% coming from their supplier sourcing and only 5% coming from their actual operations (Colgate-Palmolive Co, 2024b).

To further understand their footprint, Colgate-Palmolive also established baseline emission data for each of their essential functions with a breakdown of the largest contributors in each: product design and procurement, manufacturing, logistics, and business operations (Colgate-Palmolive Co, 2024b). With this data in mind, Colgate-Palmolive has determined that the approach to achieve their Net Zero goals must focus on carbon reduction first and foremost, then carbon-related innovation and new technologies, and lastly on the direct removal of carbon from the atmosphere (Colgate-Palmolive Co, 2024b). The strategies designed by Colgate-Palmolive for each goal are centered around five interconnected pillars: supply chain engagement, net zero carbon operations, sustainable products & consumers, business resilience, and society & nature (Colgate-Palmolive Co, 2024b). The company is hoping to use an internal carbon price to influence the decisions made across their essential functions and align those decisions with the five pillars described above.

Figure 1

Colgate-Palmolive Emissions Graphics (redacted)



(Colgate-Palmolive Co, 2024b)

A background on ICP

Internal Carbon Pricing, the What and the Why **-** For our group to be able to prepare the deliverables requested of us, we first had to do background research on what exactly Internal Carbon Pricing (ICP) is and why it's being used as well as how ICP prices are being evaluated. Carbon dioxide and other greenhouse gasses are emissions that have long been an externality of doing business. It's only in the past few decades that society has realized that the public has been paying for the cost of those emissions through the damages caused by climate change. From pollution to rising temperatures and increases in extreme weather

disasters, climate change is estimated to cost the global economy $38 trillion per year within the next few decades (Hart, 2024). Carbon pricing is a tool being used by both governments and businesses to capture that external cost and shift the burden for those damages back on those who are responsible for it (World Bank, 2019). A price set on carbon sends a signal to those who are emitting and allows them to decide either to pay the price for their emissions or figure out how to operate more sustainably (World Bank, 2019). An internal carbon price is a voluntary monetary value that organizations place on their emissions to factor in the true cost of their investments and business decisions (Plan A, n.d.) When an internal price is set on an organization's carbon that is emitted, this revised price is then factored into decision-making to incentivize internal decarbonization (Plan A, n.d.)

An increasing number of companies have begun to use this new tool of carbon pricing to both manage their climate-related risk and prepare for future mandated prices (CDP, 2024). ICPs can help identify low carbon opportunities through reduction tactics or innovation, and the internal price challenges an organization’s status quo by driving the awareness of the emission impacts in their decisions (KPMG, 2023). Along with risk management, an ICP can help an organization prepare for upstream and downstream pressures that will arise as more organizations and investors become aware of scope 3 emissions and demands (CDP, 2021). Lastly, by voluntarily adopting ICP, organizations are better off managing their stakeholders’ expectations and building reputational trust among them (KPMG, 2023).

How are ICP prices being evaluated **-** With an understanding of what internal carbon pricing is and why it's being used, we now turn our focus to how organizations are setting their internal pricing. According to the CDP, the prices used vary widely based on industry and region, but the median internal carbon price used by companies as of 2020 was $25 per metric ton CO_2e (CDP, 2021). When looking at the consumer industry specifically, the internal price widely ranges from the high 90s to single digits, the median being $28 per metric ton CO_2e (Fan et al., 2021). When considering their price, organizations

must examine both external and internal factors. A common external factor is the rise of carbon taxes or emissions trading across different regions (PlanA, n.d.). For example, the EU emissions trading scheme (EU ETS) has been driving up the cost per ton of carbon dioxide produced and currently sits at $75.780, a price much higher than the median internal prices most organizations are currently using (Trading Economics, 2022). Another important external factor that is commonly used is to consider the price of renewable energy certificates (RECs) or other offsets. Many organizations are setting a shadow price that is linked to the cost of offsets or RECs (PlanA, n.d.). In shadow pricing, no real money is paid or transferred, rather an ICP is assigned to a company's emissions on a per ton basis, and then the costs/benefits from this value are used to assess different emissions reduction strategies (PlanA, n.d.). Colgate-Palmolive cannot purchase carbon credits or offsets as part of their SBTIs so the external focus should be on carbon taxes and RECs.

Turning the focus inward, companies must consider the implicit or abatement cost of carbon on their organizations (PlanA, n.d.) Implicit costs are calculated based on the actual or proposed costs of implementing the organization's emission reduction measures (KPMG, 2023). Once an organization understands how much they are spending on its GHG reduction strategies, it can calculate the abatement costs per ton of CO_2e and use this to determine whether investments or strategies could be a preferred monetary outcome rather than paying current or future carbon tax (KPMG, 2023). Another internal factor to consider is whether to have an organizational price or vary based on the business unit and how often to change this price. An example of this is Sony Corporation which used a differentiated price for each business unit based on various considerations such as environmental impact, budget, energy pricing, etc. (CPD, 2021). Evolutionary pricing assumes that carbon prices will increase over time and so the internal cost set by organizations evolves with that change. (CDP, 2021). The CDP data shows that most companies are still using a uniform price but that there is a trend towards evolutionary pricing (CDP, 2021).

PESTEL Analysis

Before we dive into the detailed examples found from a selected group of peers, our team has conducted the following PESTEL analysis to understand the trends in the greater consumer industry and how these dimensions may present an opportunity or threat to consider when implementing an internal Carbon price.

Political - Geopolitical tensions are disrupting foreign relations and trade. For decades now, the consumer-packaged goods (CPG) industry has been investing heavily in building a global scale in all parts of its value chain (Chatterjee et al., 2010). While globalization has led to historical growth for the leaders in that industry, the past few years of geopolitical events and tensions are putting their supply chains to the test. On top of navigating the regulations and tariffs in the countries in which they operate, the geopolitical tensions being experienced now are making it difficult to secure and deliver key inputs and products promptly (Handrinos et al., 2024). Furthermore, as acquisitions continue and specialization grows in regions, there is a global trend of having fewer, bigger suppliers for key commodities (Chatterjee et al., 2010). With fewer suppliers to choose from for important staples such as fertilizers or sugarcane, when disruption does occur, the impacts are felt deeper and are more difficult to pivot from (Chatterjee et al., 2010). This political strain presents a threat to Colgate-Palmolive as supply chain disruptions take away from their margins. On the other hand, the company has an opportunity to present internal carbon pricing to their stakeholders as a tool to mitigate these risks by influencing responsible sourcing of products. For example, using carbon pricing to tax supplies that are transported from great distances may influence a procurement department to choose more local suppliers, which would in turn both lower GHG emissions and mitigate some of the logistical strains discussed above.

Economic - Inflation and a change in focus. Even with inflation slowly cooling off now, prices are still high compared to pre-pandemic levels, and consumers are less willing and able to pay for the brands they used to be loyal to (Handrinos et al., 2024). The demand for products has shifted to value

and as a result, store brand and private label products are creating new competition for the CPG industry (Handrinos et al., 2024). Looking upstream, the inflationary pricing has reduced margins for the suppliers of these CPGs and as such has put additional pressure on operational costs (Thackeray & Piazza, 2024). With these factors in mind, consumer goods companies are turning their focus away from further price increases and instead are looking for ways to increase their unit volumes to meet performance goals (Handrinos et al., 2024). One strategy being implemented to maintain pricing power is to emphasize the marketing of a brand's existing core products (Handrinos et al., 2024) The inflationary pressures being felt present a threat to Colgate-Palmolive's bottom line and as such could be a barrier to implementing an internal carbon price (ICP). With operational costs already feeling pressured, business functions may not be receptive to an implicit cost added to their finances in the form of an internal carbon price. Colgate-Palmolive must be strategic in aligning their carbon pricing with the organization's values and visions and make their strategies transparent to help ease these barriers. Additionally, emphasizing core products could present an opportunity for ICP if it is correctly marketed to reflect the social factors described in the paragraph below.

Social - The demand for sustainable products. Even with consumers buying less overall as inflationary pressures continue, consumers are voting with their dollars for more sustainable products (Faelli, 2023). As a result, environmental sustainability is a dominating trend across numerous industry subsectors with the household goods sector focusing their efforts on innovation to produce sustainable products and packaging (Handrinos et al., 2024). This trend presents an opportunity for Colgate-Palmolive to utilize internal carbon pricing to incentivize the development of those products and strengthen the marketing behind their existing core products. An internal carbon price would incentivize better data collection and drive decarbonization efforts, which can then be communicated with consumers, strengthening their loyalty bond to the company as well as attracting a growing market share of consumers. Another important social dimension for CPGs to keep in mind is that emerging

markets, most notably Asia, are giving rise to a rapidly growing middle class of new consumers (Chatterjee et al., 2010). This factor could either help or hurt the consideration of ICP implementation depending on what value this growing middle class places on sustainable products.

Technological - Online shopping and product innovation. As a growing number of consumers shop online, the consumer-packaged goods industry is competing to capture e-commerce market share and companies are transitioning more business operations to online platforms (Thackeray & Piazza, 2024). Furthermore, as a strategy to tap into the higher margins that come from sustainable products, companies are increasing their investments in product innovations (Handrinos et al., 2024). These trends present an opportunity for Colgate-Palmolive to tap into the market share of consumers as an ICP could set up the basis of funding needed to implement the company's decarbonization strategies. Using either a shadow price or an implicit price, the funds accrued from utilizing the ICP tool could be used to finance the company's decarbonization strategies and supplier engagement through those e-commerce platforms.

Environmental - Supply chain disruptions. Supply chain volatility continues to be fueled by climate crises happening across the globe, stressing the CPG industry to transform itself (Handrinos et al., 2024). Increasingly devastating weather patterns and natural resource scarcity are making operational resilience a key priority in many organizations (Handrinos et al., 2024). These environmental factors present an opportunity for Colgate-Palmolive to get ahead of these challenges and disruptions by anticipating them with a properly set ICP.

Legal - Carbon taxes and disclosure rules. Organizations are facing regulatory pressures to reduce their carbon emissions, with over 1,000 companies disclosing that they are already subject to carbon regulations and others expecting regulation within the next three years (CDP, 2021). Furthermore, authorities in certain regions are taking a tougher stance on greenwashing by introducing disclosure and sustainability claims rules (Handrinos et al., 2024). These regulatory pressures present an

opportunity for Colgate-Palmolive as they have already set SBTIs and can mitigate the risks of external pricing of carbon by implementing their own ICP.

With an understanding of the market trends in the consumer-packaged goods industry, we can now evaluate Colgate-Palmolive's peers to understand how they may be using their internal carbon pricing and if these factors are influencing their uses.

Benchmarked Peers

To better inform our work for Colgate-Palmolive, it was pertinent that peer research be conducted to determine what best practices there might be in their industry or other like-sized corporations as it relates to ICP schemes. What follows is research conducted on specific companies and our findings.

Microsoft

Microsoft has implemented a comprehensive carbon fee scheme as part of its broader sustainability efforts. A carbon fee is a policy instrument aimed at reducing carbon emissions by incorporating the environmental costs into the pricing mechanism of fossil fuels or processes that generate emissions, thereby promoting a shift towards more sustainable and low-carbon energy sources and technologies. Initially, the company applied the carbon tax only to Scope 1 (direct emissions), Scope 2 (indirect emissions from purchased electricity), and business travel.

However, in 2020, Microsoft expanded the fee to include Scope 3 emissions, which encompass all other indirect emissions in the value chain, such as those from purchased goods and services, transportation, and distribution (Willmott & Joseph, n.d, 08:50). Their carbon fee is calculated annually based on a detailed greenhouse gas (GHG) inventory conducted between July and November. This inventory assesses the emissions generated by various business groups. The sustainability and corporate finance teams collaborate closely in this process. Once the annual emissions are determined, the fee is levied quarterly on the respective business units (Willmott & Joseph, n.d, 14:20). The carbon fee is

charged to the Executive Vice Presidents' offices of the business groups to ensure accountability (Willmott & Joseph, n.d, 21:00). This top-down approach ensures that sustainability is integrated into the strategic priorities of each business unit and that senior leadership is held accountable.

Revenue generated from the carbon fee is collected quarterly and managed by the corporate finance team before being transferred to the International Sustainability Group, which includes a grants team responsible for managing the internal use of several collected funds. Business groups can request funding for various projects from the Sustainability Grants team, ensuring that the most impactful initiatives receive the necessary support (Willmott & Joseph, n.d, 35:20). This funding supports a variety of decarbonization initiatives, reductions, and removal projects (Willmott, n.d, 13:00). Initially, it was crucial for spurring the purchase of Renewable Energy Certificates. As Microsoft's focus has shifted, the fee now supports investments in sustainable aviation fuel credits and the creation of a market for carbon removal credits. By balancing the fee, Microsoft aims to cover the costs associated with these credits and other sustainability measures. It also fosters a culture of sustainability within the company, with some business units independently initiating their sustainability efforts.

In addition to internal measures, Microsoft revised its supplier code of conduct in the summer of 2020, requiring suppliers to publicly report their GHG emissions and work towards reducing them in alignment with Microsoft's standards (Willmott & Joseph, n.d, 22:40). This policy not only incentivizes vendors to decarbonize but also provides financing and training opportunities, particularly for smaller vendors.

By leveraging the carbon fee as an amplifier, Microsoft aims to highlight the most effective strategies for reducing emissions and fostering sustainability. This approach ensures that the fee is a financial mechanism and a strategic tool for driving innovation and embedding sustainability into the company culture.

Reckitt

Reckitt employs an internal shadow price on carbon to drive its sustainability initiatives and align its business practices with global climate goals. Reckitt's internal carbon pricing is determined based on different climate scenarios, modeled in collaboration with Risilience (Reckitt, 2023). Their prices are static and uniformly applied across all geographic regions of Reckitt's operations, ensuring a consistent approach to carbon management. This action by Reckitt can be a double-edged sword as not all carbon is created equal, as there are emissions that are more difficult to abate than others. With how they currently apply this price, Reckitt does not factor in how difficult these emissions are to reduce across their value chain. Reckitt's shadow price on carbon is applied to Scope 1, Scope 2, and both upstream and downstream Scope 3 emissions.

Their primary objectives for implementing this internal carbon price include navigating GHG regulations in target markets, meeting stakeholder expectations, and reducing supply chain emissions (Reckitt, 2023). Reckitt integrates this carbon pricing into its business decision-making processes, particularly in risk and opportunity management. While the enforcement of this price is not stated as mandatory, it plays a crucial role in corporate climate scenario analysis, in line with its Task Force on Climate-related Financial Disclosures recommendations (Reckitt, 2023).

By incorporating carbon pricing into scenario analysis, Reckitt has mitigated, at least partially, its stated risk of external policy-based carbon pricing. These actions support their targets, such as achieving 100% renewable electricity by 2030 and reducing GHG emissions in operations by 65% from 2015 levels by 2030 (Reckitt, 2023). Additionally, the outcomes from this analysis have informed the development of new strategies and activities aimed at reaching their 2040 net-zero emissions target such as "investments in green energy, emissions reduction projects implemented within our operations in 2022, ongoing site energy management OPEX and new product development on innovation for lower climate impact" (Reckitt, 2023, p. 15). Reckitt is also exploring further internal carbon pricing mechanisms to

support long-term planning at the product, facility, and supplier network levels. These mechanisms are expected to provide deeper insights into carbon costs and benefits, enabling more precise and impactful decision-making across the value chain.

By modeling different climate scenarios and integrating carbon pricing into business processes, Reckitt positions itself to mitigate regulatory risks and capitalize on opportunities in the transition to a low-carbon economy. The comprehensive scope of the pricing and its influence on long-term planning underscores its critical role in achieving Reckitt's climate goals. However, the static and uniform nature of the price might limit its responsiveness to regional and temporal variations in carbon markets, suggesting a potential area for refinement.

Unilever

Unilever is a founding member of several sustainable organizations and an active member of many more, calling on both businesses and governments to do their part in helping the world reach the climate change targets set by the Paris Agreement (Unilever PLC, 2021). In its operations, the impacts of climate change are assessed on an annual basis by none other than the company's Board. The climate-related assessments cover Unilever's direct operations and the upstream and downstream stages, looking at impacts in the short and long-term time frame (Unilever, 2023). Unilever recognizes that possible future mandatory carbon prices as well as climate impacts could result in increases in costs in both manufacturing and raw materials, adversely impacting many aspects of their organization (Unilever, 2023). In recognition of this risk, the board has supported the use of an internal carbon price to help the company mitigate adverse impacts and achieve its zero emissions goals (Unilever, 2023).

Unilever currently uses an internal carbon price of \$70/T CO_2e, consistent with the standards set by the Carbon Pricing Leadership Coalition and has implemented this cost as both a shadow price and an internal implicit price (Unilever, 2024). The company has utilized a shadow price to evaluate capital expenditures over \$1 million, and the carbon-included price provides decision-makers a sense of the

benefits or risks that could come from the expenditure (Unilever, 2024). In 2016, the company piloted a carbon tax across its direct operations based on the carbon emissions from each division (Unilever, 2023). The funds that were pulled from each division's capital budget went into a centrally managed Low Carbon Fund that the company then used to advance sustainable initiatives onsite (Unilever, 2023). While an implicit price is no longer used at the company, its impacts are solidified in its operations and Unilever has committed to ensure that all future capital investments are aligned with their sustainability goals and the Paris Agreement (Unilever, 2023). The internal carbon price has been working as intended to increase awareness of the true cost of carbon across the organization and incentivize out-of-the-box thinking to decarbonize their operations and supply chain.

Mars Inc

Mars Inc is another of Colgate-Palmolive's peers that has utilized an internal carbon price to mitigate climate risk and incentivize actions to decarbonize their brands. In building out the business case for its sustainability actions, Mars uses a shadow price to assess the direct and indirect costs to the business from various climate risks (Mars, 2023). The company uses strategy-specific prices ranging from $10-40/T CO_2e ($20/T CO_2e is the default if not specific), and these prices are a required element of their annual planning processes to ensure funding is allocated for the organization's carbon commitments (Mars, 2023). Internal carbon pricing is applied to both CAPEX and OPEX endeavors, covering all three scopes of emissions for the organization with specific pricing determined based on the cost of actions required to achieve emission targets or the cost of voluntary carbon offsets or credits (Mars, 2023). With the shadow price attached to each division's financial targets, the intent is that the applied cost will change internal decision-making and favor low-carbon investing as well as incentivize discovering and utilizing new low-carbon opportunities (Mars, 2023).

PepsiCo

PepsiCo's objective in implementing an internal carbon price is to reduce GHG and reduce their exposure to environmental risks in the business operation (Science Based Targets, 2022). The company's Public Policy and Government Affairs team monitors both current and emerging regulations related to fuel/energy taxes and policies, to better prepare and mitigate inherent financial threats (CDP, 2023). For the case of emerging regulations related to carbon, particularly for the company's scope 3 emissions, PepsiCo uses a shadow price methodology for capital allocation decisions, valued at a static and uniform 50 USD/T CO_2e (CDP, 2023). This price was determined by analyzing the cost of voluntary carbon offset credits and benchmarking against peers. This carbon price is applied for Procurement and Value Chain engagement endeavors, to reduce supply chain emissions and change internal behaviors (CDP, 2023). Project managers calculate the emissions and apply the cost of carbon, thus affecting the rate of return of proposed projects, and encouraging the design of carbon-efficient projects (CDP, 2023). Methods for reassessment and updating of their carbon price were not disclosed.

Procter and Gamble

Procter and Gamble (P&G) is another key member in the consumer products sector that has implemented carbon pricing as part of their business functions. P&G conducts climate-related risk assessments for current and emerging regulations on greenhouse gas emissions and mitigates those risks through cap-and-trade schemes and by implementing an internal carbon price on its operations (CDP, 2022). P&G's strategy for implementing change internally is to use a shadow price system to drive energy efficiency, low carbon investments, and change internal behaviors (CDP, 2022). The price is currently set at 10 USD/ton CO_2e which reflects a combination of above-the-line costs (regulatory carbon credits and offsets prices) and below-the-line costs (based on potential future costs) (CDP, 2022). The price has ranged from 8 to 200 USD/ton CO_2e based on the region and time frame and the cost is revised every year (CDP, 2022). The shadow price is integrated into the financial analysis and decision-

making across all business units (transportation, raw materials sourcing, manufacturing infrastructure), allowing P&G to impact all scope 1, 2, and 3 emissions (CDP, 2022). One of the results of this kind of utilization is that projects delivering a reduction in emissions in line with the company's goals are given a positive value in financial analysis and those that don't experience the opposite.

Deliverables

Through our research, we found that similar to ESG reporting frameworks, there isn't a particular framework on ICP that has been widely accepted and implemented globally. While companies like PepsiCo have a uniform and simplified ICP procedure, there are organizations like Microsoft that show a more developed and robust framework. In each stage of our project process, our ideas were tested by the client with whom we had a weekly call established. Given the multiple analyzed variables, the nature of the questions asked to guide our research, and the discussion and feedback we received, we agreed to present our findings in three deliverables. The first deliverable is a **benchmark table** (figure 2) to compare each organization's ICP approaches with links to information on prices chosen, overall goals, and company information. The second deliverable is a **decision tree map** (figure 3), where different routes for potential ICP strategies are presented for Colgate-Palmolive to explore based on our industry peer's research and best practices. Lastly, our group has identified the **data requirements** (figure 4) needed to start implementing any of the identified strategies.

Benchmark Table

Figure 2

Benchmark Table

Industry ICP Benchmark			
Company	**Price**	**Goal**	**Type**
Unilever	$70	Innovation	Shadow & Tax
Ben & Jerry's	$10	Climate Leadership	Tax
Mars	$10-40	Risk Mgmt	Shadow
Microsoft	$15-100	Climate Leadership	Tax
Reckitt	$20-80	Risk Mgmt	Shadow
PepsiCo	$50	Risk Mgmt	Shadow
P&G	$8-200	Innovation	Shadow

Price

$10:

Although they are one of Unilever's brands, Ben & Jerry's took a slightly different approach and since 2015 has been using an internal fee of $10/T CO_2e on its carbon from cradle to grave (Unilever, 2018). While using a lower price than Unilever, the company has expanded the fee across its entire value chain and uses the funds to help its farmers implement carbon-reducing strategies (Unilever, 2018).

$10-40:

Mars uses a strategy-specific shadow price ranging from $10-40/T CO_2e ($20/T CO_2e is the default if not specific) to assess the direct and indirect cost to the business from various climate risks (Mars, 2023). The Internal carbon pricing is applied to both CAPEX and OPEX endeavors covering all 3 scopes of emissions for the organization with specific pricing determined based on the cost of actions required to achieve emission targets or the cost of voluntary carbon offsets/credits (Mars, 2023).

$15-100:

Microsoft's fee rates are set at $15 per ton for Scopes 1, 2, and business travel. This price was strategically chosen to encourage the abatement of emissions (Willmott & Joseph, n.d, 10:10). For Scope 3 emissions, the fee started at $8 per ton in 2019 and is set to gradually increase, reaching $15 per ton by 2030. With Scope 3 business travel fee being raised "the Scope 3 business travel fee will increase to $100 per mt$CO_2e$ in our next fiscal year to better support the purchase of sustainable aviation fuel" (Smith & Joppa, 2022).

$20-80:

Reckitt employs an internal shadow price on carbon to drive its sustainability initiatives and align its business practices with global climate goals. Reckitt's internal carbon pricing is determined based on different climate scenarios, modeled in collaboration with Resilience (Reckitt, 2023). Under a 3°C scenario, a carbon price of $20 per metric ton of CO_2e by 2025 is assumed, reflecting moderate global participation in carbon pricing (Reckitt, 2023). Conversely, under a more stringent 1.5°C scenario, a higher price of $80 per metric ton CO_2e by 2025 is applied, assuming aggressive global action to curb emissions (Reckitt, 2023). These prices are static and uniformly applied across all geographic regions of Reckitt's operations, ensuring a consistent approach to carbon management.

$50:

PepsiCo's ICP strategy leans towards addressing its Scope 3 emissions, as it is applied to its procurement and value chain ventures (CDP, 2023). Using a shadow price strategy, the cost of carbon is included in capital allocation decisions, thus influencing the payback on proposed projects and encouraging the design of low-carbon initiatives. The fee on carbon is set at 50 USD/T CO_2e (CDP, 2023) and while it was determined by assessing the price of carbon offsets and benchmarking peers, re-evaluation methods were not disclosed.

$70:

Unilever's internal carbon price is consistent with the standards set by the Carbon Pricing Leadership Coalition, which has concluded that "a carbon price of $50- $100 per ton of carbon dioxide equivalent (CO_2e) by 2030, when combined with supportive policies, would allow for the achievement of the Paris goal." (Unilever, 2024 Pg. 43). Under this guidance, Unilever currently uses an internal carbon price of $70/T CO_2e and has implemented this cost as both a shadow price and an internal implicit price (Unilever, 2024).

$8-200:

P&G's ICP strategy is based on addressing climate-related risk assessments and driving decarbonization (CDP, 2022). To promote low carbon investments and change internal behaviors, P&G uses an ICP based on a shadow price of $10/T CO_2e combining above and below-the-line costs (CDP, 2022). Revised every year, it has ranged from 8 to 200 $10/T CO_2e, depending on the time frame and region. This fee is implemented across all business units, thus impacting all GHG emissions scopes.

Goal

Risk Management

The primary use of carbon pricing is for risk mitigation and has been a strategy particularly in the heavy emitting sectors since the 1990s (L, 2022). This has become common practice across all industry

sectors as organizations are trying to prepare for future mandatory carbon taxes and changes to environmental laws that can have a major impact on their operations (Addicott et al., n.d.) Additionally, most organizations in the consumer goods industry have particularly felt the effects of climate change disruptions in their supply chains and as such have prioritized using an ICP to strengthen the resilience of their supply chains (Handrinos et al., 2024).

Climate Leadership

Companies that utilize an ICP to demonstrate their leadership in the climate movement tend to be very mature in their sustainability journey and have moved beyond simple risk mitigation. These companies have integrated sustainability into their core functions and publicly lead others in their industry by walking the talk and being transparent in how they do so. Microsoft has demonstrated its leadership in this area by charging itself a carbon fee for over a decade now to help its organization meet its carbon neutrality goal and fund sustainable investments and publicly sharing its carbon fee model which acts as a step-by-step guide for others who wish to do the same (Microsoft, 2023).

Innovation

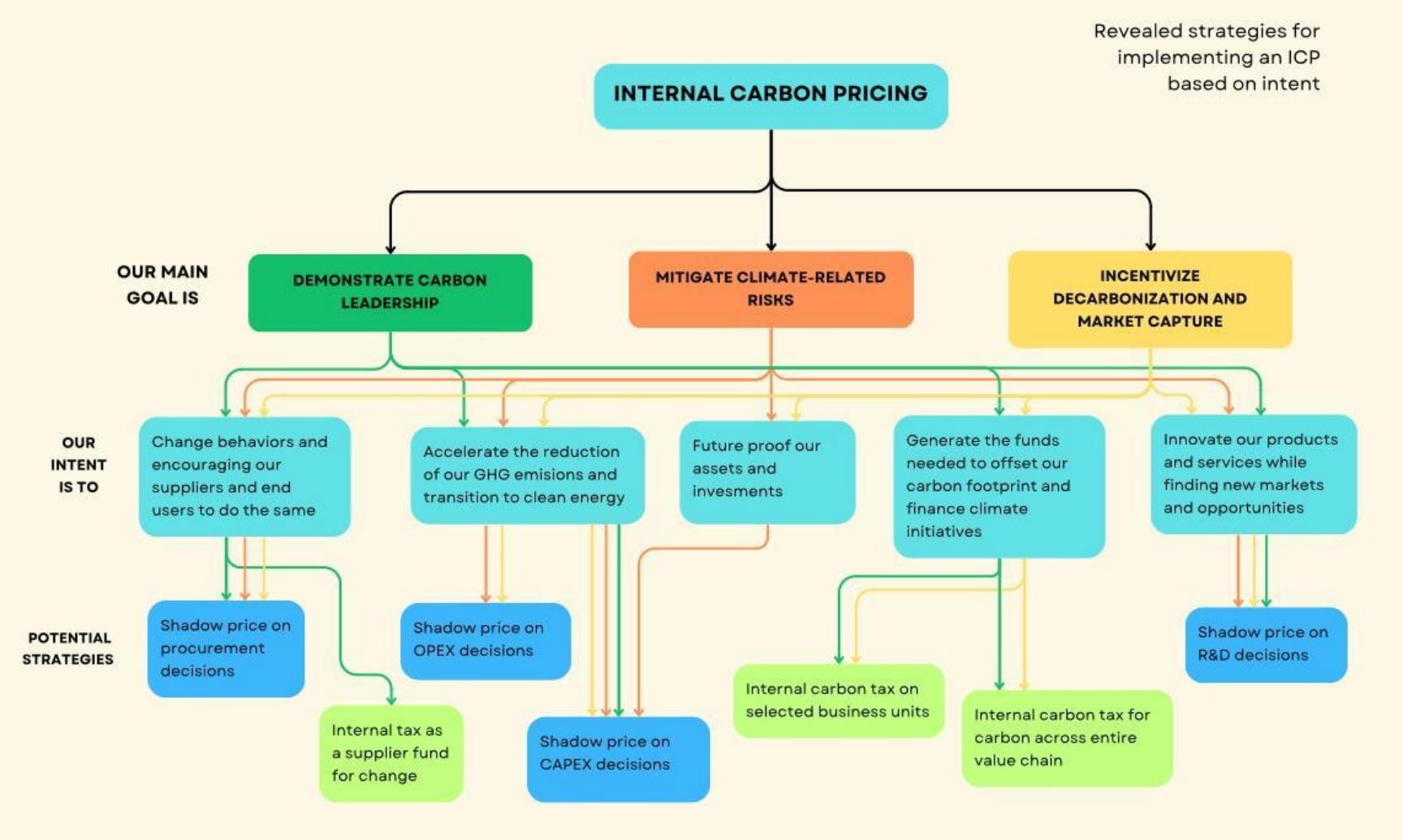
For those organizations that anticipate and plan in the long term, when looking beyond the possible regulatory pressures and climate risk, they see an opportunity to grow their market share. Even with consumers buying less overall as inflationary pressures continue, there is a growing trend of consumers voting with their dollars for more sustainable products (Faelli, 2023). An internal carbon price would incentivize better data collection and drive decarbonization efforts which can then be communicated with consumers, strengthening their loyalty bond to the company as well as attracting a growing market share of consumers.

Decision Tree - *pictured on the page below*

Our group decided that given the rather unstructured ICP frameworks in the industry now, it would be best to design a decision tree map to guide Colgate-Palmolive in finding its most suitable ICP strategy. These goals and intentions were defined based on our research on Colgate-Palmolive's industry peers' ICPs and current best practices. It is worth noting that there are potential strategies that can share the same intent or goal, these strategies being more globally accepted and robust. For example, following the decision tree, business units or key decision makers who have a different intent in mind can end up with the same strategy, such as using shadow price on OPEX decisions. At the same time, there are more focused strategies, for a certain business unit or objectives, such as an internal tax as a supplier fund for change. This wider range of options allows the company's decision-makers to be more invested in implementing an ICP.

Figure 3

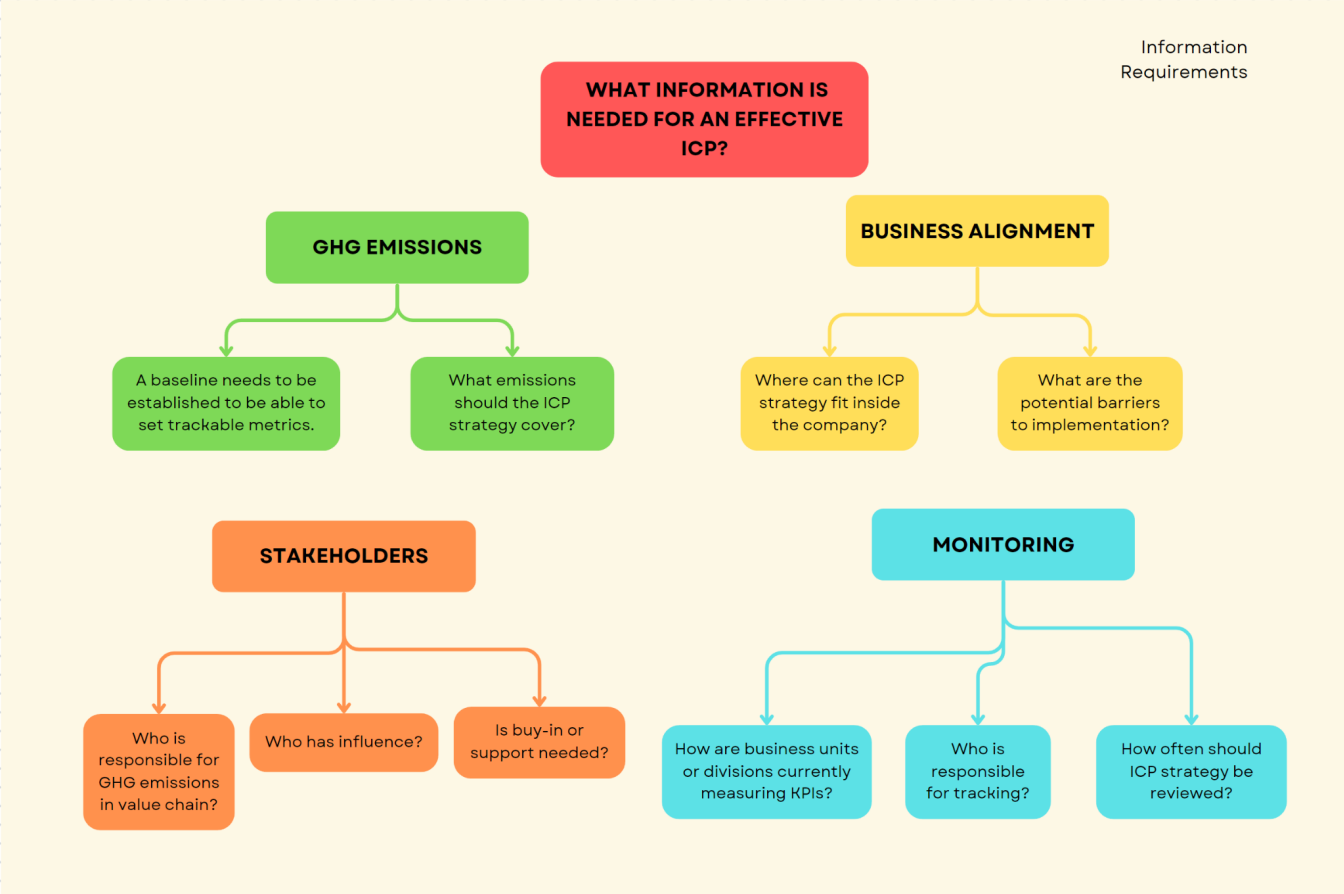
Internal Carbon Pricing Decision tree map



Data Requirements

Figure 4

Data Requirements



GHG Emissions:

- To be able to set trackable metrics for your strategies, an organization must have the baseline data they want to work from.
- The implementation team will need to gather both organizational-wide and division-specific data.

Business Alignment:

- What are the current company and division goals? Where could the ICP strategies best fit in or align with those goals?
- Identify the potential barriers your key players see in implementing each strategy

Stakeholders:

- Who is responsible for the GHG emissions in your value chains?
- Who influences those divisions?
- What key players will the organization critically need buy-in and support from if this is going to be successful?

Monitoring:

- How are divisions currently measuring KPIs? Can the ICP strategies be plugged in, or will new tracking methods be needed?
- Determine who will be responsible for tracking and how metrics will be evaluated.
- Determine how often the ICP strategies will be reviewed.

Final Recommendations

We recognize that sustainability initiatives often mean a change in the status quo, and their success also depends on stakeholders' proper engagement, so choosing a strategy that aligns with the most goals and intentions has a greater chance of success in an environment such as Colgate-Palmolive's. In addition, when forming our recommended ICP strategies, we took into consideration the company's ambition of reaching net zero carbon by 2040 (Colgate-Palmolive, 2024b).

Referring to our decision map, we found that a shadow price on CAPEX decisions is the most compatible strategy for Colgate-Palmolive. By implementing a shadow price on CAPEX decisions, the

company will be able to raise awareness of the externalities of carbon all the while mitigating climate related risk and incentivizing decarbonization. For example, when looking at CAPEX projected income statements, if Colgate-Palmolive was to add an expense line item based on the price of carbon of projected emissions of those investments, the options that have large emissions factors will show a reduced net income projection or a longer payback period, compared to the low-carbon investments. Based on our research on the industry's peers, the adjusted rate of return encourages low-carbon and energy-efficient projects, accelerating the reduction of an organization's GHG emissions and their transition to clean energy while also future-proofing their assets and investments.

When looking further into Colgate-Palmolive's Net Zero plans, its climate action strategy states that the vast majority of the company's carbon footprint comes from Scope 3 emissions (Colgate-Palmolive, 2024b). Following this context, the second potential strategy we recommend is to include a shadow price in all OPEX decisions for the Procurement division specifically**.** This strategy will influence the behaviors in the company's division while also engaging all key suppliers to promote the decarbonization of Colgate-Palmolive's supply chain.

Next Steps

a) Identify the key players and divisions that are going to be involved in the ICP implementation. The identification of the players will let the company sustainability team know what emissions data will need to be gathered as well as how they will need to craft their business case message to get key player buy-in. In this step, it is also important to identify existing company and division goals that the ICP strategies can be plugged into.

b) Set explicit goals of what Colgate-Palmolive wants the ICP to achieve. With key players and goals established, the team can tailor their ICP approach to determine the objectives they are trying to reach as well as the price point that will be needed to influence behaviors in the strategies

they have established. Furthermore, the team will need to determine a timeline for the objectives with milestones along the way.

c) Working with the key players, the company will need to identify potential barriers that they anticipate in implementing their strategies. The Colgate-Palmolive team will need to develop a clear and transparent message for the divisions that are participating in the ICP rollout, covering why the organization is using carbon pricing and why the specific price point is being used. Procedures and guidelines will need to be developed that explain the objectives set, and how each division is expected to use the ICP in their operations.

d) Colgate-Palmolive will need to determine the tools they will use to monitor and evaluate their progress. The sustainability team will need to work with the key players to set up the KPIs each division will use for their objectives as well as determine who will be responsible for the tracking and evaluating of the ICPS implementation. Finally, the team must decide how often the overall ICP strategy will be reviewed and revised.

References

Addicott, E., Badahdah, A., Elder, L., & Tan, W. (n.d.). *Internal carbon pricing; policy framework and case studies*. https://cbey.yale.edu/sites/default/files/2019-09/Internal%20Carbon%20Pricing%20Report%20Feb%202019.pdf

Benson-Armer, R., Noble, S., & Thiel, A. (2015). *The consumer sector in 2030: trends and questions to consider*. https://www.mckinsey.com/~/media/McKinsey/Industries/Consumer%20Packaged%20Goods/Our%20Insights/The%20consumer%20sector%20in%202030%20Trends%20and%20questions%20to%20consider/The_consumer_sector_in_2030.pdf

Carbon Disclosure Project (2023). *PepsiCo, Inc. CDP climate change questionnaire 2023.* Source:https://www.pepsico.com/docs/default-source/sustainability-and-esg-topics/2023-cdp-climate-submission.pdf?sfvrsn=e4d1d3_

Carbon Disclosure Project (2022). *Procter & Gamble Company - climate change 2022* https://s1.q4cdn.com/695946674/files/doc_downloads/2022/12/Climate-Change-2022_ProcterGamble.pdf}

CDP. (2021). *Putting a price on carbon.* https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/651/original/CDP_Global_Carbon_Price_report_2021.pdf

CDP. (2024). *Carbon pricing connect - CDP*. https://www.cdp.net/en/climate/carbon-pricing/carbon-pricing-connect

Chatterjee, I., Küpper, J., Mariager, C., Moore, P., & Reis, S. (2010). *Consumer packaged goods practice*. https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Consumer%20Packaged%20Goods/PDFs/Trends%20that%20will%20Shape%20the%20Consumer%20Goods%20Industry.ashx

Colgate-Palmolive Company. (2024a). *2023 sustainability & social impact report*. https://www.colgatepalmolive.com/content/dam/cp-sites/corporate/corporate/common/pdf/sustainability/colgate-palmolive-sustainability-and-social-impact-final-report-2023.pdf#page=8

Colgate-Palmolive Company. (2024b). *The power of we - 2023 climate transition & net zero action plan*. https://www.colgatepalmolive.com/content/dam/cp-sites/corporate/corporate/common/pdf/2023-climate-transition-net-zero-action-plan.pdf

Ecofys, The Generation Foundation, & CDP. (2017). *How to guide to corporate internal carbon pricing.* https://cdn.cdp.net/cdp-production/cms/reports/documents/000/002/740/original/cpu-2017-how-to-guide-to-internal-carbon-pricing.pdf?1521554897

Faelli, F. (2023, November 13). *Consumers say their environmental concerns are increasing due to extreme weather; study shows they're willing to change behavior, pay 12% more for sustainable products*. https://www.bain.com/about/media-center/press-releases/2023/consumers-say-their-environmental-concerns-are-increasing-due-to-extreme-weather-study-shows-theyre-willing-to-change-behavior-pay-12-more-for-sustainable-products/

Fan, J., Rehm, W., & Siccardo, G. (2021, February 10). *The state of internal carbon pricing*. https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/the-state-of-internal-carbon-pricing

Handrinos, N., Cook, J., Peters, L., Bruun-Jensen, J., Fenech, C., & Upadhyaya, J. (2024). *2024 consumer products industry outlook.* https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consumer-business/us-consumer-business-consumer-products-industry-outlook-2024.pdf

Hart, R. (2024, April 17). *Climate change will cost global economy $38 trillion every year within 25 years, scientists warn*. Forbes. https://www.forbes.com/sites/roberthart/2024/04/17/climate-change-

will-cost-global-economy-38-trillion-every-year-within-25-years-scientists-warn/?sh=741292e92d44

L, J. (2022, December 23). *Internal carbon pricing guide for companies 2023.* https://carboncredits.com/internal-carbon-pricing-guide-for-companies-2023/

KPMG. (2023). *How to get internal carbon pricing right*. https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2023/how-to-get-internal-carbon-pricing-right.pdf

Mars. (2023, September 15). *Mars CDP climate change questionnaire 2023*. https://www.mars.com/sites/g/files/dfsbuz106/files/2023-09/Mars%20CDP%20Climate%20Change%202023.pdf

Microsoft. (2013, December). *The Microsoft carbon fee: theory & practice.* https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://download.microsoft.com/documents/en-us/csr/environment/microsoft_carbon_fee_guide.pdf&ved=2ahUKEwiOptmw3MmGAxV-rokEHQULA-wQFnoECBMQAQ&usg=AOvVaw1d92vxxhM3-ZCob39QPv1z

PlanA. (n.d.). *What is internal carbon pricing?* https://plana.earth/glossary/internal-carbon-pricing#:~:text=Internal%20carbon%20fee%20or%20charge

Reckitt Benckiser. (2023). *Reckitt Benckiser - climate change 2023 - CDP Report*. https://reckitt.com/media/h31prgek/reckitt_cdp-climate-change_2023.pdf

Science Based Targets (2022). *Case study – PepsiCo. science based targets* https://sciencebasedtargets.org/companies-taking-action/case-studies/pepsico

Smith, B., & Joppa, L. (2022, March 16). *An update on Microsoft's sustainability commitments: Building a foundation for 2030*. The Official Microsoft Blog. https://blogs.microsoft.com/blog/2022/03/10/an-update-on-microsofts-sustainability-commitments-building-a-foundation-for-2030/

Thackeray, A., & Piazza, M. (2024, March 6). *Consumer goods industry trends 2024*. Mastercard Data & Services. https://www.mastercardservices.com/en/advisors/data-strategy-management/insights/consumer-goods-industry-trends-2024

Trading Economics. (2022). *EU carbon permits | 2005-2021 data | 2022-2023 forecast | price | quote | chart*. https://tradingeconomics.com/commodity/carbon

Unilever. (2024). *Climate transition action plan.* https://www.unilever.com/files/ctap.pdf

Unilever. (2018, July 31). *Explainer: what is carbon pricing and why is it important?* https://www.unilever.com/news/news-search/2018/explainer-what-is-carbon-pricing-and-why-is-it-important/

Willmott, E., & Joseph, E. (n.d). *Webinar: Accelerated sustainability with an internal carbon fee* [Video]. https://info.microsoft.com/ww-ondemand-accelerated-sustainability-with-an-internal-carbon-fee.html?LCID=EN-U

World Bank. (2019). *What is carbon pricing? | carbon pricing dashboard*. https://carbonpricingdashboard.worldbank.org/what-carbon-pricing