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Reframe Sustain: Designing an Open-Source Platform for Sustainability and Capacity Building

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Reframe Sustain:

Designing an Open-Source Platform for Sustainability and Capacity Building

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Background

The Intergovernmental Panel on Climate Change’s (“IPCC”) recent assessment notes that humans are unequivocally warming the planet via the burning of fossil fuels, agricultural practices, and a range of other activities.¹ Should emissions continue the existing trajectory, we can expect compounding negative effects on climate and biodiversity. According to the 2019 Global Assessment Report on Biodiversity and Ecosystem Services by Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (“IPBES”), natural ecosystems are rapidly deteriorating in the face of human impacts, placing species, habitats, and humans at risk—this includes both terrestrial and marine ecosystems.² Both declines are largely driven by the rapid rise in the consumption of materials and energy.³ Protecting nature and ensuring a stable climate is critical to avoid significant societal and economic decline.

While some of this protective action should include policy changes and reductions in consumption by individuals, 63% of Americans are hopeful that businesses will take the lead to drive social and environmental change moving forward.⁴ However, corporations are largely falling short in achieving meaningful reductions. A study by the New Climate Institute (“NCI”) estimated that emissions reductions for the 25 corporations studied amounted only to 40%, at most, despite the companies having “net zero” targets.⁵ Additionally, NCI noted claims by major companies such as Amazon, Google, and Unilever, to be low in integrity. A similar assessment by Carbon Tracker, focused on carbon-intensive industries, showed that the majority of companies assessed with decarbonization targets were reporting forward projections, that did not imbed the changes required to meet those stated goals.⁶

These studies suggest that even larger companies with greenhouse gas reduction targets are failing when it comes to tangible action. Within the private sector, climate has dominated the discussion on environmental impact. Biodiversity, however, gets less mainstream recognition and has been dubbed “the other environmental emergency” by *The Economist*.⁷ As an example, a recent study from the International Union for the Conservation of Nature (“IUCN”) found that large companies largely did not discuss environmental impacts beyond emissions in their public reporting.⁸ Speculatively, this lack of coverage in the media and from company assessments may

¹ IPCC. 2021. “Sixth Assessment Report.” [www.ipcc.ch](https://www.ipcc.ch/report/ar6/wg1/). 2021. <https://www.ipcc.ch/report/ar6/wg1/>.

² “Global Assessment Report on Biodiversity and Ecosystem Services | IPBES.” 2019. [ipbes.net](https://www.ipbes.net/global-assessment). 2019. <https://www.ipbes.net/global-assessment>.

³ “Scientific Outcome IPBES-IPCC CO-SPONSORED WORKSHOP BIODIVERSITY and CLIMATE CHANGE.” n.d. https://ipbes.net/sites/default/files/2021-06/2021_IPCC-IPBES_scientific_outcome_20210612.pdf.

⁴ “2017 Cone Communications CSR Study.” 2019. Council on Foundations. July 10, 2019. <https://cof.org/content/2017-cone-communications-csr-study>.

⁵ New Climate Institute. “Corporate Climate Responsibility Monitor 2022.” NewClimate Institute, February 14, 2022. <https://newclimate.org/2022/02/07/corporate-climate-responsibility-monitor-2022/>.

⁶ “Flying Blind: The glaring absence of climate risks in financial reporting.” Carbon Tracker. Accessed February 18, 2022. <https://carbontracker.org/reports/flying-blind-the-glaring-absence-of-climate-risks-in-financial-reporting/>

⁷ “Loss of Biodiversity Poses as Great a Risk to Humanity as Climate Change.” *The Economist*. The Economist Newspaper. Accessed February 16, 2022. <https://www.economist.com/technology-quarterly/2021/06/15/loss-of-biodiversity-poses-as-great-a-risk-to-humanity-as-climate-change>.

⁸ “Corporate Disclosures Related to Nature Lagging Far behind Climate.” IUCN, December 14, 2021. <https://www.iucn.org/news/climate-change/202111/corporate-disclosures-related-nature-lagging-far-behind-climate>.

stem from the difficulty in quantifying biodiversity in contrast to carbon. While initiatives to aid in quantification efforts such as the Taskforce for Nature-Related Disclosures and Natural Capital Coalition are gaining traction, business adoption is largely in its infancy as we lack significant policy to require disclosures and full transparency.

Based on our personal work experiences, we have witnessed these challenges across company sizes and several industries.⁹ While engaging in conversations with leadership teams, their main feedback has been “*where do I even start?*” Many companies express a collective interest in integrating environmental stewardship in some capacity but lack the tools to take the next step or knowledge of where to look. Others are largely focused on initiatives that capture public interest but may not be indicative of the companies’ actual impacts. Regardless of company intent, there is a gap in actionable, accessible, and open-source platforms tailored toward less-sustainably-mature businesses. Building capacity is necessary to further progress.

Objectives

The aim of this project was to create a user-friendly website that establishes a clear, compelling, and factual case for why companies should be considering both climate and biodiversity in transforming their business models to be sustainable and to give useful guidance on how to apply those considerations. We approached this project with the goal of developing a ‘beta’ version of this website, using the site name “Reframe Sustain”. We plan to continue developing this project beyond the project period and tailoring suggestions accordingly.

Website Framework

We used the five drivers of biodiversity loss as identified by IPBES - climate change, land use change, natural resource exploitation, pollution, and invasive species - as the guiding basis for the content of the website.¹⁰ These were used because they comprehensively cover climate change and broader environmental impacts of high importance.

Terminology

As the basis of our website, we aligned with the Merriam Webster definition of sustainable, which is:

- “1: capable of being sustained
- 2: of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged.”

With consideration to this definition, we interpret sustainability to encompass company actions that avoid depletion or damage to planetary biodiversity and climate.

⁹ “About Us,” Reframe Sustain, June 7, 2022, <https://www.reframesustain.com/about>.

¹⁰ IPBES Secretariat “Global Assessment Report on Biodiversity and Ecosystem Services.”, November 10, 2021. <https://www.ipbes.net/global-assessment>.

References to biodiversity refer to abundance and variation of different species.

References to biodiversity loss refer to the five key drivers previously stated: climate change, land and sea use change, natural resource extraction, pollution, and invasive species, as identified by IPBES.¹¹

Industry Focus

In developing our website, we noted that certain sections would be more useful if specific to a particular industry. For purposes of our beta website we decided to select an initial industry to focus on those more specific sections. We selected the Global Industry Classification Standard (“GICS”) industry category “Household & Personal Products” which is a subcomponent of Consumer Staples. This industry category is further divided into “Household Products” which include “producers of non-durable household products, including detergents, soaps, diapers, and other tissue and household paper products not classified in the paper products sub-industry,” and “Consumer Products” which includes “manufacturers of personal and beauty care products, including cosmetics and perfumes.”¹²

Our decision to focus on the industry of Household and Personal Products was due to its everyday presence in most people’s lives. Estimated valuation of the domestic personal care market sits at \$87.99 billion with a 3.11% expected growth.¹³ As this is an industry that permeates aspects of the household and many items physically touch the body, we concluded that consumers and companies would be more receptive to the notion of responsibility and the rationale behind integrating sustainability strategies into products.

Research shows that consumers are open to informational campaigns for items they consume personally —such as dish soap—or products that have clear personal health impacts.¹⁴ Additionally, this sector’s impacts are largely held within its value chain, including consumer use and materials sourcing, making it a good example of an industry with a multi-faceted footprint. The sections of the website that are specific to the Household and Consumer Products industry are labeled as such.

Methodology

The methodology used to develop this project included data collection and analysis. Interviews with sustainability consultants, non-governmental organizations, and corporate sustainability professionals were used to gather relevant opinions and perspectives and to inform the design of the website with relevant content. In order to accurately develop a platform rooted in concrete

¹¹ IPBES Secretariat “Global Assessment Report on Biodiversity and Ecosystem Services.” November 10, 2021. <https://www.ipbes.net/global-assessment>.

¹² “GICS ® Global Industry Classification Standard Contents.” n.d.

https://www.spglobal.com/marketintelligence/en/documents/112727-gics-mapbook_2018_v3_letter_digitalspreads.pdf.

¹³ “Beauty & Personal Care Report 2019.” n.d. Statista. <https://www.statista.com/study/55499/cosmetics-and-personal-care/>.

¹⁴ O’Rourke, Dara, and Abraham Ringer. “The Impact of Sustainability Information on Consumer Decision Making.” *Journal of Industrial Ecology* 20, no. 4 (2015): 882–92. <https://doi.org/10.1111/jiec.12310>.

and timely information, we also engaged in the analysis of sustainability reports and peer-reviewed literature. Deliverables of this highly collaborative project evolved as we conducted interviews based on conversations and feedback.

Interviews

Over the capstone period, we conducted 20 interviews with sustainability consultants, non-governmental organization workers, and corporate sustainability professionals. The list of interviews is included in Appendix A. Interview subjects were selected based on their roles and company affiliations. Conversations primarily took place over video conference software and lasted approximately an hour. A list of framework questions used to guide the interview is included under Appendix B. Within each interview, we included questions more specific to the interviewee's background or organization. As the interviewees were diverse in experience and focus, the conversations varied in depth and subject.

External Research

We conducted a review of sustainability reports, relevant peer-reviewed information, and broader reports from NGOs. Sustainability reports from ten large, public Household and Personal Products companies were reviewed. These sustainability reports were used to gain an understanding of how companies are identifying areas of high priority for sustainability initiatives and what types of sustainability issues are being considered across the industry.

In developing our content across the website, we reviewed subject-relevant papers and articles. Refer to the following sections for detail on the materials reviewed.

Website Development

Based on the information reviewed above, we developed the framework of our website as follows.

- I. Landing Page
- II. Company Sustainability Progress Categories
 - A. *We're Just Starting Out*
 - B. *We've Made Some Strides*
 - C. *We're Ready to Level Up*
- III. The Case for Change
- IV. Strategy and Targets Section
 - A. Materiality: First Step Towards Action
 - B. On Target Setting
- V. Stakeholder Engagement Section
 - A. Consumers
 - B. Employees
- VI. Coalition Building

VII. Action Plans (Consumer and Household Products Specific)

- A. Consumer Use
- B. Palm Oil
- C. Harmful Ingredients
- D. Packaging

Our methodology for website design was rooted in user-experience principles. Working within Squarespace, we integrated custom Cascading Style Sheets (“CSS”) for design elements and features such as accordions, and clickers. We also integrated infographics to improve the readability and user-experience.

I: Landing Page

Our landing page was developed with the intent to engage users immediately, with an initial click-through component on the homepage. These click-throughs are described in the next section. The other materials included on our landing page serve to identify the intent of the site, to facilitate growth in sustainability that is focused on company outward impacts. The page also introduces the climate and biodiversity crises as the impetus for action.

II. Company Sustainability Progress Categories

On the landing page, we developed a component that asks visitors to select their company’s level of sustainability maturity. Based on their selection of *We’re Just Starting Out*, *We’ve Made Some Strides*, or *We’re Ready to Level Up*, users are taken to a new page with curated steps designed to move an organization at the level indicated towards more sustainable practices.

These steps culminated from the interviews held. During each conversation, we asked interviewees for their advice for a company starting to develop a sustainability strategy, as well as how they are continuing to expand their own ambition. Using those insights, we developed considerations for the three tiers of maturing we defined.

Guidance on these considerations has been elaborated in detail on the website, and the methods for developing that material are discussed below in sections IV, V, VI, and VII.

III. Case for Change

Recognizing that we wanted our website to build an understanding within the business community on why a change towards sustainability is required, we developed a page that discusses the fundamentals of environmental concern. The decision to develop this section was informed by the research summarized in the Background section of this paper using the IPCC’s Assessment Report 6 and the IPBES Global Assessment Report on Biodiversity and Ecosystem Services to discuss climate change and the deterioration of nature, stemming from human impacts.¹⁵

To bring biodiversity loss and climate change together, we referenced the five drivers of

¹⁵ IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. <https://doi.org/10.5281/zenodo.3831673>

biodiversity loss as identified by IPBES, which include climate change, land and water use change, exploitation of natural resources, pollution, and invasive species.¹⁶ Infographics were created that discuss specific indicators of these drivers and provide a listing for how companies contribute to each driver specifically. The infographics also include how these environmental concerns impact companies to make the connection between environmentally damaging practices and business resilience clear.

IV. A. Strategy and Targets: Materiality - First Step Towards Action

During our review of the IPBES Global Assessment report, we noted the following section that seemed specifically relevant towards the resources we were trying to develop for our platform.¹⁷

“Pro-environment signaling from consumers has grown, within multiple supply chains, yet the documentation of significant impacts on nature has been limited. Consumers at the ends of supply chains increasingly request information about the practices and the degradation linked with production. It can be facilitated by civil society, even across borders, as third parties collaborate with all of the private actors engaged in varied exchanges. Sustainable production certificates, terrestrial or marine, have risen greatly - for practices both environmental and social - yet despite some positive anecdotes, large impacts remain rare.”¹⁸

As indicated in the section above, consumers are continuing to request information about the environmental impacts of the companies they use. Despite an increase in sustainable assertions and certifications from companies, there has been limited actual progress. Moreover, documentation on industry impacts on nature continues to be limited.

With this consideration in mind from IPBES, we sought to identify factors that may be contributing to the noted limited progress during our interviews, through review of our sample of sustainability reports, and review of existing guidance from sustainability disclosure groups such as the Sustainability Accounting Standards Board (“SASB”) and the Global Reporting Initiative (“GRI”); as well as materials from NGOs working to propel business action such as Business for Social Responsibility (“BSR”) and World Business Council For Sustainable Development (“WBCSD”).

We noted that companies usually complete a materiality assessment which informs their sustainability target setting and strategy. This is also used to identify what topics are relevant for non-financial disclosures. In completing a materiality assessment, companies usually compile a list of issues or impacts and then employ various methodologies to rate each issue. Within each of the sustainability reports reviewed, and other materials published by those companies, we sought to determine the methodology used by each company in determining material issues. Within our sample of ten companies, four disclosed how they identified material issues. Three of those four companies noted that their assessment was based on the importance to the company’s stakeholders and potential business impact (see Exhibit C). While these three companies noted

¹⁶ Tanya Lazarova. “Models of Drivers of Biodiversity and Ecosystem Change.” IPBES secretariat. Accessed May 19, 2022. <https://ipbes.net/models-drivers-biodiversity-ecosystem-change>.

¹⁷ Brondizio, Eduardo, Sandra Diaz, Josef Settele, Hien T. Ngo, and Ipbes. “Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.” Zenodo, May 4, 2019. <https://doi.org/10.5281/zenodo.3831673>.

¹⁸ Balvanera, Patricia, Pfaff, Alexander, Viña, Andrés, Garcia Frapolli, Eduardo, Hussain, Syed Ainul, Merino, Leticia, Minang, Peter Akong, Nagabhatla, Nidhi, & Sidorovich, Anna. (2019). Chapter 2.1 Status and Trends –Drivers of Change. Zenodo.

the environment to be a stakeholder, there was no transparency on how that perspective was considered and how it was weighed in comparison to other stakeholders, such as shareholders. Similar concerns on the subjectivity of materiality assessments have been identified by other studies.¹⁹

One of the four companies indicated that their materiality assessment included importance to the company's stakeholders and the company's impacts to the environment and society. Notably, this company is based in a country that requires companies to consider the materiality of their outward impact.

We reviewed additional papers that identified materiality as typically favoring business continuity rather than environmental sustainability issues.²⁰ As the materiality assessment is the basis for a company's sustainability strategy, focusing on business continuity as opposed to business impact on the environment and society may prevent companies from prioritizing areas of high impact that do not translate into a significant financial concern. With this consideration in mind, we felt that including a section on materiality assessment within our website was important.

This section of the website was framed around the concept of double or dual materiality which considers the company's impact to the environment and society as well as the financial impacts certain environmental and societal issues may have on the company. This approach is supported by the Global Reporting Initiative as well as the European Financial Reporting Advisory Group ("ERFRAG").^{21, 22} Our content also reiterated that those two elements of materiality should stand alone, meaning companies should not focus only on the issues that overlap across the two materiality concepts. To further support this point, we identified the materiality assessment of a company, outside of our sample of ten sustainability reports, that followed this double materiality approach and published the results separately, including a section for environmental and societal impacts of the company and a section for financial materiality to the company (refer to Exhibit D). In this example, the financial materiality section identified climate change as the single area of high priority related to the environment; however, the assessment of the company's impacts on the environment identified ecosystems and biodiversity, air emissions, waste and pollution, and recycling as areas of high priority. This example helps underscore the importance of why companies need to include the outward view in developing a sustainability strategy; to avoid limiting focus and efforts to those the company's stakeholders view as financially relevant in the short-term.

IV. B. Strategy and Targets: Target Setting

This section aims to give context and direction to sustainability target setting initiatives and steps for quantification, as this was identified as a challenge for companies during our interviews. We utilized guidance from the Greenhouse Gas Protocol and incorporated considerations for how

¹⁹ Beske, F., Hausteine, E. and Lorson, P. (2020), "Materiality analysis in sustainability and integrated reports," *Sustainability Accounting, Management and Policy Journal*, Vol. 11, No. 1, pp. 162-186

²⁰ Jones, Peter, Comfort, Daphne and Hillier, David (2016) *Managing materiality: a preliminary examination of the adoption of the new GRI G4 guidelines on materiality within the business community*. *Journal of Public Affairs*, 16 (3), pp. 222-230. doi:10.1002/pa.1586

²¹ Adams, Carol, Abdullah Alhamood, Le Wang, and Yi Wang. n.d. "The Double-Materiality Concept Application and Issues Invited Contribution." <https://www.globalreporting.org/media/jrbntbyv/griwhitepaper-publications.pdf>

²² Proposals For A Relevant and Dynamic EU Sustainability Reporting Standard-Setting (2021), European Reporting Lab

companies can use that framework to consider impacts beyond emissions, referring back to the five drivers of biodiversity loss from IPBES.

To help visitors understand the breadth of resources that exist, we created a repository of carbon accounting systems and environmental assessment tools. As many of these resources were time-intensive to locate or were suggested during our interviews, we compiled some of these for easier access to our website visitors.

V. A. Stakeholder Engagement: Consumers

According to a 2019 CEO study on sustainability, consumers are considered the stakeholder group which have the greatest impact on the way companies manage sustainability.²³ Throughout our interviews, consumer engagement was a recurring theme, with interviewees noting the challenge in ensuring that customers understand changes to products and offerings and also the impact of consumer use of products to the company's own environmental footprint. This page was created with a specific focus on best practices for transparent communication with customers and guidance on how to interact with customers on sustainable initiatives. These recommendations were informed by our interview activities.

V. B. Stakeholder Engagement: Employees

Based on our interviews, employee understanding, buy-in, and support for sustainable initiatives was consistently noted as a top requirement for a successful transition. Employee engagement in the sustainability sphere is known to increase job satisfaction, loyalty, retention, and productivity.^{24, 25} Due to different levels of engagement, and differing knowledge on the importance of sustainability, there can be a disconnect between leadership teams and employee teams. This disconnect can result in ambitions that lack comprehensive employee buy-in and a gap between high-level sustainability goals and day-to-day operations.

We developed a listing of recommendations designed to encourage employee engagement and facilitate adoption and support for sustainable strategies, informed by interviews. Additionally, we included relevant case studies for how companies have effectively engaged with their employees to enforce sustainable practices, for example incorporating sustainability considerations within employee compensation structures. These were informed through our interviews and review of company sustainability reports and press releases.

VI. Coalitions

Coalitions are industry alliances that acknowledge market competition and transcend it to collectively develop broadly beneficial solutions or promote certain policy changes. An example is the Sustainable Packaging Coalition, which provides guidance and support for transitions to

²³The Decade to Deliver: A call to Business Action, The United Nations Global Compact—Accenture Strategy CEO Study on Sustainability 2019

²⁴Valentine, S., & Fleischman, G. (2008). Ethics programs, perceived corporate social responsibility and job satisfaction. *Journal of Business Ethics*, 77(2), 159–172. <https://doi.org/10.1007/s10551-006-9306-z>

²⁵ CB Bhattacharya, Sankar Sen, and Daniel Korschun, *Leveraging Corporate Responsibility: The Stakeholder Route to Maximizing Business and Social Value*, Cambridge, England: Cambridge University Press, 2011.

less environmentally impactful packaging.²⁶ Coalitions focused on policy agenda and capacity building, such as through the creation of tools or datasets to improve sustainability efforts, are gaining traction and recognition.^{27, 28}

With consideration to the benefits coalitions can provide to companies in furthering sustainability efforts, we developed a coalition section for the website. This section includes an overview of the potential impact of coalitions, a resource guide to key coalition groups, and key tenants on how to best engage. Information included was derived from interviewee feedback and supported by external research.

VII. Industry-Specific Areas of Focus

In determining where to focus our efforts for more specific actionable guidance related to the Consumer and Household Products industry, we sought to identify what the greatest environmental impacts in this sector were. This was challenging for a number of reasons. As previously discussed, the areas of high materiality noted within the sustainability reports reviewed were identified using methodologies that did not focus directly on environmental impact, making them potentially unreliable for identifying the highest areas of impact for the sector. We did, however, consider the areas of focus outlined in the ten sustainability reports as an informational source.

Comprehensive data that quantify environment impacts for the industry was not readily accessible. This is likely due to the absence of standardized environmental impact reporting requirements. Ultimately we decided to focus on consumer use of products, palm oil, harmful ingredients, and packaging. We have described our decision to focus on these four impact areas in the sections that follow.

A. Consumer Use of Products

Within the Consumer and Household products sector, a significant portion of environmental impact comes from consumer use of the product.²⁹ As an example, in 2020, Unilever, a consumer and household products conglomerate, noted that 66% of their greenhouse gas footprint and 85% of their water footprint was from consumer use of their products.³⁰ With the majority of impacts coming from consumer use, it was important to include a website section that highlighted strategies for companies to reduce these impacts through less intensive formulas, engagement with customers, and work with policymakers and coalitions to further broad decarbonization efforts.

²⁶ Boz, Ziyne, Virpi Korhonen, and Claire Koelsch Sand. 2020. "Consumer Considerations for the Implementation of Sustainable Packaging: A Review" *Sustainability* 12, no. 6: 2192. <https://doi.org/10.3390/su12062192>

²⁷ Radhakrishnan, Shanthi. "The Sustainable Apparel Coalition and the Higg Index." *Textile Science and Clothing Technology*, 2014, 23–57. https://doi.org/10.1007/978-981-287-164-0_2.

²⁸ MacCarthy. "New Report Reveals 86% of US Consumers Expect Companies to Act on Social, Environmental Issues." *Sustainable Brands*

²⁹ US EPA, OAR. 2016. "Scope 3 Inventory Guidance." www.epa.gov. November 8, 2016. <https://www.epa.gov/climateleadership/scope-3-inventory-guidance>

³⁰ CDP, Unilever plc CDP Climate Change Questionnaire 2021 July 2021

B. Palm Oil

Palm oil is one of the most common ingredients in Consumer and Household products due to its emollient and moisturizing properties and its ability to be used as a surfactant.³¹ It is sourced from oil palm grown in tropical locations and is the third largest driver of deforestation next to soybean and beef production, with 0.6 million hectares lost each year.³² Due to the geographical range of palm oil agriculture across tropical, species-rich forests, its expansion has a significant impact on global biodiversity. Its further expansion could impact 54% of all threatened mammals and 64% of all threatened birds globally.³³ Additionally, oil palm plantations have resulted in 2.5 Gt CO₂ loss from tropical peatlands since 1990.³⁴

This section of the website details the environmental and social impacts of palm oil agriculture and provides considerations for how companies can source more responsibly. We developed these considerations from our interviews, review of scientific literature related to palm oil, and review of non-governmental organization recommendations.³⁵

C. Harmful Ingredients

During our interviews, the potential environmental and human impacts from certain ingredients were discussed. As the human population and usage of personal and household products continue to grow, the chemicals and materials being used within these products require increased consideration. A number of common ingredients used in products are tied to adverse health impacts in humans. Additionally, as these chemicals enter the environment, polluting air, sediment, and water, they are a source of increased concern for humans and ecosystems. The European Union has banned over 1,300 chemicals from personal products that are known or suspected to cause cancer, genetic mutation, reproductive harm or birth defects; however, the US Food and Drug Association has only banned or restricted 11 of these chemicals from use, meaning consumers must largely depend on companies to act responsibly when selecting ingredients.³⁶

Within this section, we described the various ways harmful ingredients can impact human health, as well as their potential to pollute air, soil, and water and bioaccumulate within marine life. We highlighted specific ingredients and provided further details for each of their specific concerns. We also identified tangible actions companies should take to assess their existing product formulations and shift towards sustainably sourced bio-based ingredients.

³¹ “#GoodBadPalmOil.” n.d. RSPO - Roundtable on Sustainable Palm Oil. Accessed May 21, 2022.

<https://rspo.org/about/goodbadpalmoil#:~:text=Approximately%2050%25%20of%20common%20consumer>.

³² Henders, S., Persson U.M., and Kastner, T. 2015. Agricultural commodity consumption and trade are responsible for over 40% of tropical deforestation. Focali Brief No.2015:03 Gothenburg

³³ “Palm Oil and Biodiversity.” 2018. IUCN. June 26, 2018.

<https://www.iucn.org/resources/issues-briefs/palm-oil-and-biodiversity#:~:text=It%20has%20been%20estimated%20that>.

³⁴ Miettinen, Jukka & Hooijer, Aljosja & Vernimmen, Ronald & Liew, Soo Chin & Page, Susan. (2017). From carbon sink to carbon source: Extensive peat oxidation in insular Southeast Asia since 1990. Environmental Research Letters. 12. 024014. 10.1088/1748-9326/aa5b6f.

³⁵ Thomas, Buchanan, McLaughling, Grubba. 2015. Sustainable Sourcing Guide for Palm Oil Users. Conservation International

³⁶ FDA. Prohibited & Restricted Ingredients in Cosmetics

D. Packaging

Commitments related to packaging were found in 100% of the sustainability reports (10) we reviewed. With consideration to the significant footprint packaging has, it was relevant to include a website section that addresses it.³⁷ Companies that produce items that need to be replaced — such as shampoo — are dependent on a recurring supply of raw materials, energy, transport, and packaging. This results in an ongoing dependency on packaging through the life cycle of a company as opposed to long-term multi-use items such as furniture. The personal care industry generates more than 120 billion units of packaging annually, with most ending up in landfills or marine environments.³⁸

The section provides recommendations for how companies should think about the footprint of their packaging from creation to end-of-life. We provided examples of relevant metrics companies may consider as part of this analysis. We also included summary details on materials often used for packaging including glass, aluminum, paper, and both virgin and post-consumer recyclable plastics.

Product and Distribution Plan

Distribution of our website will be done by sharing the resource with our networks and interviewed participants. We have also submitted the website to a request from IPBES for capacity-building resources with the intent to gain a broader audience and increase visibility. We intend to look for similar opportunities to share our website as a resource.

We plan to continue building out the website, beyond this initial beta, expanding to additional sections that include the following:

- + Manufacturers and Supplier Engagement: Guidance on how to engage with manufacturers and suppliers to further sustainable progress across the supply chain
- + Life Cycle Assessment: Guidance on how to complete a life cycle assessment, commonly used to fully understand and measure the environmental impact of a product, from raw material to end-of-life

Conclusion

Our developed website, Reframe Sustain, aims to remind companies that they must exist within the confines of the natural environment and ensure their actions reflect this. We intend for this site to empower companies to evaluate their footprint and action on their impacts to climate, biodiversity, and society, with the intention of establishing a sustainable relationship.

³⁷ Ma, Xuezi, Curie Park, and James Moultrie. "Factors for Eliminating Plastic in Packaging: The European FMCG Experts' View." *Journal of Cleaner Production*. Elsevier, February 8, 2020. <https://www.sciencedirect.com/science/article/pii/S0959652620305394>.

³⁸Isaac Jordan Gatt and Paul Refalo 2021 *IOP Conf. Ser.: Mater. Sci. Eng.* 1196 012022

Exhibit A: Interview Listing

	Person / Company
	<i>Non-Profit Sector</i>
1	Wendy Magid – Open360
2	Janet Gilbert – Hecho Por Nosotros
3	Stacy Savage – Zero Waste Solutions
4	Sophie Boddorf – Graduate Student
	<i>Consultants</i>
5	Charles Pope — SCS (Certifications Auditing)
6	Rasmus Vincentz — Habitats (Biodiversity/Sustainability Consulting)
7	Jarrold Russell — Impactree
8/9	Valerie Russell and Lia Colabello – Planet Purpose Solutions
10	Mark Haver – BlueGreen Generation
11	Alexander Frantzen– Carbon Calories
12	Novi Connect
	<i>Companies</i>
13	Matt Stockamp – Nisolo Shoes
14	Chris Edmonds — Oatly
15	Kellie Carlson — Illumina
16	Jessica Bonilla - KLA
17	Martin Wolf – Seventh Generation
18	Gabriel Roseman – Levi Strauss
19	Joe Cloyes – Youth to the People (Loreal)
20	Jaime Peraza – Versed

Exhibit B: Interview Question Prompts

I. Information Availability

1. From your experience, what publicly available information do you think is lacking to support companies transitioning towards more environmental practices?
2. What resources do you wish you had/have? If you could hire someone to do one specific task, what would it be?
3. What publicly available information do you think is useful in this space? Do you have any go-to sites?

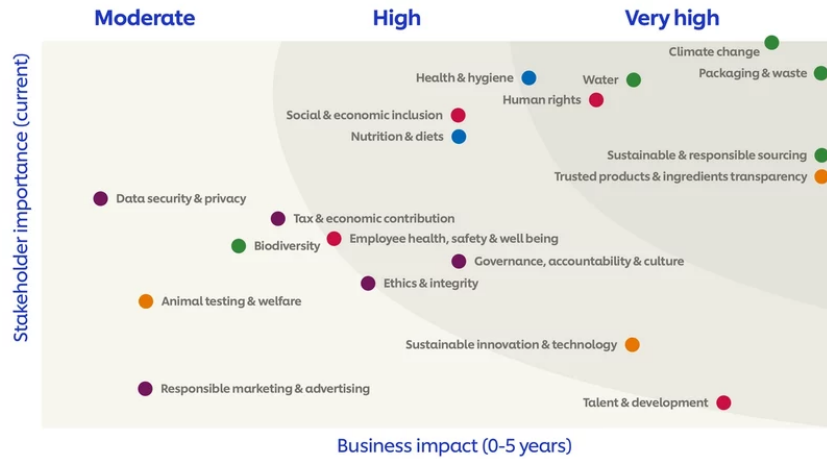
II. Sustainability Approach

1. Does your company have a sustainability strategy? What drives it? Risk, Opportunity, Ethics, Certification or Ratings, Precaution, Market Demand, Differentiation?
2. Who manages your company's sustainability efforts and strategy? One central group or are responsibilities delegated across departments?
3. Where are you in the process of measuring emissions or other environmental impacts? Have you set any targets and what framework are you utilizing?
4. Can you speak to past or existing initiatives to reduce GHGs or environmental impacts? What did that approach look like, and would you call it a success?
5. What initiatives are you planning/hoping to start in the short-term vs long-term?
6. What are your main barriers to more sustainable practices?
7. What would you like to see your industry as a collective improve upon? What do you think you're doing well?

III. Broader Stewardship and Other Considerations

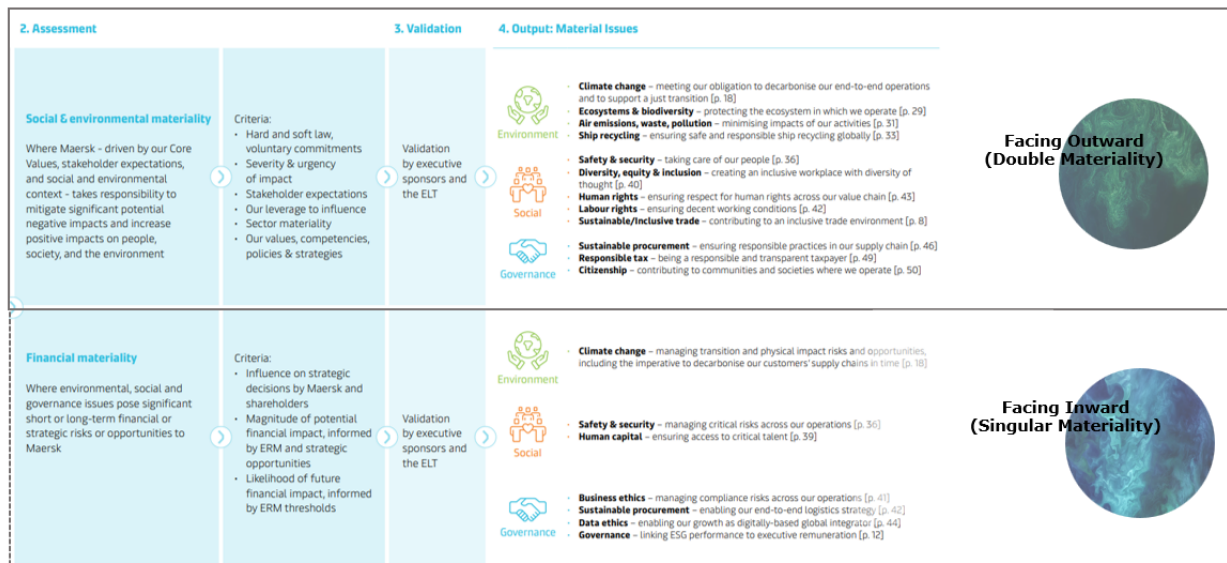
1. Do you think certifications/ratings are useful and if so, which ones? Have you seen improved traffic/profits if you've received them or reduced customer base from the absence of a high rating or certification? What do you see as the benefits?
2. Would you be comfortable engaging with policymakers/NGOs on topics you care about?
3. Are restoration activities considered part of your company's approach and if so, how have you approached these?
4. Are there things you find concerning or troubling about the sustainability world right now?

Exhibit C: Materiality Assessment - Traditional Example



The above example is from an undisclosed company’s materiality assessment that is focused on business impact (meaning financial impact to the company) and the importance of those issues to stakeholders.

Exhibit D: Materiality Assessment - Double Materiality Example



The above example is from Maersk’s published materiality assessment (2021) that includes the distinction between areas of high priority using the traditional, financial-focused view, as well as the high priority items using the view of the company’s outward impacts.