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How can **sustainability commitments** of **Belgian food retail companies** best **be compared** using the **Business Impact Assessment (BIA)** in order **to enhance** their sustainability commitments and practices?

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Résumé en français :

Les entreprises ont un rôle majeur à jouer dans la réduction des émissions de gaz à effet de serre permettant de limiter la marche en cours du changement climatique. Et c'est tout particulièrement le cas des entreprises du secteur de la distribution de biens alimentaires. Au-delà des émissions, leur contribution est aussi très attendue sur des enjeux tels que la protection de la biodiversité, la maîtrise de l'exploitation des ressources naturelles ou encore le gaspillage alimentaire. Sous la pression de règlementations contraignantes comme de différentes parties prenantes, les distributeurs prennent de nombreux engagements environnementaux qu'ils révèlent lors de la publication annuelle de rapports de durabilité. Mais comment s'assurer de la cohérence de ces engagements, comment comparer deux entreprises et comment cette comparaison peut-elle avoir un impact sur les pratiques des entreprises ?

S'appuyant sur une nouvelle grille d'analyse mise en œuvre par Sciensano, le *BIA – Sustainability framework*, ce mémoire analyse précisément les engagements environnementaux des cinq plus grandes enseignes de distribution alimentaire en Belgique et s'intéresse à la question de la comparaison des engagements environnementaux révélés par les entreprises.

Cette analyse confirme qu'une comparaison indicateur par indicateur reste difficile mais que comparer les engagements des entreprises au travers de différentes catégories d'engagements reste utile et intéressant. Ce mémoire émet aussi un certain nombre de critiques et de recommandations pour compléter le *BIA – Sustainability framework* et rendre sa mise en œuvre plus robuste. Enfin, il propose une présentation adaptée des résultats rendant leur lecture plus pertinente.

Acknowledgments

This thesis has been a fascinating experience for me. Indeed, I had the opportunity to take a close look at how companies intend to participate in the essential task of building a more sustainable world. During this work, I navigated between very practical issues such as sustainability commitments of companies and more theoretical and academic concepts such as the different perspectives on sustainability reports. All of this made this subject of study very complete and particularly interesting.

Firstly, I would like to thank Solene Sureau and Stefanie Vandevijvere for their invaluable contribution and help throughout the process.

Thank you, Solène, for your questions and comments which helped me give more substance and depth to my research question and make it so interesting. Your insights were essential to bring so many aspects to this question and thus to this work. Thank you also for your meticulous reading of my first draft which helped me improve the structure of this report. And thank you for introducing me to Zotéro…

Thank you, Stefanie, for proposing this thesis subject to ULB. I really enjoyed working on it; it gave me a new perspective on how companies are contributing to build a more sustainable world and to how external parties such as NGOs or research centers can help them do better. Thank you for guiding this work and for your constructive comments. Lastly, thank you for putting me in contact me with all the retailers. Their inputs were indeed essential to make this work more robust.

Thank you to Université Libre de Bruxelles and Institut de Gestion de l'Environnement et d'Aménagement du Territoire for giving the opportunity to a middle-career manager like me to take a step back and explore all the issues associated to environmental management. All the subjects of the curriculum provide a consistent multi-level angle on environmental issues and solutions. It was a real pleasure to attend each and every class.

I think that the adapted program is a great opportunity for IGEAT to bring different backgrounds in one classroom, thus enabling a genuine exchange of views and experiences. This program entails a specific organization and additional work for all the IGEAT teams as well as for the professors who kindly accept to teach in the evening. I would want to thank them for that.

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A. Introduction

Our planet is suffering from all the symptoms associated with **humankind's unsustainable way of life**. We now can detect them and understand the cause of those symptoms. We are also able to generally predict the evolution of those symptoms in the future if we remain in a business-as-usual scenario. Most of human activities contribute to this unsustainable way of life despite all the efforts already made. Yet, we also now know what we must do to mitigate the negative evolution of climate change and we know that the challenge ahead of us is global, significant and essential to tackle.

For instance, reducing GHG emissions is the first issue to tackle to mitigate the impact of climate change. To do so, many citizens are wondering what individual choices they can make. Yet, whatever they do, they won't be able to act on more than 25% of the global CO2 emissions reduction which is necessary to comply with the Paris Agreement (Carbone 4 2019). The rest of the reduction will have to come from systemic changes mainly endorsed by companies across all sectors.

The food sector is particularly concerned. According to the Institute For Climate Economics, food was accountable in 2010 for 28% of global emissions in Europe (I4CE 2019). In 2021, Tubiello et al. estimated that total GHG emissions from the food system were about 16 GT CO2eq yr−1 in 2018, or one-third of the global anthropogenic total (Tubiello et al. 2021).

Participating to the reduction of GHG emission is one reason why it is so important that food industry companies place sustainability at the center of their strategy and take actions in order to measure, control and reduce their CO2 emissions.

But sustainability is a much larger challenge than "only" reducing human-induced GHG emissions. Indeed, it is also referring to many other impacts that companies must mitigate if they want to positively contribute to reduce the effects of human activity on our environment. Biodiversity, water discharge, waste, use of raw materials are other example of sectors where companies must measure, control and reduce their impact.

Beyond the above-mentioned reasons, developing and communicating sustainability commitments has become essential for companies for other reasons such as the protection of their financial interest or to provide an answer to social expectations.

Hence, **many companies have included sustainability commitments in their strategy** and are publishing regular sustainability reports, or at least have a significant part of their annual report dedicated to their sustainability strategy.

This strategy always starts with a general mission or a general statement which is further reflected along several items (categories) in which the company commits to reach one or several objectives (indicators). **At a strategic level, those sustainability commitments do not necessarily reflect the real actions performed by the company** to achieve above-mentioned objectives and for the reader of a sustainability report or an annual report, it is hard to keep a comprehensive vision on what each commitment really means, what is its ambition. Those documents

can sometimes be perceived more as a political program than as a real description of the intention of the company to contribute to the protection of our environment. This is one reason why some tools such as GRI indicators, Carbon Disclosure Project questionnaires or ECOVADIS platform have been developed. These tools intend to provide a methodology to companies to disclose their sustainability. They make the disclosed commitments more robust and thus give credibility to the overall report. They also help the readers of these documents to compare the disclosed sustainability of one company with one another. Even if this comparison remains a difficult exercise.

In 2021, **Sciensano developed the BIA - Sustainability framework** in collaboration with a network of international experts. This project is the follow-up to a study performed in 2019 - 2020 in which Sciensano investigated how the food industry was contributing to the fight against obesity through the implementation of a Business Impact Assessment (BIA) approach.

In this thesis, we propose to implement the BIA - Sustainability framework on the 5 most significant Belgian retail companies (AHOLD DELHAIZE, ALDI, COLRUYT, CARREFOUR and LIDL) accounting for 80% of the whole Belgian retail market share. Indeed, because of their strategic position in the food sector value chain and because of the pressure they can exert on their suppliers, *ie* all along the value chain, the retail companies can be considered like having a potential influence on the entire value chain.

Our work is seeking to address the following question: **How can sustainability commitments of Belgian food retail companies best be compared using Business Impact Assessment (BIA) in order to enhance their sustainability commitments and practices?**

To answer this question, we will first investigate the literature to understand how it can already answer to the different aspects of this question: Why are companies and retailers disclosing sustainability commitments? What are the main existing tools used to assess those sustainability commitments and how does the BIA - Sustainability framework position itself in comparison with those tools? What do the prior attempts to compare sustainability commitments tell us? Then we will implement the BIA - Sustainability framework on the 5 major Belgian retailers. This implementation will help us understand which main commitments are disclosed by Belgian retailers and how the BIA - Sustainability framework can be used to capture and analyze those commitments. It will also allow us to identify how the BIA - Sustainability framework can be improved. We will make recommendations for that in a discussion section. We will also compare the results obtained with the BIA – Sustainability framework with results obtained from other Sustainability frameworks. Last, we will introduce an adapted presentation of the results which enhances the way retailers can use the BIA - Sustainability framework.

We will use the current version of the BIA – Sustainability tool as proposed by Sciencano. This version proposes a series of 34 indicators spread over 11 categories (Corporate sustainability strategy, Packaging, Energy use, Water and discharge, Biodiversity Emissions, Climate change adaptation, Food loss and waste, Environmental compliance, Reduction of ruminant-based products).

The analysis performed on the Belgian retailers is the first implementation of the BIA - Sustainability framework and will be the basis for further projects assessing the sustainability commitments of companies from other

market segments of the food value chain (Quick Service Restaurants, Packaged Food and Beverage) as well as of companies in other countries.

B. Literature review

I. Main reasons for companies to publish sustainability commitments.

According to the literature, companies are following 3 main drivers to adopt environmental protection initiatives and thus disclose sustainability commitments: profitability, environmental policies and stakeholder pressure.

1. First driver is **profitability**, it might be **the first that companies voluntarily activated** in their sustainability journey. As stated by Hendry and Vesilind in 2005, "Many companies seek out green engineering opportunities solely on the basis of providing a means of **lowering expenses**, thereby increasing profitability." (Hendry et Vesilind 2005). But the impact can be more important for a company that just reducing Operational Expenditures. In a study assessing the financial performance of firms listed on the Johannesburg Stock Exchange (JSE), Dzomonda and Fatoki (2020) concluded that **financial performance** could be enhanced by environmental investments (Dzomonda et Fatoki 2020). Maite Cubas-Diaz et al. went a little bit further revealing that "companies with higher sustainability performance tend to have higher **credit ratings**" (2018), reducing the impact of financial debt to finance the company's future project (Cubas-Díaz et Martínez Sedano 2018). On a more general perspective, L. Loh and S. Tan (2020) revealed a positive correlation between sustainability reporting and **brand value**(Loh et Tan 2020).

2. Second driver identified in the literature is **environmental policies**. This driver is **maybe the first (in a chronological order)** which engaged companies into sustainability actions. If we consider the example of the French legislation, the imperial decree of the 15th of October of 1810, *"Décret relatif aux Manufactures et Ateliers qui répandent une odeur insalubre ou incommode"* (Decree relating to Manufactures and Workshop which spread an unhealthy or inconvenient odor) is implementing the first concept of Environmental Impact Assessment for some specific type of industrial sites before their construction. Azapagic in 2003, is still asserting that **"One of the main driving forces for this interest in corporate sustainability has been legislation"** and adds that this legislation "is increasingly being tailored towards promoting sustainable development"(Azapagic 2003). Later in 2010, Haugh and Talwar added **the voluntary instruments of law** to environmental legislation when they stated that "legislation, regulations and voluntary codes of practice, such as the United Nations Global Compact (UNGC), have added to the pressure for corporations to be seen as acting in a sustainable manner" (Haugh et Talwar 2010).

3. Third driver commonly described in the literature is **Stakholder pressure**. According to the Corporate Climate Responibility Monitor, "Companies are facing calls from **a growing range of stakeholders** to take responsibility for the impact of their activities"(CCRM 2022). Those stakeholders can be **internal** (investors, employees, customers, top management and founder's vision) **or external** ("regulators,

supply chain, media) as described by Haugh and Talwar in 2010(Haugh et Talwar 2010) or by Sandu et al. in 2014(*Linking local and global sustainability* 2014). Among those stakeholders, **customers** are today a major driver for companies to engage into sustainability actions. Indeed, as stated by Smith and Perks in 2010, as "customers become more aware of environmental issues, there is an increase in the demand for ecological products. This increased awareness of and sensitivity towards environmental issues places certain demands on business functions to become greener."(Azapagic et Perdan 2000) In addition, as synthetized in Naidoo and Gasparatos in 2018 (Naidoo et Gasparatos 2018), Azapagic and Perdan highlighted in 2000 **several factors related to stakeholder perceptions** that motivate companies to adopt voluntary sustainability strategies including: "(a) **possible reputational costs** associated with the social perception and image of a business, (b) **increased public awareness of environmental problems** and lobbying of various pressure groups, (c) increasing numbers of corporate shareholders with proven environmental and ethical credentials, and (d) preferential investment in environmentally and ethically responsible companies by large lenders". All those motivation have to be taken into account seriously and with transparency because the same authors also stated that "mandating fines for unsustainable practices is not enough to make companies change their practices, however, **being on a 'shame list'** that publicly identifies the worst polluters brings negative publicity and a potential loss of business that could cost much more than the financial penalty itself." This last threat refers both to not taking enough commitments and to not comply with the commitment taken by a company.

Some other drivers could be identified in the literature:

- " Further examples of internal and external opportunities to becoming green (both in the short- and long-term), include **good publicity,** achieving **competitive advantage**, increasing market share, reducing risks, entering into international markets and **attracting potential employees**". (Saha et Darnton 2005) (2005)
- "Furthermore, good environmental performance leads to **improved business resilience**, cost reduction across the value chain and **brand differentiation**" (Ferreira et al. 2019)

Those drivers can be analyzed one after another but should also be considered as **fully intertwined** since an example emphasizing an issue in one driver can also be analyzed through the perspective of another driver.

Before 2017, those drivers seemed to be already enough to encourage companies to publish Sustainability commitments as revealed by Jill M. D'Aquila in his article The Current State of Sustainability Reporting. "Although sustainability reporting in the United States is presently voluntary, **corporations have increased their reporting** on these issues. The Governance and Accountability Institute (GAI) reports that approximately 81% of S&P 500 companies issued a sustainability report in 2015, compared to less than 20% in 2011." (D'Aquila 2018). And this

figure also not only applying to US companies. Indeed, according to the 2011 KPMG survey of corporate responsibility reporting, **95% of the 250 largest corporations in the world** were publishing a sustainable development report (Boiral et Henri 2017).

In addition to those drivers, in many regions, **regulators are also now forcing companies to publish their sustainability commitments** through annual sustainability reports. Within Europe, the European Commission has required Europe-based companies to release a sustainability report in addition to their annual reports starting from the fiscal year 2017(Directive 2014/95/UE 2014). Likewise, in 2016, the Singapore Exchange introduced a new 'comply or explain' listing rule, whereby every listed issuer is expected to deliver a sustainability report annually, describing the organization's sustainability practices in accordance to the Listing Rules (*Singapore Exchange* 2016).

II. An increasing communication of companies about sustainability

Those drivers and an increasing environmental concern of customers make company communicate more and more about their sustainability commitments. Indeed, Corporate Social Responsibility (CSR) communication expenses have grown to become the third-largest budget item for corporate communication departments in large companies (Parguel, Benoît-Moreau, et Larceneux 2011). This increase in expenses can also be pulled by regulation. In 2022, India implemented a new regulation forcing major companies to spend a minimum of 2% of the average net profit made during the 3 immediately preceding financial year as per CSR policy (IndiaCode 2022).

From the customers point of view, this can lead to **2 negative effects**:

1. **Overwhelmed by all those commitments,** consumers can no longer follow, loose interest and become suspicious. Indeed, "the profusion of CSR claims, whether well-founded or not, creates difficulties for consumers who attempt to distinguish between truly virtuous firms and firms taking opportunistic advantage of sustainable development trends or, otherwise stated, between reputation and rhetoric"(Parguel, Benoît-Moreau, et Larceneux 2011)
2. Companies could take advantage of this new trend to **fall into greenwashing**. As stated in the Corporate Climate Responsibility Monitor, "the rapid acceleration of corporate climate pledges combined with the fragmentation of approaches means that it is more difficult than ever to distinguish between real climate leadership and unsubstantiated greenwashing" (CCRM 2022).

NGOs and sustainability ratings could act as firewall against greenwashing. Indeed, as stated by Ferreira et al (2019), "Greenwashing practices tend to decrease when companies experience greater scrutiny from external stakeholders such as regulators or NGO's"(Ferreira et al. 2019). Likewise, according to Parguel et al. (2011),

sustainability ratings “could act to deter “greenwashing” and encourage virtuous firms to persevere in their CSR practices” (Parguel, Benoît-Moreau, et Larceneux 2011).

III. How to make sure that those commitments transform into action?

Once established this risk of greenwashing, it seems legitimate to ask ourselves if all those disclosed commitments really transform into action and furthermore into results. Indeed, studies in the literature are presenting mixed results regarding the link between disclosure of sustainability commitments and the environmental performance of companies.

We find on the one hand studies which reveal positive correlations between environmental disclosures and environmental performance, (Giannarakis et al. 2017) is an example. On the other hand, other studies show opposite results. Clarkson et al. for instance revealed that “not only do firms with a higher pollution propensity disclose more environmental information; they also rely on disclosures that the GRI [Global reporting initiative] views as inherently more objective and verifiable” (Clarkson, Overell, et Chapple 2011). Each of the studies apply to specific sectors, but those results show that companies’ environmental disclosure cannot be taken for granted. In 2019, Saber and Weber recognized that **research on the consistency between published sustainable behavior and actual behavior is missing** and could be of great interest (Saber et Weber 2019).

This uncertain relation between sustainability commitments and actions pushes companies and external stakeholder to look for some tools allowing to increase transparency and reinforce the credibility of those commitments. Standardized sustainability frameworks and indicators are used to increase transparency. Third Parts Assurance of reports is used to increase credibility of the disclosed commitments.

i. Use of sustainability frameworks participates to increase transparency

Sustainability reporting frameworks exist and have been described in the literature. Ness et al. proposed in 2007 a general overview of sustainability assessment tools based on the temporal focus of the tool along with the object of focus of the tool (Ness et al. 2007).

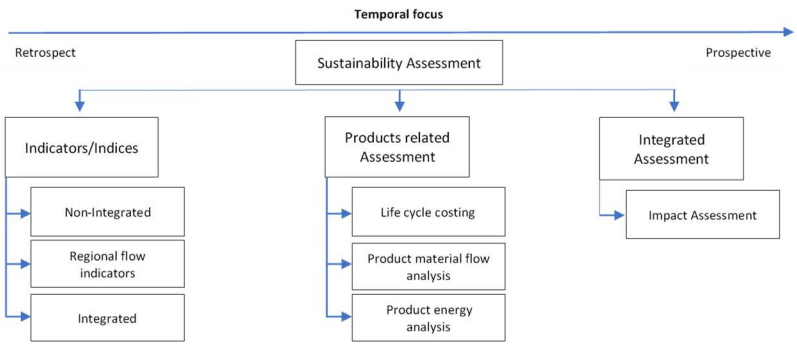


Figure 1: General Overview of sustainability assessment tools (Ness et al. 2007)

Sustainability indicators and reporting belong to the Indicator/Indices category.

Non-integrated indicators can be used to assess the environmental performance of a company. They are also expected to allow to assess if the company's commitments have been achieved or not. GRI indicators are the most commonly used integrated indicators by companies, but other standards such as SASB (Sustainability Accounting Standards Board), CDSB (Carbone Disclosure Standards Board) or IIRC (International Integrated Reporting Council) propose sets of indictors allowing to report sustainability performance.

Among the non-integrated indicators, we can also find the 232 UN SDGs indicators developed by United Nations in the continuity of the 17 Sustainable Development Goals which can be used both at national level and at company level.

GRI and UNSDGs are presented with more details in Appendix I. An example of GRI Indicator is presented in appendix V.

Integrated indicators should allow to compare one company's environmental performance with one another. They allow to score a company's environmental performance. In the context of this study, we encountered integrated indicators such as DJSI (Dow Jones Sustainability Index which gives a notation out of 100) or CDP (Carbon Disclosure Project which gives a notation from A to F, A being the best score).

CDP and DJSI are presented with more details in Appendix I.

Some **reporting frameworks** exist to help present and compare the results of those indicators (integrated or non-integrated). They allow to present sustainability results in a more transparent way for stakeholders. They aggregate indicators in a standardized, accessible and understandable framework.

Those tools can be whether public or private:

- **Publicly available reporting frameworks** such as he Plastic Economy Global Commitments of Ellen McArthur Foundation. Those reporting frameworks are used to make companies commitments more transparent and standardized and can be used to compare commitments. Most of those platforms are assessing a specific aspect of the environmental performance. CDP platform is focusing on emissions, water security and forests. PEGC is focusing on plastic packaging.
- **Private platforms** such as ECOVADIS or BCorporation. Those platforms are used on one side by companies to assess and reveal the environmental performances of their suppliers and on the other side by companies to make their environmental and social process more visible.

Those solutions are used by company to be more transparent on their commitments and doing so to give more credibility to their commitments.

The following figure is presenting how each of the main identified tools position themselves on the Ness et al. indicators framework.

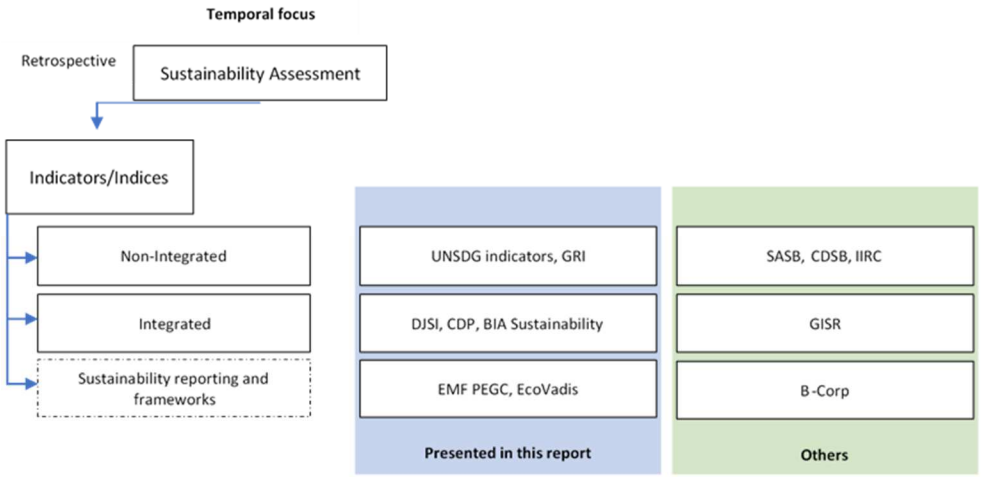


Figure 2: Main identified Sustainability assessment framework and position according to the Ness et. al indicators framework.

ii. Use of Third Parts Assurance to certify sustainability reports.

Assurance is another solution that companies can used to make the connection between commitments and behavior. Assurance is a third parts audit of the information provided in the Sustainability reports. As stated in the KPMG report, ‘‘as corporate responsibility reporting begins to play a larger role in the way stakeholders and investors perceive corporate value, companies should increasingly want to demonstrate the quality and reliability of their corporate responsibility data.’’ (KPMG 2013). In 2014, in a study assessing how Assurance was used by the retail sector in the UK, Jones et al. revealed that already 50% of the assessed companies are using external assurance statements in their reports (Jones, Hillier, et Comfort 2014). Yet, this principle of Sustainability Reports Assurance must be looked at carefully. Indeed, they further analyzed that “the nature, character and scope of the external assurance varies” (Jones, Hillier, et Comfort 2014), and hence has to be clearly defined to allow a proper analysis of the sustainability data.

We could verify in this study that the scope of the third-party assurance of sustainability reports is varying a lot from an auditor to another and from a report from another. The scope of the audit was always clearly presented in the sustainability reports.

IV. Comparing sustainability performance of companies

i. Reasons why it is interesting to try to compare sustainability commitments

The first reason why it is interesting to compare companies is that it can enhance **coordination and improvement of actors in a specific sector**. This is what is targeted by digital solutions such as *CLearFashion* for actors in the fashion industry and *Moralscore* for other sectors. Those digital applications are assessing companies' commitments in several categories and propose a global score which allows to position a company against its competitors. Used in this way, comparison seems to be a powerful tool to engage companies on the road to improvement since a company with a low score will try to improve its performance to "at least" disappear from the bottom of the ranking. The later solutions are scoring companies based on their commitments and in this sense can be compared to the BIA - Sustainability framework.

This comparison can be interesting for different stakeholders of the company. Indeed, when disclosing sustainability reporting, Companies' purpose is to reach their stakeholders and to **provide information** on their sustainability strategy and commitments. As explained earlier, those stakeholders are feeling more and more concerned about sustainability: investors want to protect their investments, customers want to make sure their buying to not contribute to damage the planet and future employees want to select a company in which they will be proud to work. **All those stakeholders can be interested in comparing sustainability performance of companies**.

Another reason why it is interesting to compare commitments is **to coordinate actions between national and local goals**. For instance, in 2015 the Paris Agreement engaged countries to propose reduction targets for their GHG emission, the so called Nationally Determined Contribution. Those targets are national commitments at macro-level. But each country needs companies to contribute to reach those goals, each of them disclosing local commitments at micro-level. In 2021, analyzing the decarbonation strategies of companies following the Paris Agreement, O. Malay revealed a "Misalignment between macro and micro level, but also lack of coordination among actors"(Malay 2021) which tends to show that some further efforts must be done for this coordination to be efficient. This analysis could be performed thanks to a comparison between NDC and companies' sustainability commitments.

Last, it can also be interesting **to compare a company's commitments against its own objectives**. Sullivan and Goudson stated in 2016 that "it is possible for those companies that have established robust data acquisition and management processes and that have maintained a reasonably consistent approach to reporting over a number of years (e.g. in terms of the scope, assumptions, calculation protocols) to assess trends in the company's performance and to assess the company's performance against its own objectives and targets" (Sullivan et Gouldson 2016).

ii. Comparison remain a very difficult exercise

In 2017, Boiral et al. decided to demonstrate whether it was possible or not to compare sustainability indicators. To do so, they compared the 12 sustainability reports of 12 Canadian mining companies. All those companies were using the same GRI (Global Reporting Initiatives) indicators and were rating A or A+ in their report presentation (A meaning they were using all GRI indicators and sub-indicators associated to their sector and A+ meaning that the results had been audited externally). In their conclusion, they stated that "The results of the study clearly demonstrate that it is impossible to measure and compare the sustainability performance disclosed in the analyzed GRI reports in a credible manner and to classify firms on this basis." (Boiral et Henri 2017).

They emphasized the following barriers:

- **Credibility of the provided information:** Different perspective on the sustainability reports can be adopted: functionalist, critic or postmodern (see appendix II for detail) each one of them asserting a different level of credibility on the disclosed information.
- **Measuring Unmeasurable and Unspecific Issues:** Many indicators are qualitative and thus, are difficult to compare. This apply to more than 50% of the GRI indicators, examples are indicators referring to biodiversity or to initiatives to mitigate environmental impacts of products and services. According to Boiral et al., this is "the most frequent barrier" (Boiral et Henri 2017).
- **Comparing Incomparable Measurements:** Even if GRI indicators intend to define measurable criteria that might eventually invite comparison, different measurement scales (unites, absolute figure or intensity, %,…) and different contexts in each organizations (size, location, social and cultural aspects,…) make them very difficult to compare.
- **Interpreting incomplete and ambiguous information:** "Evaluating and comparing sustainability performance indicators requires information to be available, clear, pertinent, and interpretable. In practice, these conditions are rarely met satisfactorily for several reasons: lack of data on many performance indicators, disclosure of ambiguous or incomplete information, and difficulty in giving meaning to, or interpreting, certain indicators."(Boiral et Henri 2017)
- **Analyzing Opaque and Self-Proclaimed Reports:** Sustainability reports are often hard to decipher and the differences in presentation and abundance of information and examples make comparison very tedious.

Those conclusions are shared by other authors:

- (Sivagnanasundaram 2018): "**It is important that all assessed companies are addressing all the dimensions of the sustainability index**, otherwise, it makes it difficult to make comparison."
- (Sullivan et Gouldson 2016): "it remains difficult to make robust comparisons between companies or to develop comprehensive long-term trend data for the sector as a whole. The reason is that **many of the companies have restated or revised their data over time** because of factors such as

improvements in their data gathering and acquisition processes, changes in emission factors and calculation protocols, and business changes."

V. The retail sector is following the same drivers… and falls into the same traps

i. Why is it so important that retailers engage in sustainability actions?

Retailers receive a specific attention from their customers and from NGOs for two main reasons:

- First, their **specific position as a gatekeeper between producers and consumers**. Indeed, retail sector is not only important because of its financial figures. It is also important because of its strategic position in the sales value chain. As described by Saber and Weber (2019), "Due to their significant position between producers and suppliers, retail companies can be seen as gatekeepers to both ensure a more sustainable way of production within their supply chain and to educate their customers toward more sustainable behavior" (Saber et Weber 2019).
- Second, the **importance of the retail sector in terms of GHG emissions**. Indeed, because of their position, it can be considered that most of the emissions associated with the food industry are "crossing their gates". In 2021, Tubiello et al. estimated that total GHG emissions from the food system were about 16 GT CO2eq yr−1 in 2018, or one-third of the global anthropogenic total (Tubiello et al. 2021). This assumption can be reinforced by the importance of their contribution to the global GDP. Indeed, the global retail sector is estimated to have achieved revenues of US$ 22.6 trillion in 2015, representing 31% of the global Gross Domestic Product (BusinessWire 2016). In 2020, the retail market reached a value of nearly $20,331.1 billion. It is expected to reach $29,446.2 billion in 2025 and $39,933.3 billion in 2030.

This specific position allows retailers to act in both ways:

- Toward the producer: retailers could put pressure on their supplier to engage them into sustainability actions.
- Toward the consumer: as mentioned by Lehner (2015), the store itself as a "point-of-interaction between retailers and consumers fulfils an important role in the process of achieving sustainable consumption" (Lehner 2015)

This position has been **identified and remarked by customers and NGOs** who "regard retailers as responsible for all activities in their supply chain" (Saber et Weber 2019). Yet, some studies tend to show that **it might not be the point of view of the companies themselves**. Indeed, Loh and Tan (2020), in their analysis of the sustainability reporting of 100 leading brands in Singapore, revealed that "Protection of [biodiversity]" was not identified as a material issue in any sector, even in the agriculture or construction sector, suggesting that companies often do

not want to assume any responsibility of the environmental conduct of their partners within the supply chain and as a result, they narrow the reporting boundary to their own operations" (Loh et Tan 2020).

In addition to this critical position in the value chain, **the retail sector is a highly concentrated one**. Being so concentrated, it allows all best practices to be transferred from one country to another, from one store to another. "Because of its broad reach, the retail sector has the potential to affect society in a way that not many other industries can." (Ferreira et al. 2019).

ii. Following the 3 drivers

If we consider more specifically the case of retail companies, literature provides many studies and analysis. Indeed, as any companies, **retailers are following the above-mentioned drivers**.

Retailers can **benefit from their sustainability commitments in their financial results.** Indeed, according to Schramm-Klein et al. (2015), retailers benefit from communication about sustainability activities as it affects both financial and non-monetary performance positively (Schramm-Klein, Morschett, et Swoboda 2015). Sustainability commitments and actions can affect both the top line and the bottom line of retailers' financial results:

- If we consider the example of the organic food market, "it has more than multiplied by seven in twenty years, exceeding € 112.3 billion1 in 2019", mainly in North America and in Europe (AGENCE BIO 2020). Hence, providing organic products to the customers is a way to protect and increase their revenue line for food retailers. Yet, some companies are presenting the expansion of their organic assortment as a sustainability commitment fully integrated in their sustainability strategy (ALDI 2019).
- Energy efficiency actions, by contributing directly to reduce operational expenditures are improving the bottom line. Indeed, as stated in an ASHRAE report in 2011, energy costs are typically the second highest operating expense for retailers, so implementing cost-effective energy saving strategies can have a direct and significant impact on profitability (Eric Bonnema, Matt Leach, and Shanti Pless 2013). Energy efficiency is presented by all assessed companies like a major sustainability commitment.

When it comes to **pressures coming from environmental policies**, Lai et al. (2010) describe the greater pressure exerted on retailers by environmental regulations to emphasize environmental protection in their operations and to embrace green practices throughout their value chains. They present several examples of penalties applied to North American retailers violating local environmental regulations. For instance, "in 2008, Home Depot agreed to pay a $1.3 million penalty and implement a nationwide comprehensive, corporate-wide program to prevent storm water pollution at each of its new store to resolve alleged violations of the Clean Water

Act at more than 30 construction sites in 28 states where new Home Depot stores were being built."(Lai, Cheng, et Tang 2010)

In another example, Lai et al. show that **this pressure is not only coming from** "order & control" type instruments of law such as legislations, but also from **voluntary instruments of law**. They explain: "community group pressures have fostered the adoption of [Green Retail]. B&Q, a British-based do-it-yourself retailer, was criticized by non-governmental organizations (NGOs) for its sourcing of tropical hardwood in the early 1990s. To resolve this crisis, B&Q shifted to purchase certified wood conforming to the requirements and standards of the Forest Stewardship Council (FSC), a non-profit organization devoted to encouraging responsible management of the world's forests."(Lai, Cheng, et Tang 2010)

Pressure from stakeholders is synthetized by Naidoo and Gasparatos (2018) when they declare "Pressure from customers, employees, government, media, investors, financial institutions, local communities and other interest/pressure groups can therefore encourage retailers to become more environmentally responsible" (Naidoo et Gasparatos 2018). Among all those stakeholders, **customers are considered today as the driver number** one by Deloite: "One of the biggest drivers behind the focus on the environment and social issues is the emergence of the 'responsible consumer'" (DELOITE 2022). And this pressure had already been received by CEOs of major retail companies. Stuart Rose, CEO of Marks & Spencer, declared in 2006, "Customers care more than ever how products are made"; Sir Terry Leahy, Chief Executive of Tesco, declared "We Must Go Green." This pressure has been translated into companies' sustainability strategies. Indeed, many retailers stated in their company mission or in their corporate sustainability strategy their intention to serve all their stakeholders:

- ***Ahold Delhaize:*** *"Ahold Delhaize is committed to supporting the well-being of the communities we serve and enabling a healthy, low-carbon food system that secures healthy and sustainable diets for future generations."*
- ***LIDL :*** *« En tant que détaillant durable, Lidl a une incidence positive sur ses collaborateurs, ses clients et la société »*

Lately, Ferreira et al. (2019) emphasized that regulation was put on top of the retailers' drivers in 2015 by the Paris Agreement: "The newfound international understanding regarding GHG emissions that arose from the Paris Agreement has signaled retailers that carbon regulation lies ahead, thus supporting the pursuit of voluntary environmental sustainability programs and standards as an anticipation of sustainability legislative changes. Other sustainability business drivers associated with climate change refer to concerns about rising energy prices (Christina et al., 2015), customers preference, sustainable growth and access to resources."(Ferreira et al. 2019)

iii. Falling into the same traps

As described above, retailers are following the same drivers but are also falling into the same traps.

In 2012, Roca and Searcy compared in a study the CSR commitments of companies in different sectors. They revealed that the retail sector was the one publishing the lowest number of indicators and they also underlined that companies in this sector were using a very large number of different indicators reveling “a lack of standards on reporting”(Roca et Searcy 2012). This analysis and other studies described **the retail sector as more complicated to analyze than other sectors** (Saber et Weber 2019; Roca et Searcy 2012).

In 2014, it was even considered that “the lack of a common and agreed methodology” made any **comparison between the UK food retail sector effectively impossible**. (Jones, Hillier, et Comfort 2014)

Today, the 5 assessed retailers in this study are disclosing from 50 (LIDL Belgium, AHOLD DELHAIZE Belgium) to more than 110 sustainability indicators (COLRUYT 136, CARREFOUR 111). This tendency seems to be recognized in the literature. Ferreira et al. for instance are considering in 2019 that “even though the retail sector may be recognized as a leader in CSR reporting (…), establishing comparisons within the sector remains hard.”(Ferreira et al. 2019) Indeed, this avalanche of indicators and commitments makes it hard to follow by the reader of their sustainability reports.

iv. Main indicators used in the retail industry

As presented in the previous paragraph, retailers are considered to report their sustainability information through a very large variety of indicators. Yet, a certain categorization can be identified in the literature according to the GRI framework. Indeed, Saber and Weber showed in 2019 that German retailers were using most of the GRI 300: Environmental Indicators (from 5/8 to 8/8) (Saber et Weber 2019). This result also applies to the 5 Belgian retailers analyzed in this report (3 out of 5 are explicitly using GRI indicators).

The following table is comparing the indicators used in several studies according to the GRI indicators:

	(Erol et al. 2009)	(WWF-India 2014 2014)	(Sivagnanasundaram 2018)	(Naidoo et Gasparatos 2018)	(Rahdari et al. 2020)
GRI Indicator					
301: Materials	- Product and Packaging Recovery	- Packaging	- Sustainable Product Packaging	-	- Product and packaging design and development - Product and packaging end-of-life stewardship
302: Energy	- Energy management and consumption - Renewable energy use	- Energy conservation	- Energy Management / Renewable Energy	- Energy management	- Energy
303: Water and effluents	- Water consumption	- Water conservation	- Water conservation	- Water conservation	- Water and wastewater - Chemicals and toxics
304: Biodiversity	-	- Biodiversity / Habitat conservation	-	-	-
305: Emissions	- Global Warming	- emission reduction	-	- GHG emissions reduction	- GHG emissions
306: Waste	- Waste Minimization	- Waste reduction and recycling	- Waste reduction / Minimization / Recycling	- Integrated waste management	- Waste and recycling
307: Environmental compliance	-	-	-	-	-
308: Supplier Environmental Assessment	- Logistic and transportation - Supply chain and supply management	- Supply Chain	- Supply Chain	- Sustainable sourcing - Certification - Take-back mechanisms - Transportation efficiency - Water conservation	-

Figure 3: Comparison between the indicators used in several studies according, GRI indicators and BIA Sustainability categories (highlighted in green).

Figures 3 reveals that most of the studies are focusing on the GRI indicators, except on GRI 304 and GRI 307. It also reveals that except for GRI 308, all the other GRI indicators are considered in the BIA - Sustainability framework.

But Many indicators that are not directly linked to GRI indicators are also used by retailers in their sustainability reports to describe their sustainability efforts. Hereunder are examples of indicators found in the literature:

	(Erol et al. 2009)	(WWF-India 2014 2014)	(Sivagnanasundaram 2018)	(Naidoo et Gasparatos 2018)	(Rahdari et al. 2020)
Other categories					
Policy and reporting	- Sustainability and environmental reporting system	- Presence of environmental policy - Environmental reporting - Environmental Management System	- Environment Policy / Reporting System	-	-
Products	-	- Sustainable products	-	-	- owned manufacturing/production
Other pollution	- Noise Pollution	-	-	-	-
Land	- Effective Land Use	-	-	-	-
Certification	- Ownership of certification	-	-	-	-
Infrastructures	-	- Green Buildings	-	-	-
Stakeholders engagement	-	-	-	- Customers engagement - Staff training - Shareholders/Investors relations	-
Climate Change adaptation	-	-	-	-	-
Relationship with other organizations	-	-	-	-	-
Reducing animal-based products	-	-	-	-	-

Figure 4: Example of indicators used in several studies according compared with the BIA Sustainability categories (highlighted in green).

Figure 4 shows that a large variety of other indicators are also analyzed in the studies covering many different categories.

3 of the categories analyzed by the BIA framework are not considered in any of the studies:

- Climate change adaptation: According to the authors of this frameworks, this category might be deleted from the BIA - Sustainability framework in the future.
- Relationship with other organization: This category is supposed to assess the transparency of the report (through the disclosure of links with other organization, of political donation, …).
- Reducing animal-based products: This category is focusing on how retailers are shifting from a product offer centered on a diet that has mainly become carnivorous to a vegan and vegetarian diet more respectful for environmental issues. **This new category is really emphasizing the role that the retailers can play in changing their customer's behaviors.**

Supply chain is considered in many of the assessed studies. It seems important at first sight since, as mentioned earlier, the retailers can be considered as responsible for what is happening in their supply chain. The GRI 308 is

not considered directly in the BIA - Sustainability framework, yet it is indirectly considered since it is asked in other categories if suppliers are involved in the commitments.

v. Comparison remains a subject of research

In 2020 a new attempt **to compare sustainability performance of retail companies** is presented in the literature. Using a model focusing on 4 different perspectives (Social, Economic, Environmental and Supply Chain) and applying this model to the disclosed commitments of 23 of the largest retailers worldwide, Rahdahari et al. could compare those companies' performance according to those different perspectives. Not only the SEES model allowed this comparison but it also revealed that **the environmental perspective and the supply chain perspective received the lowest attention**(Rahdari et al. 2020) **from retailers.** This later result tends to show that some further tool to assess how companies are doing on those 2 dimensions could be useful to enhance their sustainability performance in the future.

But this paper is not only interesting in its results but also in the comparison methodology that Rahdahari et al. are using. Indeed, the companies are not compared indicator by indicator but according to a global perspective (Social, Economic, Environmental and Supply Chain). Then, this methodology is using a scoring not only based on notations but also on maturity levels. The scoring, when used, is also harmonized so that each perspective obtains the same weighting (whatever the number of indicators, the maximum scoring is 100 in each perspective). Those insights will be used in the results analysis part of this study.

VI. Literature review conclusion

In this section, we analyzed the main drivers which engage companies to publish sustainability commitments and amongst those companies we could emphasize why it is so important to have a specific attention for retailers. We also reviewed the main tools used by companies to make the disclosure of their sustainability commitments transparent and credible. Last, we highlighted the reasons why it is so difficult to compare sustainability commitments.

Yet, this section also reveals that it remains useful to research **how to compare** companies' sustainability commitments and even more **retailers' sustainability commitments**. Indeed, comparison can push retailers to be more transparent on their sustainability practices, to transform their commitments into action and thus prevent greenwashing, and to improve their sustainability practices to appear in the top of the ratings (or to disappear from the bottom of the ratings…).

This takes us to our research question which is: **How can sustainability commitments of Belgian food retail companies best be compared using Business Impact Assessment (BIA) in order to enhance their sustainability commitments and practices?**

Our work in this report will **contribute to the research on CSER** through the application of a new sustainability framework purely covering environmental issues. This application will allow to understand what the environmental commitments of retailers are and how they cover different domains. This study will also confirm the difficulty to compare sustainability indicators and commitments from one company to another. It will finally complete the perspective proposed by Radhary et al. through a concrete application on the 5 major Belgian retailers.

In the following section, we will introduce the BIA-Sustainability framework which is the main topic of our analysis. Then we will implement the BIA - Sustainability framework in the case of the 5 major retailers in Belgium. We will first use the BIA - Sustainability framework as it was provided by Sciensano and use this implementation to emphasize how difficult it is to compare indicators' results and commitments from one company to another. Then we will propose a new presentation for the results of the BIA - Sustainability framework based on the insights from the literature review (harmonized domains perspective, scoring according to maturity level) and on highlighting best practices.

C. Material and Methods

In this section, we introduce the BIA - Sustainability framework and the methodology we used to implement this tool for the 5 major retailers in Belgium (AHOLD DELHAIZE, COLRUYT, CARREFOUR, ALDI and LIDL). Then, we introduce how we collected the data and the material we used for that. Last, we introduce the method used to analyze the results.

I. Presentation of the first version of the BIA – sustainability framework

The BIA - Sustainability framework was prepared by the International Network for Food and Obesity/NCDs Research Monitoring and Action Support (INFORMAS). This followed on from the BIA-Obesity which was initially prepared and then implemented in a range of countries over the period 2018-2020. In this project, Sciensano investigated how the food industry was contributing to the fight against obesity through the implementation of a BIA approach in Belgium and in France (SCIENSANO 2021). Then, it was decided to implement the same approach to investigate Sustainability commitments of food industry companies.

The BIA - Sustainability framework is aiming at assessing the sustainability commitments of food companies along 11 categories. In each of those categories, some indicators are set to evaluate how the company is taking it into consideration in is Environmental Strategy. Each of those 34 indicators (in total) are providing a certain number of points which sum, at the end of the assessment, is providing a company score for sustainability commitments.

The following table is presenting the 11 categories and the actual associated total number of points:

11 categories	**306 points**
Packaging	50
Energy Use	50
Water Discharge	80
Biodiversity	30
Emissions	30
Climate change and adaptation	10
Food loss and wastes	20
Environmental Compliance	6
Relationship with other organizations	-
Corporate sustainability strategy	12
Reducing animal-based products	18

Figure 5: 11 categories of the BIA - Sustainability framework and associated scoring

It is interesting to notice at this stage that the categories assessed by the BIA – Sustainability framework cover all the most important domains identified in the literature except one: Supply Chain. In the case of the BIA – Sustainability framework, commitments of the companies to act on their supply chain are treated indirectly since, for most of the indicators in many of the assessed domains, there are specific criteria referring to involvement of the supply chain ("Minimum one supplier commitment", see paragraph C. II).

It also must be mentioned that the category Relationship with other organizations is not scored in this version of the BIA – Sustainability framework. It was decided to mention this category in this paragraph but not to consider it in the section dedicated to the implementation of the BIA – Sustainability framework (section D).

The following table is presenting example of indicators in the category Emissions with the associated number of points:

Category: Emissions	**30 points**
Does the company and its suppliers **measure their greenhouse gas emissions?**	10
Does the company and its suppliers **measure the breakdown of greenhouse gas emissions**?	10
Does the company and its suppliers have **a commitment to avoiding and/or reducing their greenhouse gas emissions?**	10

Figure 6: BIA - Sustainability framework, the 3 indicators in the category Emissions and associated scoring

The BIA - Sustainability framework as it has been used in this report can be considered as a declarative solution. Indeed, the scoring of each indicator has been done based on information disclosed by companies in their sustainability reports.

In the initial version, the intention of the BIA - Sustainability framework was to compare and rank companies based on a single comprehensive score. Hence, it was first compared to other Integrated Indicators such CDP or DJSI. Yet, as we will see later in this study, it might be more interesting to shift the objective of this tool from ranking companies with an absolute comprehensive score to comparing their performance in different sustainability categories with a harmonized score for each category. Thus, it might be more interesting to set the BIA - Sustainability framework as a reporting framework such as PEGC or the EcoVadis platform.

II. Method used to assess the retailer's commitments

For each retailer, we considered the 34 indicators of the 11 categories of the BIA - Sustainability framework. It is important to describe at this stage how each indicator is scored, and we are going to introduce several examples for that.

For each indicator, the BIA - Sustainability framework is setting a list of criteria associated with a certain number of points. For each criterion, if information can be found in the sources, then it is possible to answer and decide to provide the associated points or not to the indicator. Once all the criteria have been reviewed, then the sum of the points is equal to the score for the indicator. The allocated number of points for each indicator has been proposed by ScienSano in the initial version of the tool.

Appendix III is presenting all the categories, indicators and criteria of the BIA - Sustainability framework with the associated score.

In each category, each indicator is aiming at describing a different type of commitment. There are **2 types of indicators**: indicators referring to disclose a Measurement and indicators referring to disclose a Commitment. Those 2 types of indicators have different and adapted sets of criteria which allow to assess the specificity, the comprehensiveness and the transparency of the commitment.

i. Measurement indicators

Those indicators are assessing if the company is committing to measure a specific quantity and to disclose its value. The following table is presenting an example of measurement indicator with the associated criteria and how we answered to each of those criteria.

In the following example, the assessed indicator is the first indicator in the category Energy use, it assesses whether a company is measuring its energy consumption or not.

Indicator's question is: Does the company and its suppliers measure their energy consumption?

BIA - Sustainability framework		**Answers for COLRUYT**	
Criterion	**Criterion Score**	**COLRUYT Answer**	**COLRUYT Score**
1: measurement of company	1	235,3 GWh [Only electricity, represents about 50% of the total energy consumed] 56,96 MWh/M€ (all energies)	1
1. measurement of minimum one supplier	1	-	0
2: annual (or more frequent) reporting	2	Figure presented in the annual sustainability report	2
2: report is publicly available	2	Report is available on internet.	2
2: using external reporting system (e.g., GRI)	2	"we have used footprint techniques such as PEF (Product Environmental Footprint) and OEF (Organization Environmental Footprint)"	2
2: audited externally	2	We do not express any form of assurance regarding the individual elements included in this non-financial information.	0

Figure 7: Criterion assessed for measurement indicators and application case for COLRUYT

To answer each of the criteria, the sources have been analyzed in order to find the proper information. Following the warnings presented in Jones et al. study (Jones, Hillier, et Comfort 2014), assurance statements must be read very carefully since it is not always clear or not whether a criterion has been audited or not.

In the previous example, COLRUYT's score for this indicator is 7/10

ii. Commitments indicators

Those indicators are assessing if the company is disclosing commitments on a specific issue. The following table is presenting an example of commitment indicator with the associated criteria and how we answered each of those criteria.

In the following example, the assessed indicator is the first indicator in the category Packaging, it assesses whether a company is committing to reduce packaging.

Indicator's question is: Does the company and its suppliers have a commitment to reducing packaging?

BIA - Sustainability framework		**Answers for COLRUYT**	
Criterion	**Criterion Score**	**COLRUYT Answer**	**COLRUYT Score**
company commitment	2	"Firstly, we want to make our offer (from products and packaging to services) more circular […] We apply the R ladder, i.e. Refuse, Rethink, Reduce, Reuse, Recircle, Recycle and Recover."	2
Minimum one supplier commitment	2	No	0
Publicly available commitment	4	Commitment can be found in the sustainability report.	2
Specific	4	No	0
Measurable	4	No	0
Time-bound	4	No	0

Figure 8: Criterion assessed for commitment indicators and application case for COLRUYT

To answer each of the criteria, the sources have been analyzed in order to find the proper information.

In the previous example, COLRUYT's score for this indicator is 4/20.

III. Materials used to collect and treat the data

For each of the assessed companies, the following sources have been used to identify and analyze sustainability commitments:

AHOLD DELHAIZE	Annual report 2020 (AHOLD DELHAIZE 2020) Rapport durabilité Delhaize 2019 (Belgique et Luxembourg)(DELHAIZE 2019) CDP – Delhaize – Climate Change 2021 (CDP Ahold Delhaize - Climate Change 2021) CDP – Delhaize – Forests 2020 (CDP Ahold Delhaize - Forests 2020) CDP – Delhaize – Water Security 2020 (CDP Ahold Delhaize - Water Security 2020)
LIDL	Rapport durabilité 2019 (Belgique et Luxembourg) (LIDL 2019)
COLRUYT	Annual report with sustainability reporting 2020/21 (COLRUYT 2021) CDP – Colruyt – Climate Change 2021 (CDP COLRUYT - Climate Change 2021) CDP – Colruyt – Forests 2021 (CDP COLRUYT - Forests 2021) CDP – Colruyt – Water Security 2021 (CDP COLRUYT - Water Security 2021)
ALDI	ALDI Nord Sustainability report 2019 (ALDI 2019) ALDI Nord Interim Report 2020 (ALDI 2020b)
CARREFOUR	Document d'Enregistrement Universel 2020(CARREFOUR 2020) CDP - Carrefour - Climate Change 2021 (CDP CARREFOUR - Climate Change 2021) CDP – Carrefour – Forests 2021 (CDP CARREFOUR - Forests 2021) CDP – Carrefour Water Security 2021 (CDP CARREFOUR - Water Security 2021)

Figure 9: Sources used to identify sustainability commitments of the 5 assessed retailers

A first lecture has been done of the annual reports and of the sustainability reports to identify and extract commitments. Then, when available, answers to Carbon Disclosure Project have provided more detailed information and figures.

An overall lecture of sustainability reports and of the websites of the 2 first assessed companies (AHOLD DELHAIZE and LIDL) was performed. It could be noticed that all the commitments found on the websites could be found as well in the sustainability reports which we can explain by the fact that the sustainability reports are the most important tool for the retailers to communicate with their stakeholders. Hence, we only focused on the sustainability reports for the 3 remaining companies.

In the cases of AHOLD DELHAIZE, we had both level of sustainability commitments: Group level and local level (Belgium and Luxembourg). We assumed that the Group Level commitments could be used as a basis for sustainability commitment at local level and that the local commitments would always be stronger than the global one. This assumption could only be "verified" in the following analysis on a sample of 2 indicators:

Group level commitment	National level commitment
Does the company and its suppliers have a commitment to reducing energy consumption?	
Reducing carbon emissions in our own operations The Ahold Delhaize brands continue to invest in energy efficiency, using the best available technologies to reduce energy consumption in stores and distribution centers. This effort includes reducing the energy usage of all lighting, heating and refrigeration.	**Thème :** Énergie utilisée dans nos magasins intégrés (KwH/m2) **Résultat 2019 :** 915 **Objectif 2020 :** 905
Does the company and its suppliers measure their breakdown of energy consumption based on renewable and non-renewable sources?	
"our brands will strengthen renewable energy procurement plans and increase energy production on site." % renewable electricity on total electricity consumed Results 2019 - 2020: 9% - 12% 2020 target: -	**Electricité verte (solaire, éoliennes, eau)** **Résultat 2019 :** 100% d'électricité vertes dans les magasins intégrés, centres de distributions et bureaux. De plus, nous avons installés 5820 panneaux solaires sur le toit de notre centre de distribution de Ninove. **Objectif 2020 : -**

Figure 10: Comparison between commitments at Group level and at National level (AHOLD DELHAIZE)

Hence, in this study we always relied for AHOLD DELHAIZE on the Group commitments except when we could refer to a stronger local commitment (for instance in the cases presented in the table above).

For all the companies, information about the scopes of external audit for indicators were found in the Assurance part of the reports.

Last, we engaged with the retailers to introduce the results of the implementation of the BIA Sustainability framework in their case. On the five assessed retailers 4 out of 5 answered this meeting request. Up to date, 3 out of 5 retailers provided us with their feedback. Those meeting allowed us to collect new information as well as to challenge the presentation of the results. Those presentations appeared to be very insightful and we recommend adding them as a second step of the implementation process.

Comment:

LIDL's 2021 sustainability report was released during the study. We chose to keep the 2019's commitment for LIDL but an update of the results will be prepared in paralleled of this report in the course of our exchanges with the different retailers to introduce our results and collect retailers' feedbacks.

IV. Implementation on the 5 major Belgian retailers

When this study begun, it was intended to implement the BIA - Sustainability frameworks on many companies all over 3 important segments of the food value chain: Packaged food and non-alcoholic beverage manufacturers, retailers/supermarket and Quick service restaurants.

Based on the importance of the retail sector and for all the reasons presented in the first section of this study, it was decided in coordination with Sciensano to implement the BIA - Sustainability framework first on the 5 major Belgian retailers.

The following table is presenting the main characteristics for each of the assessed companies:

	DELHAIZE	LIDL	COLRUYT	ALDI Nord	CARREFOUR
Ref. year	2020	2020	2020	2020	2020
Geographical perimeter	World / Europe (NL – Bel. – Lux. – Ro. – Serb. – Czc. – Gr.)	Bel. – Lux.	Bel. – Lux. – Fr.	Bel. – Lux. – Fr. – Dk. – Ger. – Pol. – Port. – Spain - NL	World
Net Sales	74,7 b€ / 29,3 b€	-	9,93 b€	24,2 b€	70,72 b€
Stores	7.137 / 5167	303	720	4,796	13048
Employees	414.000 / 175.000	8550	32.000	80,983	322 164

Table 1: Scopes and main figures of the 5 assessed retailers

AHOLD DELHAIZE, COLRUYT and CARREFOUR represent 66,5% of the food retail market share in 2020 (Charlotte Mikolajczak 2021). The five companies represent more than 80% of the food retail sector in Belgium.

D. Implementation of the BIA-Sustainability frameworks and results

In this section, we are going to implement the BIA - Sustainability frameworks on the 5 major retailers we selected for the analysis. Then, we will analyze the overall results and we ended with a series of critics. Following those critics, we will propose an adapted presentation for the results.

I. Implementation of the initial version of the BIA - Sustainability framework

The following section describes the results of the implementation of the BIA - Sustainability frameworks for each of the 11 categories.

i. Packaging

Here is a synthesis of the scores obtained by the 5 assessed companies in the packaging domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	37	41	33	39	45

In this category, 4 indicators are assessed, and the maximum reachable score is 50.

1. *Does the company and its suppliers have a commitment to **reducing packaging**?*

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	"Reduce the use of plastic and other packaging materials…" – Signatory of PEGC of H. McArthur foundation - 2025	10/20
LIDL	Total and/or virgin plastic packaging reduction target: 5% virgin reduction compared to 2018 - Reset Plastic (plastic strategy of the Schwartz Group) – Signatory of PEGC of H. McArthur foundation - 2025	18/20
COLRUYT	"Firstly, we want to make our offer (from products and packaging to services) more circular". "We apply the R ladder, i.e. Refuse, Rethink, Reduce, Reuse, Recircle, Recycle and Recover."	6/20
ALDI	Reduction of 15% of the total weight of own-brand packaging material at ALDI Nord (excluding fruit and vegetables) - proportional to sales – (2020-> 2025)	18/20
CARREFOUR	Économiser 10 000 tonnes d'emballages d'ici 2025 (en tonnes) - Signatory of Ellen Mac Artur Foundation	18/20

Regarding this indicator, we have 3 categories of commitments:

1. **Commitment is explicit, publicly available, specific, measurable and time bounded.** This is the case for example of ALDI who commits in its interim sustainability report 2020 (ALDI 2020b) (publicly available), to reduce by 15% (specific) the total weight of its own-brand packaging material (proportional to sales) (measurable) by 2025 (baseline 2020) (time bounded).

Such a commitments provides **a score of 18/20**. CARREFOUR (CARREFOUR 2020) and LIDL (LIDL 2019) reveal similar commitments.

2. **Commitment is explicit, publicly available and (implicitly) time bounded.** DELHAIZE is committing to "reduce the use of plastic and other packaging"(AHOLD DELHAIZE 2020). Being signatory of the New Plastic Economy Global Commitment led by Ellen Mac Arthur, DELHAIZE implicitly commits to deliver results by 2025.
   Such a commitment provides **a score of 10/20**.
3. **Commitment is explicit and publicly available.** In his annual report, COLRUYT commits to "apply the R ladder, i.e. Refuse, Rethink, Reduce, Reuse, Re-circle, Recycle and Recover." (COLRUYT 2021)
   Such a commitment provides **a score of 6 points.**

None of the assessed company is revealing commitments engaging at least 1 supplier to reduce packaging. This is the reason why the best score is never reached.

Note: Being signatory of the Plastic Economy Global Commitment, many additional information on AHOLD DELHAIZE, LIDL and CARREFOUR's commitments on packaging can be found on the Ellen McArthur Foundation website (https://ellenmacarthurfoundation.org/global-commitment/overview).

2. Does the company and its suppliers have a commitment to prioritizing the use of recycled materials in their packaging?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	Own-brand plastic product packaging, by 2025: 25% made from postconsumer recycled content.	9/10
LIDL	D'ici 2018, 100 % du carton des emballages primaires et secondaires des achats nationaux sera durable (produit fabriqué à partir de fibres de bois recyclées et/ou certifiées FSC et/ou PEFC.).	5/10
COLRUYT	By 2025 we want to make all plastic packaging for our private label drinks at least 50% from recycled plastic (rPET)	9/10
ALDI	30% recycled content in own-brand plastic packaging by 2025 - 20% less virgin plastic in own-brand packaging by 2025	9/10
CARREFOUR	30 % d'intégration de plastique recyclé dans les emballages d'ici 2025 ;	9/10

All the assessed companies make **explicit, publicly available, specific, measurable and time bounded commitments.**

Yet, for this indicator, we have 2 different types of commitments:

- LIDL: commitment is focusing on sustainable material, including use of recycled materials for packaging. Hence, we can consider that the commitment is not specific nor measurable according to the use of recycled material. LIDL scores 5/10.

- AHOLD DELHAIZE, COLRUYT, ALDI and CARREFOUR: commitments is focusing on the use of recycled material (resp. 25% from postconsumer recycled content, 50% from recycled rPET, 30% recycled plastic). Those 3 companies score 9/10.

Thus, the description must be very specific on which part of the commitment is targeted by the indicator and the user of the BUA sustainability shall be very cautious on the fact that the commitment is answering this target: in this case, the commitment must allow to calculate the percentage of recycled material targeted by the company.

No suppliers seem to be involved in this commitment.

It is also interesting to notice that the scopes of each commitments are different:

- AHOLD DELHAIZE - ALDI: commitment is applying to all **own-brand** and **plastic** packaging.
- COLRUYT: commitment is applying to **own-brand drinks** and **plastic** packaging.
- CARREFOUR: **all plastic packaging**.

This remark highlights a first difficulty when it comes to compare the commitments one with another.

3. *Does the company and its suppliers have a commitment to prioritizing the use of **renewable sources in their packaging**?*

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	Own-brand plastic product packaging, by 2025: 100% being reusable, recyclable or compostable.	**9/10**
LIDL	D'ici 2025, 100 % d'emballages recyclables pour nos produits de marques propres. – Politique nationale économie circulaire	**9/10**
COLRUYT	By 2025 we want all household packaging for our private label products to be reusable, recyclable, compostable or biodegradable.	**9/10**
ALDI	100% of own-brand packaging at ALDI Nord to be recyclable, compostable or reusable by end of 2025	**9/10**
CARREFOUR	100 % d'emballages réutilisables, recyclables ou compostables en 2025 pour les marques de Carrefour	**9/10**

For this indicator, all the assessed companies reveal **explicit, publicly available, specific, measurable and time bounded commitments.** But none of them reveal commitment to engage suppliers in this target. Hence, they all get a score of 9/10.

Commitments are very similar (100% - own brand packaging – 2025) but contain 2 subtill differences:

- They refer to different targets: "plastic product packaging" or "all packaging". But does it really make a difference since the main issue comes from plastic packaging?
- They do not use the same vocabulary to describe targeted sources: from "Recyclable" to "Reusable, recyclable or compostable" or even to "Reusable, recyclable, compostable or biodegradable".

Note: This indicator may be clarified in its description. Indeed, at first lecture it a not obvious what "renewable sources" meant. Thus, it could be useful to complete the description of the indicator explaining that "any sources that make the packaging easier to recycle, reuse or that make the packaging biodegradable can be considered as "renewable sources"."

4. *Does the company and its suppliers have a commitment to locally **relevant recovery pathways for packaging**?*

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	"In 2020, we generated 1,090 thousand tons of waste, of which 79% was recycled, 8% was incinerated and transformed into energy and 13% was sent to landfill facilities. We just missed our 2020 target of 80% of total waste recycled."	9/10
LIDL	D'ici 2020, 95 % de tri sélectif de tous les flux de déchets.	9/10
COLRUYT	We set ourselves the ambitious goal of achieving a recycling rate of at least 85% by 2021, thus incinerating a maximum of 15% (with heat recovery).	9/10
ALDI	In waste management, we follow the five-step waste hierarchy: prevention, reuse, recycling, other recovery, and disposal. […] Materials that cannot be recycled are disposed of in waste incineration plants.	3/10
CARREFOUR	« Le Groupe a pour objectif de prévenir la production de déchets et de valoriser 100 % des déchets de ses hypermarchés et supermarchés d'ici à 2025 ». – Local valorization projects.	9/10

Most of the companies are addressing the issue of "locally relevant recovery pathways" focusing on recycling their wastes and targeting a percentage of recycled wastes. CARREFOUR is going further starting projects and initiatives on biogas and is proposing example of supermarkets where 100% of wastes are locally valorized. Those companies get a score of 9/10. ALDI is the only company which is not providing a clear target and get a score of 3/10.

Note: At first lecture, the definition of this indicator didn't appear to be very clear and several interpretations could be done, from a very strict lecture where all companies scored 0/10 except CARREFOUR who score 3/10 to the scoring presented in this paragraph. The authors of the BIA - Sustainability framework clarified the intention of this indicator and confirmed that any "locally relevant recovery pathway" could be considered in this indicator. Hence, we recommend clarifying this indicator just adding examples to its description: *"Does the company and its suppliers have a commitment to locally relevant recovery pathways for packaging (waste recycling, local valorization, production of biogas, …)?".*

ii. Energy

Here is a synthesis of the scores obtained by the 5 assessed companies in the packaging domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	34	16	41	24	27

In this category, 4 indicators are assessed, and the maximum reachable score is 50.

For this category, we decided to apply a hard lecture of the word energy, meaning all sources of final energy (not only electricity). This implies that:

- For indicators 1, 2 and 3, if a company is only considering one type of energy, then the indicator can't get the highest score.
- For indicator 4, if the company is considering at least one of the final energies' source in its commitment, then it is enough to comply with the indicator's target (and thus to get the highest score).

1. *Does the company and its suppliers **measure their energy consumption**?*

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	6 651 GWh (Global company)	7/10
LIDL	"Obtenir chaque année le certificat ISO 50001 pour la gestion de l'énergie."	5/10
COLRUYT	235,3 GWh (Electricity only) _ 56,96 MWh/M€ (all energies)	7/10
ALDI	Direct: 752,981 MWh in 2020 + Indirect: 1,166,308 MWh (=1 925,3 GWh)	9/10
CARREFOUR	4946GWh in 2020	9/10

For this indicator, retailers do not have to reveal commitments but show that they are measuring their energy consumption.

Except for LIDL, all companies are revealing an absolute figure. COLRUYT is only revealing part of their energy consumption since they only reveal the absolute consumption electricity. Nevertheless, as they reveal their energy intensity, it is possible to assess their global energy consumption.

LIDL is relying on its ISO 50001 certification to show that they regularly measure their energy consumption and that this measure is audited externally. They only get a score of 5 since we consider that the report is not publicly available (the absolute figure is not accessible) and we can't assess if they use an external reporting system such as GRI 302.

Then, except for LIDL, they all get scores between 7 (depending on the absolute value being based on GRI indicator or being externally audited) and 9 (since no commitment to measure energy consumption of suppliers is revealed).

The importance of the absolute figure is not in its absolute value *per se*, but in the fact that it states a starting point allowing to assess a potential reduction in the future. Indeed, it is not possible to compare those absolute figures since the 5 assessed companies do not have the same size, nor the same scopes of activities.

2. *Does the company and its suppliers have a commitment to **reducing energy consumption**?*

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	No clear intention but show an objective of reduction of energy intensity (kWH/m2) => -1,1% vs 2019	18/20
LIDL	Yes (assumption is made that it is included in ISO 50001 certification) – Reveal results in reduction of energy intensity (kWh/m2).	2/20
COLRUYT	Reduction of energy intensity => -20% by 2030	18/20
ALDI	"wherever we operate, we aim to steadily reduce the amount of energy and resources we consume. »	6/20
CARREFOUR	Pour cela, Carrefour s'engage sur les axes de travail suivants : réduire la consommation d'énergie	6/20

All companies are claiming that they are taking actions to reduce energy consumption:

- COLRUYT and AHOLD DELHAIZE are announcing explicit, specific, measurable and time bounded targets, they get a score of 18/20.
- ALDI and Carrefour are announcing their intention to reduce their energy consumption, they get a score of 6/20.
- We assume that LIDL is committing to reduce energy consumption through its ISO 50001 certification. Yet, LIDL is not announcing any targets or intention and gets a score of 2/20.

Note:

1. This indicator must be analyzed considering the business model of the retail companies which is relying on growth, *ie* more stores, more products sold, more energy consumption. The only way to reduce energy consumption is to reduce energy intensity faster than company is growing. If we look at COLRUYT for instance, which has the highest commitment, the financial growth is +10% between 2017 and 2021 (4 years) … **Despite all efforts, energy consumption will increase.** Similar remarks can be found in the literature for instance in Ferreira et al.: "Despite consistent reductions in retailers' energy and carbon intensities over time, a rebound effect is apparent, as the total GHG emissions of the sector are still increasing, due mainly to business growth, as hypothesized earlier by Sullivan and Gouldson (2013). While current growth is based on more stores (and sales) for each retailer, with increasing pressure on

building and logistics' GHG emissions, a low-carbon future growth may imply an expansion of online shopping, an increase of local produce and more efficient, greener logistics. GHG emissions can also be reduced by eliminating food waste; the promotion of a circular economy with zero food waste is a trend advocated by many retailers, several of them participating in coalitions such as the Food Waste Reduction Alliance (Walmart, 2018) (BSR - Business for Social Responsibility, 2011)." (Ferreira et al. 2019). **Hence, it is important to reward differently a company committing to reduce its energy intensity from a company committing to reduce its absolute energy consumption.**

2. This indicator takes us to asking ourselves if the scores of AHOLD DELHAIZE and COLRUYT should be equivalents. Indeed, both companies commit to reduce their energy consumption but with very different ambitions (resp. -1,1% year on year and -20% by 2030). At first lecture, it is difficult to conclude about a lack of ambition of AHOLD DELHAIZE. Indeed, a small target for the future could indicate an important effort already done in the past. We could be tempted to introduce the energy intensity of each company and set it as a starting point for comparison. But as revealed in this report, it is very hard to compare energy intensity based on disclosed data. **This remark emphasizes the fact that it is important at this stage to assess the commitment and not its ambition.**
3. This indicator is an example where we took into consideration the objective of AHOLDE DELHAIZE Belgium. Indeed, AHOLD DELHAIZE Group doesn't have any target regarding energy consumption reduction when AHOLD DELHAIZE Belgium is revealing one.
4. It appears that CARREFOUR doesn't directly commit to reduce its energy consumption (and it penalizes it). Yet, as revealed in (Sullivan et Gouldson 2016), it can also show that CARREFOUR is in a more advanced phase for its sustainability commitments, having already phased away from Energy Efficiency commitments to pure GHG emissions commitments (including energy consumption reduction).

3. *Does the company and its suppliers measure their **breakdown of energy consumption based on renewable and non-renewable sources**?*

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	Only addresses electricity consumption: 12% (Global) – 100% (Belgium)	0/10
LIDL	Only addresses electricity consumption: "% d'énergie renouvelable de production propre par rapport à la consommation annuelle totale: 6,95% en 2018"	0/10
COLRUYT	% Energy consumption from non-fossil fuels => 44,7% (100% electricity)	9/10
ALDI	Only addresses electricity consumption: ALDI Belgium, ALDI Netherlands and ALDI Spain have begun fully sourcing their electricity from green sources.	0/10
CARREFOUR	0,5% at Group level announced in CDP Climate report	9/10

All company consider their consumption of renewable energy (as a percentage or as a quantity). But the provided information doesn't always allow to estimate the global breakdown of energy consumption based on renewable and non-renewable energy.

We found different categories of answers:

- AHOLD DELHAIZE and ALDI Nord (Belgium) are providing the percentage of renewable electricity they consume (resp. 12% and 100%). But they don't provide any information on the renewable percentage of the rest of their energy consumption. Hence, it is not possible to calculate the breakdown of energy consumption based on renewable and non-renewable energy consumption.
- LIDL is providing the percentage of renewable energy that they produce and consume. This information is not precise enough to determine the expected breakdown.
- COLRUYT and CARREFOUR are providing a precise breakdown based on renewable and non-renewable energy consumption (resp. 44,7% and 0,5%).

As mentioned earlier, we apply a strict lecture of the word "energy", meaning that if the breakdown measured by a company does not cover all energies, then the indicator will be considered equal to 0/10. Hence, CARREFOUR and COLRUYT both get a score of 9/10. AHOLD DELHAIZE, LIDL and ALDI get a score of 0/10.

4. Does the company and its suppliers have a commitment to sourcing its energy from renewable sources?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	"100% d'électricité vertes dans les magasins intégrés, centres de distributions et bureaux"	9/10
LIDL	D'ici 2020, consommation de 12,5 % d'énergie issue de notre propre énergie renouvelable.	9/10
COLRUYT	% Energy consumption from non-fossil fuels => target: 60% by 2030	9/10
ALDI	"we are therefore currently planning to purchase more green power by 2021" – Belgium=100%	9/10
CARREFOUR	"augmenter la part des énergies renouvelables dans la consommation énergétique,"	3/10

All companies except CARREFOUR are announcing explicit, specific, measurable and time-bounded targets (if we consider that targets can already be reached like in the case of AHOLD DELHAIZE or ALDI). They get a score of 9/10.

Carrefour announces its intention to increase its sourcing from renewable sources as a part of its commitment to reduce CO2 emissions and gets a score of 3/10.

Note:

- Some commitments/actions of COLRUYT are not explicitly seen by the grid but deserve to be mentioned:
  - "By 2030, we aim to achieve 90% synchronization between our electricity production and energy requirements at the central sites in Halle, Ollignies and Ghislenghien."
  - Production of green hydrogen
  - "We have 44 fossil fuel-free stores that use no fuel oil or natural gas. The stores are heated using only residual heat and green electricity."

- Finally, by 2030, we want 100% of our non-fossil energy to come from our own or local production units.

- LIDL's commitment to source 12,5% of its energy from its own renewable production sources by 2020 seems bold. Maybe should we consider adding an indicator focusing on the renewable auto-consumption targets of the companies. Indeed, as long as the company is producing its own renewable energy, it shouldn't be a problem if the absolute energy consumption is increasing.

Comparing commitments: Energy intensity

4 of the assessed companies are providing absolute figures, making it possible to calculate an energy intensity in MWh/M€:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Year	**2020**	**-**	**2020**	**2020**	**2020**
Energy consumption	6 561 GWh	-	-	1 925,3 GWh	4 946 GWh
Turnover	74,7 mds€	-	9,93 mds€	24,2 mds€	78'6 mds€
Energy Intensity (MWh/M€)	**87,8**	**-**	**56,96**	**79,6**	**62,9**
Energy Intensity disclosed in reports (kWh/m2)	770	34,9	-	-	-

Table 2: Calculation and comparison of energy intensity for 4 retailers disclosing energy measurements (MWh/M€)

This calculation reveals important differences in the energy intensity (+50% between COLRUYT and AHOLD DELHAIZE) that cannot be precisely investigated in this study (lack of precise description of the scopes and of the quality of the collected data).

Some companies also reveal energy intensity per m2 of sales area. But very different figures are provided since AHOLD DELHAIZE for instance is announcing 770 kWh/m2 in 2020 when LIDL Belgium is announcing 34,9kWh/m2 in 2018. Again, those differences couldn't be explained in this study.

iii. Water consumption

Here is a synthesis of the scores obtained by the 5 assessed companies in the Water consumption domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	7	0	27	13	23

In this category, 8 indicators are assessed, and the maximum reachable score is 80.

Comment: Definition on main terms

For this category, it seems important to define the main terms used to set the indicators in order to obtain a robust notation.

The following table is presenting several definitions found in the literature describing water withdrawals and water consumption.

Term	Water Underground Blog	OECD	GRI
Water withdrawals	**Water withdrawal** describes the total amount of water withdrawn from a surface water or groundwater source. Measurements of this withdrawn water help evaluate demands from domestic, industrial and agricultural users.	**Water withdrawals,** or water abstractions, are defined as freshwater taken from ground or surface water sources, either permanently or temporarily, and conveyed to a place of use. If the water is returned to a surface water source, abstraction of the same water by the downstream user is counted again in compiling total abstractions: this may lead to double counting. (…) This indicator is measured in m3 per capita (a cubic meter is the equivalent of one thousand 1-liter bottles).	Total **water withdrawal** the sum of all water drawn into the boundaries of the organization from all sources for any use over the course of the reporting period. Note: Sources of water withdrawal can include surface water, ground water, rainwater, and municipal water supply
Source	https://blogs.agu.org/waterunderground/	https://data.oecd.org/water/water-withdrawals.htm	GRI-303

Figure 11: Main definitions for Water withdrawals

Only one definition for water consumption could be found:

- **Water consumption** is the portion of the withdrawn water permanently lost from its source. This water is no longer available because it evaporated, got transpired or used by plants, or was consumed by people or livestock. Irrigation is by far the largest water consumer. Globally irrigated agriculture accounts for 70% of the total water used and almost 50% is lost either by evaporation or transpiration. Source : https://blogs.agu.org/waterunderground/

In the assessed sustainability reports as well as in the CDP Water Security questionnaire, it is not always very clear if those definitions are correctly applied since sometimes water withdrawal is called water consumption and reverse. Nevertheless, in our analysis, we will use the above-mentioned definitions for water withdrawals and will consider that, in the case of retailers, water consumption is the difference between water withdrawals and water discharge.

Does the company and its suppliers measure their water withdrawal?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	7,237,000 m3 in 2020 (Global Group) – Referred to as water consumption in CDP Water Security questionnaire and in the annual report	7/10
LIDL	-	0/10
COLRUYT	Detailed water consumption (623220 m3 in 2020), inc. groundwater (8,9%) – Referred to as water consumption	7/10
ALDI	857,642 m3 in 2020 – referred to as water consumption	5/10
CARREFOUR	12996 ML in 2020 - referred to as water withdrawal in the CDP Water questionnaire and as "quantité d'eau consommée" in their annual report.	8/10

Different interpretations of the term withdrawals are done by the assessed companies in their reports. COLRUYT is for instance providing figures about consumption of water coming from the ground (what we consider to be withdrawals) when CARREFOUR is referring to withdrawals for any consumed water (coming from the ground or coming from water networks). Following the definitions presented in the beginning of this section, we consider that all the companies providing figures are revealing their water withdrawals. The differences in the score come from the disclosure of an external audit or of the use of GRI indicator or from the involvement of a suppliers in the indicator.

Does the company and its suppliers have a commitment to reducing water withdrawal?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	% Rainwater and wastewater => 50% by 2025	9/10
ALDI	-	0/10
CARREFOUR	-	6/10

CARREFOUR and COLRUYT are committing to reduce water withdrawal (or water consumption depending on the vocabulary they use in their documentation). COLRUYT sets a target to favor reuse of rainwater and wastewater in their stores (50% by 2025) and gets a score of 9/10. CARREFOUR only commits to reduce their water consumption and gets a score of 6/10. All the other assessed companies get a score of 0/10.

Does the company and its suppliers measure their water withdrawal from areas of water stress?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	Commitment to implement audits of 70% of volume from high water risk countries	1/10
ALDI	-	0/10
CARREFOUR	Over-all, 20% of our sites are located in high water-stress areas and 12% in extremely high water-stress areas – WRI Aqueduct tool	3/10

Only COLRUYT and CARREFOUR are considering water-stress areas and respectively get a score of 1/10 and 3/10 for this indicator. None of them is clearly measuring, but both are taking initiatives to consider specifically those areas:

- COLRUYT is intending to deploy water audits on 70% of volume from high water risk countries.
- CARREFOUR is not explicitly measuring water withdrawal but is considering separately water consumption in water-stress areas.

Does the company and its suppliers have a commitment to reducing water withdrawal from areas of water stress?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	-	0/10
ALDI	-	0/10
CARREFOUR	Carrefour's policy is focused on promoting responsible water use with the ambition to re-duce water consumption, especially for sites located in water stress areas.	3/10

Only CARREFOUR is revealing a specific commitment “for sites located in water stress areas” and get a score of 3/10 (explicit, regularly and publicly reported).

Does the company and its suppliers measure their water consumption?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	-	0/10
ALDI	-	0/10
CARREFOUR	Withdrawals can then be considered equal to discharges, and water consumption is equal to 0.	3/10

Only CARREFOUR is considering separately water consumption and water withdrawal. We consider they measure their water consumption, even if CARREFOUR is considering that this consumption is equal to 0.

Does the company and its suppliers have a commitment to reducing their water consumption?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	Circular water management is key here. In practice this means making more efficient use of water on our sites, for example by optimizing installations. Using the right type of water for the right purpose, for instance not using drinking quality water when this is not necessary. Treating, then reusing wastewater. Collecting and using as much rainwater as possible, treated or not. Buffering surplus rainwater or letting it soak away into the groundwater. The ultimate aim: to close the water loop.	3/10
ALDI	-	0/10
CARREFOUR	-	0/10

Only COLRUYT is referring to reducing the water consumption of their store and is presenting solutions to do so. Yet, the target is not specific nor explicit.

All the other companies, when referring to reducing water consumption are in fact referring to reducing water withdrawal (see paragraph dedicated to water withdrawal reduction).

Does the company and its suppliers measure the quality of their water discharge?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	Water is also included in our ecological footprint analysis. This analysis enables us to identify hotspots which we want to improve. For water, these include eutrophication and ecotoxicity.	1/10
ALDI	“In 2020, we therefore adopted the parameters for wastewater and sludge testing of the international ‘Zero Discharge of Hazardous Chemicals’ (ZDHC) initiative.” – “During production of all our products, we also check compliance with the limit values in the wastewater and sludge analysis, as well as in the final product.” – ALDI Detox Commitment 2020	8/10
CARREFOUR	-	0/10

COLRUYT is announcing a very vague commitment. CARREFOUR is committing to measure water discharge quality but only in some specific countries, not for the whole Groupe. Hence, they do not get points at this stage.

ALDI is revealing many information about water discharge quality measurement through their Detox Commitment (ALDI 2020a).

Does the company and its suppliers have a commitment to ensuring that any water discharge has been treated appropriately?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	Finally, we focus on purification of rainwater and wastewater into rinse or drinking water (commitment doesn't focus on "any water discharge").	0/10
ALDI	-	0/10
CARREFOUR	Given the nature of their business, stores do not produce heavily polluted wastewater. Nevertheless, wastewater treatment and recycling systems have been introduced in some countries.	0/10

3 companies are mentioning the issue of water discharge in their documentation. But all the provided information is not precise enough to be considered as commitments. Hence, all companies get a score of 0 in this category.

Comparing commitments: Water Intensity

	DELHAIZE	LIDL	COLRUYT	ALDI Nord	CARREFOUR
Year	**2020**	**-**	**2020**	**2020**	**2020**
Water consumption	7,237,000 m3	-	623.220 m3	822.000 m3	12996 ML
Sales	74,7 mds€	-	6.3 mds€*	24,2 mds€	78'6 mds€
Water Intensity (m3/M€)	**97**	**-**	**74**	**35**	**165**

(*) retail food Belgium and Luxembourg – annual report p31

Table 3: Calculation of water intensity for the 4 retailers disclosing water withdrawals (m3/M€)

At first sight, this attempt of comparing Water Intensity (in m3/M€ sales) do not seem to be relevant. Indeed, the difference is too important between ALDI Nord and CARREFOUR for instance and would need to be further analyzed.

iv. Biodiversity

Here is a synthesis of the scores obtained by the 5 assessed companies in the packaging domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	10	10	11	10	20

In this category, 3 indicators are assessed, and the maximum reachable score is 30.

Does the company and its suppliers measure their impact on biodiversity?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	Impact on biodiversity is included in ECOSCORE	1/10
ALDI	-	0/10
CARREFOUR	-	0/10

COLRUYT is deploying a new packaging indicator called EcoScore which is taking into consideration labels and consequence for biodiversity. However, information on how the EcoScore is established are very scarce. Hence, COLRUYT gets a score of 1/10 for announcing a sort of measurement of the impact on biodiversity of some of the products they sell in Belgium.

No commitments could be found for the other assessed companies, they get a score of 0/10.

*Does the company and its suppliers have a commitment to **reducing the negative impact of activities, products, and services on biodiversity?***

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	General statement: "Address climate change… [and] promote biodiversity" + **Product Certifications**	10/10
LIDL	**Product certifications** + "D'ici 2017 mise en place de la politique de réduction des pesticides dans les fruits et légumes frais. »	10/10
COLRUYT	**Product certifications** and associated targets	10/10
ALDI	**Product certifications**	10/10
CARREFOUR	**Product certifications** + Plan Abeille in all countries + Building certifications	10/10

Several types of commitments regarding biodiversity could be found in the different sources from the different retailers. Only one seems to be taken into account by all the companies: sourcing of labeled commodities (MSC for fish products, PEFC for forest product, …). It was indeed considered that this effort was contributing to reduce the impact of the retailers' activity on the biodiversity. Some targets in % are associated with this commitment.

Yet, some companies are pushing their commitments to reduce their impact on biodiversity further:

- CARREFOUR is deploying a very large and convincing communication on how they consider many aspects of biodiversity in their day-to-day business. For instance, they engage all their supplier to participate into the "food transition" taking into consideration many factors, one of them being biodiversity. They also commit to reduce the impacts of all their building on biodiversity. On this topic, they propose actions such as environmental certification, insects and birds' niches and integration of vegetation in projects.
- LIDL is also proposing an additional commitment which deserve to be noted. They engage their suppliers in reducing the use of pesticide by applying very strict thresholds: "for a product to end up in the shelves of LIDL, it has to contain less than one third of the authorized Maximum Residue Level per active substance of a pesticide". Since 2017, LIDL is also applying additional measurement (counting the number of active substances for instance).
- ALDI is the only company to refer to" invasive species" in its Annual report, committing to comply with "European and national legal regulations, such as the EU regulation on invasive species".
- Many of the retailers are also disclosing commitments to increase their range of organic products which is also contributing to reduce their impact on biodiversity.

Those additional commitments are hidden by the score of 10/10 already obtained through the targets on labels and certifications of products sold.

Does the company and its suppliers have a commitment to protecting and restoring habitats?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	-	0/10
ALDI	-	0/10
CARREFOUR	Déploiement d'un plan d'actions Forêts durables sur les produits liés à la déforestation d'ici fin 2025	10/10

Only CARREFOUR is proposing strong commitments on protecting forest through the deployment of an action plan dedicated to sustainable forest. Those commitments cover many products commonly involving deforestation like beef, soy or cacao products. All those products are addressed through specific, measurable and time bounded indicators.

v. Emissions

Here is a synthesis of the scores obtained by the 5 assessed companies in this domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	30	30	16	24	30

In this category, 3 different commitments are assessed: measurement of emissions and its breakdown, reduction of emissions. The maximum reachable score is 30.

Does the company and its suppliers measure their greenhouse gas emissions?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	3,035 kT CO2eq (Scope 1 et 2) – 70,800 kT CO2eq (scope 3)	10/10
LIDL	62 kT CO2eq (Scope 1 and 2 + Part of Scope 3) – 884 kT CO2eq (inc. purchased goods, *ie* not full scope 3)	10/10
COLRUYT	Scope 1 and 2 => 120 kT CO2eq + intensity of emissions per € revenue	9/10
ALDI	Scope 1 (251,868 T CO2eq) - Scope 2 (347,930 T CO2eq; 199,972 T CO2eq)	8/10
CARREFOUR	Émissions GES (scope 1+2) : 1663797 T CO2eq in 2020 + 97 % sont situées dans le scope 3	10/10

All companies are counting their GHG emissions using CO2eq units. Scope 1 and 2 are always covered, scope 3 is not addressed with the same level of precision by all companies (precision and scope).

All companies obtain a score higher than 8/10 for this indicator.

Does the company and its suppliers measure the breakdown of greenhouse gas emissions?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	Scope 1 and 2 – Scope 3	10/10
LIDL	Scope 1 and 2	10/10
COLRUYT	Description of categories – Analysis on specific aspects (fuel, refrigerants, …) but no measurement	0/10
ALDI	Scope 1 and 2	7/10
CARREFOUR	ÉMISSIONS TOTALES DE GES SCOPES 1, 2 & 3	10/10

All companies are revealing a breakdown of their GHG emissions, but only 4 of them is really providing figures and percentage about this breakdown. Scope 3 is not always considered in the breakdown.

Does the company and its suppliers have a commitment to avoiding and/or reducing their greenhouse gas emissions?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	Scope 1 and 2 => -50% absolute emissions (2018 -> 2030) - Scope 3 => -15% (2018 -> 2030)	10/10
LIDL	Scope 1 and 2 => -20% absolute emissions (2015 -> 2025) – "Scope 3"-10% (2015 -> 2025) (only specific aspects) and -36% emission intensity (2017 -> 2030)	10/10
COLRUYT	Scope 1 and 2 => -40% on intensity (2008 -> 2030)	9/10
ALDI	Scope 1 and 2 => -40% (2015 -> 2021)	9/10
CARREFOUR	Scope 1 and 2 => -30% by 2030 and -55% by 2040 absolute emissions (2019 ->) – Scope 3 => -29% (2019->2030)	10/10

All the companies are announcing commitments to reduce their GHG emissions (absolute emissions or emission intensity) on scope 1 and 2. AHOLD DELHAIZE, LIDL and CARREFOUR are pushing their commitment to scope 3.

Comparing commitments: Emission intensity, emission breakdown and emission reduction targets

Emissions intensity

As all the companies are providing absolute figures, emission intensity can be calculated in CO2eq/M€ on scope 1 and 2.

	DELHAIZE	**LIDL**	**COLRUYT**	**ALDI**	**CARREFOUR**
Year	**2020**	**-**	**2020**	**2020**	**2020**
CO2 emissions (Scope 1 – 2)	3.035 kT CO2eq	62 kT CO2eq	120 kT CO2eq	546 kT CO2eq	1664 kT CO2eq
Turnover	74,7 mds€	-	9,93 mds€	24,2 mds€	78'6 mds€
Energy Intensity (T CO2eq/M€)	**40,6**		**12,1**	**22,6**	**21,2**

Table 4: Calculation and comparison of emissions intensity for 4 of the 5 assessed retailers (T CO2eq/M€)

Those figures should be further investigated to understand better the x4 factor between ALDI and DELHAIZE and should also be interpreted in regard with historical evolution.

Emission breakdown

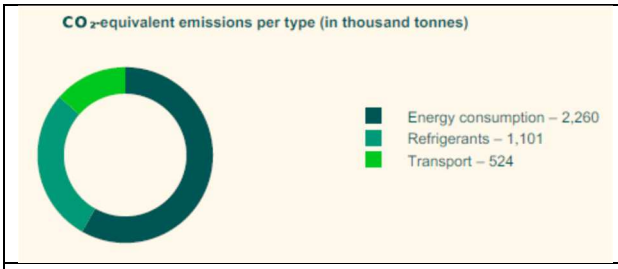
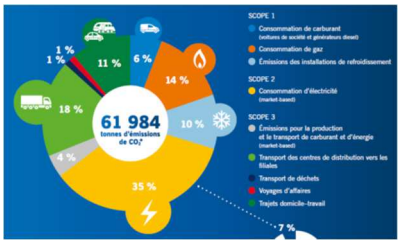
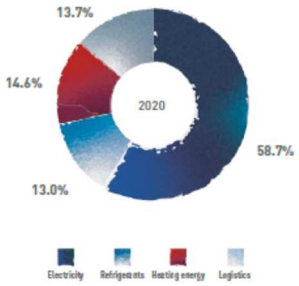
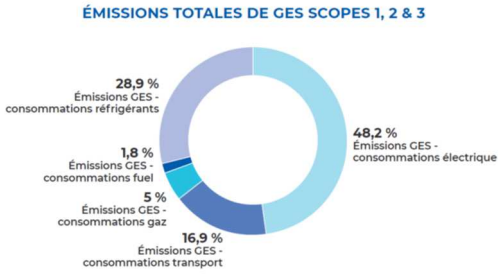
	
AHOLD DELHAIZE	**LIDL**
	
ALDI	**CARREFOUR**

Table 5: comparison of energy consumption breakdown for 4 of the assessed companies (%)

The breakdown revealed by AHOLD DELHAIZE, LIDL, ALDI and CARREFOUR always put energy at the first position for GHG emissions. Then come emissions associated with refrigerant fluids leakage and last transports.

LIDL is placing transport in second position; this is because the breakdown considers part of the Scope 3 emissions. This reveals that scopes of the data must be analyzed precisely before considering comparing indicators.

Emission reduction target

This indicator is probably among the ones that allow comparison from one company to another, but several parameters should be considered to compare those commitments:

1. **Is the target focusing on absolute emissions or on energy intensity?** Indeed, in the later situation, then the target could be reached while absolute emissions would still be increasing.
2. **Reference year** must be taken into consideration. An earlier reference date could represent a bolder commitment if this one is focusing on absolute emissions. The absolute emissions of the reference year must be clearly revealed as well.
3. **Targeted year:** Most of the commitments are targeting results in 2030 since it is a year which is clearly referred to in EU emissions target.
4. **Targeted reduction:** The higher the figure, the most important the effort will have to be.

5. **Historical data.** This last parameter could be added to the BIA Sustainability grid to reveal the past evolution of the emissions and to materialize the ambition of the target. An ambitious target could reveal to be a very small one if the emissions had strongly increased just before reference year!

Here is an analysis of the provided information by the 5 assessed companies:

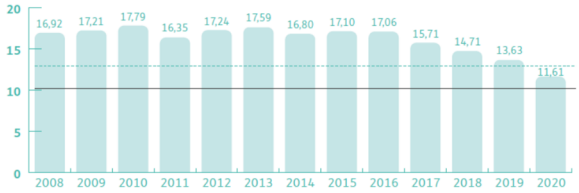
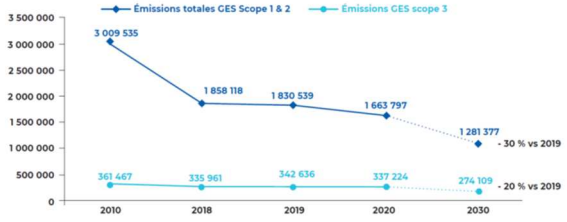
 	Performance indicator description	2020	2019	2030 target
---	---	---	---
Absolute CO_2-equivalent emissions from own operations (scope 1 and 2) (thousand tonnes)	3,035	3,593	1,814
% reduction in absolute CO_2-equivalent emissions from own operations (scope 1 and 2)[1]	17%	2%	50%		**Ahold Delhaize:** - Reference year: 2018 - Reference year emissions can be calculated (3828 kT CO2eq) - Target: -50% in 2030 - **Ongoing results seem to be in line with announced target**
 	**LIDL:** - Reference year: 2015 - Reference year emissions are clearly expressed (37,4 kT CO2eq) - Target: -20% in 2025 - **+9,23% since reference year!**
 	**COLRUYT** - Reference year: 2008 - Reference year emissions intensity is clearly expressed (16,92 T CO2eq/M€) - Target: -40% in 2030 - **Ongoing results seem to be in line with announced target**
 		2018			2019			2020		
---	---	---	---	---	---	---	---	---	---
	Scope 1[1]	Scope 2[2] "location-based"	Scope 2[2] "market-based"	Scope 1[1]	Scope 2[2] "location-based"	Scope 2[2] "market-based"	Scope 1[1]	Scope 2[2] "location-based"	Scope 2[2] "market-based"
Belgium/Luxembourg[3]	37,445	16,200	22,312	34,338	17,093	17,136	35,055	20,424	–
Denmark	9,297	8,784	15,472	8,849	7,153	16,208	7,434	8,128	16,243
Germany	114,111	209,197	194,088	108,556	195,358[4]	203,716[4]	109,476	198,196	140,970
France	67,738	10,948	10,499	56,316[4]	15,344[4]	11,658[4]	49,954	13,222	9,325
Netherlands	25,961	41,730	126	28,867	45,964	120	26,248	44,716	106
Poland	8,727	19,253	18,558	7,138	22,986	24,603	7,694	24,475	28,754
Portugal	3,455	5,674	5,711	2,857[4]	7,675	5,316	2,398	6,958	4,576
Spain	8,376	26,202	169	11,295	31,621[4]	57[4]	13,609	31,811	–
ALDI Nord	**275,110**	**337,988**	**268,935**	**258,216**	**343,194**	**278,814**	**251,868**	**347,930**	**199,972**		**ALDI Nord** - Reference year: 2015 - Reference year emissions are not provided - Target: -40% in 2021 - **Report is announcing a -31% reduction in 2020.**
 	**CARREFOUR** - Reference year: 2019 - Reference year emissions are clearly expressed (1831 kT CO2eq) - Target: -30% in 2030 - **Ongoing results seem to be in line with announced target**

Table 6: Analysis of ongoing emissions reduction according to reduction target

This kind of analysis could help to reveal the credibility of the commitment and hence could participate to assess the overall credibility of the sustainability report. A similar exercise could be done to assess if previous targets have been reached. Indeed, since emissions data have been disclosed for many years now, enough data could be collected to do so.

vi. Climate change adaption

Only one indicator is assessed in this category counting for 10 points.

Does the company have a commitment to protecting farmers and growers in their supply chain against the effects of climate change?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	-	0/10
COLRUYT	-	0/10
ALDI	-	0/10
CARREFOUR	Développer des solutions de financement pour faciliter la transition : Carrefour a mis en place différents systèmes de financement afin d'accompagner les producteurs dans leur transition vers des pratiques plus respectueuses de la santé et de la nature. L'enjeu pour Carrefour est de faciliter la transition alimentaire au travers de partenariats gagnant-gagnant avec ses fournisseurs.	5/10

Very few information could be found in the different sources about how companies are helping their suppliers to adapt to climate change. Indeed, can we consider that favoring the supply of local and organic products is helping farmers and growers in their adaptation to climate change (AHOLD DELHAIZE, CARREFOUR, ALDI)? It is likewise unclear if committing to pay descent price can be considered as a commitment to help suppliers in their adaptation.

CARREFOUR is the only one to clearly propose financing solutions to help their supplier in their transition. This commitment could be measured through the total amount of money spent for those financing solutions.

Note: Should we consider that it is the responsibility of the retailer to help their supplier adapt to the climate change? The authors of the BIA - Sustainability framework are considering getting rid of this category in a future version of the framework.

vii. Food loss and waste

Here is a synthesis of the scores obtained by the 5 assessed companies in the packaging domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	19	16	15	6	19

In this category, 2 different commitments are assessed: measurement and reduction of food loss and wastes. The maximum reachable score is 20.

Clarification about what is considered as food loss and wastes in the retail industry: It appears from our analysis of 5 retailers sustainability reports that Food Loss and Wastes is considered to be the unsold food. Depending on the retailer, the commitments will consider all unsold foods or only part of it (fresh and frozen for instance). Then, it will focus on reducing the amount of this unsold food, on reducing the amount of non-valorized unsold food or both.

As an example, the following table provides 2 definition of food loss and wastes. Definition are very similar in scope (the whole supply chain) but differ in the targeted food (edible and inedible parts in the FLW Protocol – edible parts for ALDI).

Source	Definition
FLW Protocol	Food and/or associated inedible parts removed from the food supply chain.
ALDI	Any food intended for human consumption that is lost, discarded or degraded at any stage of the food chain is considered food loss or waste.

Figure 12: Main definitions encountered for Food Loss and Wastes

Does the company measure food loss and waste in their supply chain?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	Tons of food waste per food sales (T/M€): 4.53 in 2020	9/10
LIDL	"Dans nos magasins, nous mettons un terme au gaspillage alimentaire. - % de réduction de déchets organiques/chiffre d'affaires alimentaire. » - No figure (absolute or intensity)	7/10
COLRUYT	"We managed to sell 97,33% of our fresh and frozen products." But no figure (absolute or intensity)	5/10
ALDI	No specific information on food loss quantity	0/10
CARREFOUR	28,7 % de réduction du gaspillage alimentaire en 2020 par rapport à 2016.	9/10

Not all the companies are providing figures about their food loss and wastes and when they do it, then the figure can be expressed as a food loss and waste intensity (AHOLD DELHAIZE), a percentage of the fresh and frozen products sold (COLRUYT) or a percentage of reduction of food loss and wastes (CARREFOUR).

Use of an external reporting system and/or external audit of results explain differences between 9/10, 7/10 and 5/10.

Does the company have a commitment to reducing food loss and waste in their supply chain?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	New target: -50% (2016->2030) – 10x20x30 initiative	10/10
LIDL	Réduire le gaspillage alimentaire de 25 % d'ici fin 2020 et de 50 % d'ici fin 2025 par rapport à 2015 - (T/M€)	9/10
COLRUYT	% Food waste to incineration and fermentation: Maximum 60% by 2023	10/10
ALDI	"REDUCTION OF FOOD LOSS: OUR GOALS" - Guideline for the prevention of Food Losses and Food Wastes	6/10
CARREFOUR	Carrefour partage l'objectif du Consumer Goods Forum (CGF) de réduire de 50 % ses déchets alimentaires en 2025, par rapport à 2016	10/10

CARREFOUR and AHOLD DELHAIZE are announcing clear targets aligned on the SDG 12.3 objective and involving at least one of their suppliers. They both refer to the FLW protocol(FLWProtocol 2016) established by the Consumer Goods Forum.

COLRUYT is focusing its efforts on reducing the amount of food wastes send to incineration.

LIDL is focusing on reducing FLW from their organic products range only. Their indicator is focusing on unsold and ungiven food (*ie*, is considering recycled and disposed organic food). Their ambition is to reduce by 50% their food loss intensity, yet their reporting reveal that they increased it by +5,73% between 2015 and 2018.

ALDI's commitment is focusing on the valorization of unsold food. It is not directly targeting at reducing Food Loss and Wastes, but instead at "integrating 100% of all stores in partnerships to reduce food wastes by end of 2021". Hence, even if it is only focusing on 1 specific stage of the food loss pyramid, it is measurable and time bounded.

All the companies are clearly considering "higher in the hierarchy" the reduction of food loss and wastes. Their objectives and targets can focus on lower stage of the FLW pyramid, but they all have at some points commitments to reduce unsold food (optimal supply chain and reduced price of goods before expiration date).

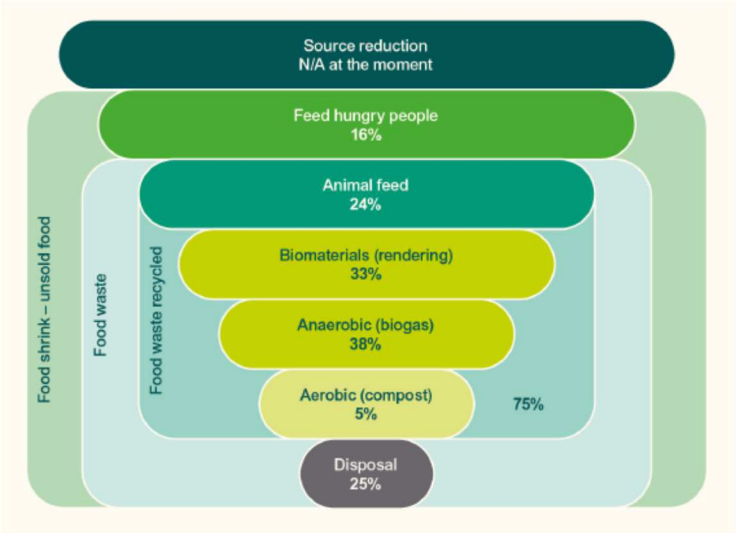


Figure 13 : Example of food loss pyramid as described by AHOLD DELHAIZE in their 2020 sustainability report.

viii. Environmental compliance

Environmental compliance is assessed in the BIA sustainability through 1 indicator counting for 6 points.

Here is a synthesis of the scores obtained by the 5 assessed companies in this domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	2	2	2	2	2

Has the company disclosed significant fines or non-monetary sanctions for non-compliance with environmental laws and regulations?

No declaration on fines or non-monetary sanctions could be found for any of the 5 assessed retailers, no fines either could be identified. Hence, they all get a score of 2/6 on this indicator.

Note: Scoring of this indicator is confusing since getting a fine and revealing it can provide more points than not having any fine. Maybe allocated points for revealing a fine (whereas it is public declaration or declaration of national level activity) should be negative…

ix. Corporate sustainability strategy

Here is a synthesis of the scores obtained by the 5 assessed companies in this domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	8	8	8	8	8

This category is assessing the overall sustainability strategy through 2 indicators counting for 12 points.

Does the company have an overarching commitment to reducing environmental impact articulated in strategic documents (e.g., mission statement, strategies, or overarching policies)?

Here is a synthesis of the vision/strategies/mission (“raison d’être”) identified in the different sources for each of the assessed companies:

Ahold Delhaize	“Ahold Delhaize is committed to supporting the well-being of the communities we serve and enabling a healthy, low-carbon food system that secures healthy and sustainable diets for future generations.”	6/6
LIDL	« Notre vision de la durabilité : En tant que détaillant durable, Lidl a une incidence positive sur ses collaborateurs, ses clients et la société. »	6/6
COLRUYT	Our ambition: To be a reference point for sustainable entrepreneurship and a source of inspiration for conscious Consumption	6/6

ALDI	Our CRQA Strategy standardizes the overall goals of the ALDI companies. It clearly focuses on our customers and is built on three pillars. 1 By making social and environmental standards an integral part of our business processes, we contribute to the future success of ALDI Nord. 2 With sustainable procurement and comprehensive transparency along our value chain, we can secure our supply chains and protect our reputation. 3 Our clear customer focus in all CRQA measures opens up new market opportunities and sets us apart from our competitors.	6/6
CARREFOUR	Raison d'être : « Notre mission est de proposer à nos clients des services, des produits et une alimentation de qualité et accessibles à tous à travers l'ensemble des canaux de distribution. Grâce à la compétence de nos collaborateurs, à une démarche responsable et pluriculturelle, à notre ancrage dans les territoires et à notre capacité d'adaptation aux modes de production et de consommation, nous avons pour ambition d'être leader de la transition alimentaire pour tous. »	6/6

All the assessed companies have such a vision, a mission, which encompasses all the sustainability commitments described in the other categories.

Note:

- This indicator is also assessing if the overarching commitment has specific objectives and measurables targets. We have considered that those objectives and targets are described in all the other categories for all the assessed companies.
- Maybe this category should come in first position since it is the starting point for most of the category assessed in the BIA sustainability.

Does the company have a commitment to screening new suppliers using environmental criteria?

Here is a synthesis of the vision/strategies/mission ("raison d'être") identified in the different sources for each of the assessed companies:

Ahold Delhaize	"In 2020, we updated our climate strategy and announced science-based climate targets for 2030 that halve carbon emissions from our own operations compared to 2018 and that also aim to reduce emissions from the overall value chain by 15%. To achieve the new targets, we will accelerate investments in renewable energy and energy efficiency, improve refrigeration systems, move further toward low-carbon distribution and logistics systems and **engage suppliers**."	2/6
LIDL	« Nous encourageons nos fournisseurs à accroître leur durabilité et les aidons à y parvenir. »	2/6
COLRUYT	Sustainable purchasing policy: we expect sustainability efforts from our suppliers and adopt a company position on sustainability in purchasing.	2/6
ALDI	"We work closely with our suppliers and are in constant contact to support them in implementing our sustainability requirements and improving sustainable production".	2/6
CARREFOUR	« Le Groupe Carrefour, qui travaille avec des milliers de fournisseurs dans le monde, s'attache ainsi à évaluer les risques présents sur ses chaînes d'approvisionnement, à évaluer la conformité sociale et environnementale de ses fournisseurs, ainsi qu'à promouvoir de meilleures pratiques RSE tout au long de sa chaîne de valeur. » « Carrefour accompagne également ses fournisseurs pour améliorer les performances RSE au sein de la chaîne d'approvisionnement en dehors de son périmètre direct. Tous les fournisseurs doivent évaluer leurs fournisseurs de rang 1 identifiés comme à risque (rang 2 pour Carrefour) sur des critères sociaux et environnementaux à l'aide d'une grille/outil fournie par Carrefour. Carrefour a en effet développé un standard d'audit simplifié permettant de s'assurer de l'absence de risques sociaux et environnementaux pour l'ensemble des fournisseurs de rang 2. »	2/6

This indicator assesses how the retail companies are screening their new suppliers with environmental criteria's. None of the companies reveal specific objectives and measurables targets applying to the screening of new suppliers.

x. Reducing animal-based products

Here is a synthesis of the scores obtained by the 5 assessed companies in this domain:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	0	10	0	16	8

This category is assessing how companies are committing to reduce the presence of animal-based products on their shelves through 2 indicators counting for 18 points.

Does the company measure the percentage of animal-based products in their product range?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/8
LIDL	Only considering the turnover generated by sales of vegetarian products.	0/8
COLRUYT	-	0/8
ALDI	Number of listed food and non-food own-brand products labelled as vegetarian and/or vegan from the standard and special-buy product ranges - Project ongoing. 633 products in 2020; +27.4% compared to the previous year.	6/8
CARREFOUR	Carrefour accompagne également la montée en puissance des régimes alimentaires moins carnés (flexitariens, végétariens, etc.), en développant sa gamme Carrefour Veggie de produits végétariens sans colorant, sans arôme artificiel et sans OGM. En 2020, Carrefour Veggie a ainsi proposé 8 nouvelles références simili-carne, qui portent à 70 le nombre de références certifiées V-label européen de sa gamme.	6/8

None of the assessed companies are measuring the percentage of animal-based products in their product range. CARREFOUR and ALDI are counting the number of their own-brand products with vegetarian or vegan certifications. LIDL is measuring the turnover generated by sales of vegetarian and vegan products.

Note: We considered at this stage that measuring the percentage of animal-based products is equivalent to counting the number of non-animal-based products (*ie* vegan or vegetarian products) sold.

Supermarkets: Does the company have a commitment to expanding and/or promoting the range of meat-alternative protein products?

Here is a synthesis of the commitments identified in the different sources for each of the assessed companies:

Ahold Delhaize	-	0/10
LIDL	Croissance annuelle de 10 % du chiffre d'affaires des produits végétariens et végétaliens.	10/10
COLRUYT	-	0/10
ALDI	Expanding vegetarian and vegan assortment – "In Belgium as well as Luxembourg, for example, the respective national goal is a total of 30 per cent increase of vegetarian products over the previous year by the end of 2020."	10/10
CARREFOUR	« Développer l'offre de produits bio et végétariens »	2/10

No commitments could be found for AHOLD DELHAIZE and COLRUYT sustainability reports regarding this indicator.

CARREFOUR is mentioning the fact they intend to develop their offer of organic and vegetarian products, but it is not formulated in a specific, measurable or time bounded way.

LIDL and ADLI are explicitly committing to expend their vegan and vegetarian sales in 2 different ways: LIDL is committing to increase its turnover associated with those products when ALDI is committing to expand the number of different products in the vegan and vegetarian products range. They both get a score of 10 on this indicator for those commitments.

II. Discussion

In this chapter, we are going to make a positive critic of the results obtained in the previous chapter. We will then assess how a new presentation of the BIA - Sustainability framework results can become a response to some of those critics.

i. Global results: validation and comments

Global results

Once all the criteria have been assessed, the results can be presented as a global score. The first implementation of the BIA – Sustainability framework didn't propose any weighting of the different categories. Hence, some of them could allocate a huge number of points when some other important as well could only allocate a small number of points. Hence, the results of each category were harmonized on 100 points and the maximum number of points for the 10 scored categories grew from 306 to 1000.

Hereunder are presented the scores obtained by the 5 assessed companies:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Scoring	479	483	447	474	629

The contribution of the harmonized score of each category to this global score is presented in the following figure:

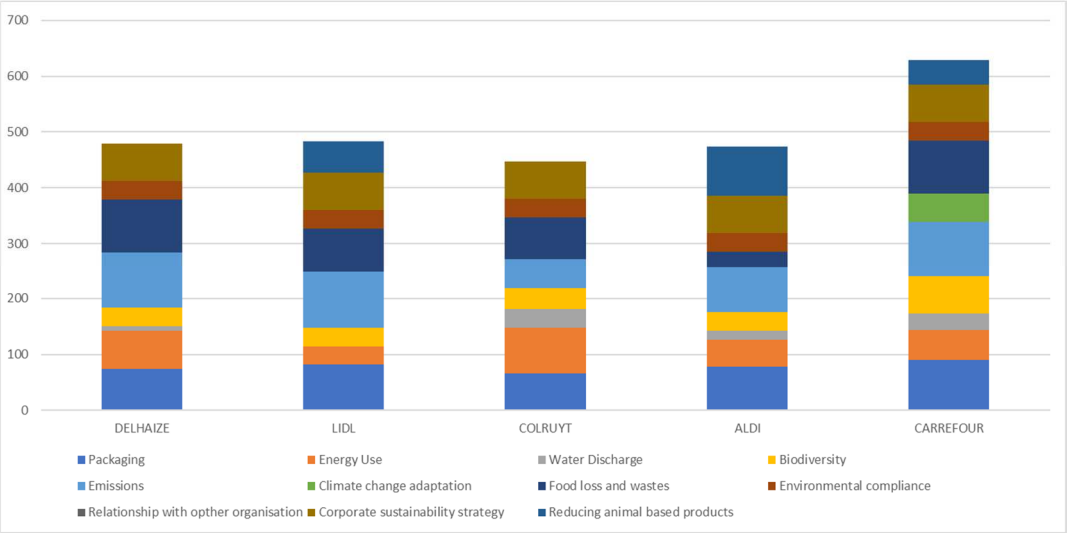


Figure 14: Global results of the implementation of the BIA - Sustainability framework and contribution of each category to the results

Using a harmonized scoring emphasized better the participation of all the categories to the global score. For instance, the score of CARREFOUR in the category Climate change adaptation could hardly be seen in a figure without harmonized scoring.

Comparing BIA – Sustainability framework results with other integrated indicators

First, it can be interesting to assess if the BIA - Sustainability framework scoring is relevant comparing to other existing integrated indicators.

In the first chapter of this section of our report, we reviewed several tools and frameworks which are currently used to assess sustainability performances of companies. Most of them are presented in detail in Appendix I. The results being publicly available, we can compare them to the results of this first implementation of the BIA - Sustainability framework.

Here is a synthesis of the results of the 5 assessed Belgian retailers:

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
BIA Sustainability	**479**	**483**	**447**	**474**	**629**
DJSI	83/100	-	-	-	77/100
CDP Climate questionnaire	C	-	D-	-	A
CDP Water Security questionnaire *Cattle Products - Palm Oil - Soy - Timber*	( ) - C - D – D	-	D - D - D – D	-	B - B - B – B
CDP Forest questionnaire	D	-	D	-	A-

Figure 15: Comparison between the results of the BIA - Sustainability framework and those of the Dow Jones Sustainability index and of Carbon Disclosure Project questionnaires.

Comparison between DJSI scoring and BIA Sustainability scoring:

As presented in appendix I, the Dow Jones Sustainability Index is scoring the company according to their sustainability strategy. The highest possible score is 100/100 and scores are publicly disclosed. The top retailer worldwide is President Chain Store Corporation with a score of 85/100 in 2020. CARREFOUR is announcing in their sustainability report that their DJSI score is in the top 5 of its industry group worldwide, which mean that AHOLD DELHAIZE shall be as well in the top 5. Yet, AHOLD DELHAIZE comes in second position after CARREFOUR in the BIA - Sustainability framework.

But the 2 integrated indicators are not considering the same categories or are considering the same categories with a different weighting. Indeed, the DJSI is considering not only environmental issues but also Social and Economic issues. As presented in Appendix I, environmental issues are only representing 24% of the global score. Furthermore, in the environmental part of the scoring, the assessed categories are not the same. For instance, the BIA – Sustainability framework is considering Climate Change Adaptation or reduction of animal-based products and the DJSI is not.

⇨ **This attempt to compare those results reveals that it is very complicated to compare results of 2 different integrated indicators with very large scopes of application.**

Comparison between the CDP questionnaires' scoring and the BIA Sustainability scoring:

The CDP scoring can also help us analyze the results in specific categories.

- **Emissions:**

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
BIA Sustainability Category emissions	100/100	100/100	53/100	80/100	100/100
CDP Climate	C	-	D-	-	A

One the one hand, BIA Sustainability results are in line with CDP Climate results for COLRUYT and CARREFOUR. One the other hand, AHOLD DELHAIZE gets a C score when the BIA - Sustainability framework gives it the best grade: 100/100.

To explain this result, it is first important to notice that the CDP Climate is asking much more information regarding emissions than the BIA - Sustainability framework (such as information on governance, on risks and mitigation procedure, …). Second, it also must be said that all the information required by the BIA - Sustainability framework (measurement of emissions, breakdown of emissions, reduction target, verification, supply chain engagement) are included in the CDP Climate questionnaire. Thus, it is possible to get the best score in the BIA - Sustainability framework and at the same time to get a middle score in the CDP Climate questionnaire if you only fill it in with the information used in the BIA - Sustainability framework.

This is what is happening in the case of CARREFOUR and DELHAIZE: they both get the best score in the BIA - Sustainability framework, but DELHAIZE has only filled in the CDP questionnaire partially.

COLRUYT did not fill completely the CDP questionnaire either, even in the part dedicated to measurement of Scope 1 and 2 emissions and of the emissions breakdown. Thus, they get an even lower notation.

It can also be underlined that all energy related issues are included in the CDP climate questionnaire.

⇨ **This BIA - Sustainability framework results are consistent with the results obtained to the CDP Climate questionnaire.**

- **Water:**

	DELHAIZE	**LIDL**	**COLRUYT**	**ALDI**	**CARREFOUR**
BIA Sustainability Category Water	9/100	0/100	34/100	16/100	29/100
CDP Water Security *Cattle Products - Palm Oil - Soy - Timber*	( ) - C - D – D	-	D - D - D – D	-	B - B - B – B

At first sight, the BIA – Sustainability results do not seem to be consistent with the results of the CDP Water Security questionnaire for those companies.

Again, it is important to explain those results to notice that all the BIA - Sustainability framework indicators are included in the CDP Water Security questionnaire (measurement and reduction of water withdrawal, in water stress area or not; measurement and reduction of water consumption and measurement and treatment of water discharge). Then it is also important to notice that the CDP Water Security questionnaire is going further asking information about other issues such as for instance governance, risks and opportunity and business strategy. Hence, like in the case of emissions, it is possible to obtain a very good score in the BIA - Sustainability framework without getting the highest grade in the CDP Water Security questionnaire.

Another reason why the scores and hierarchy of scores can be different is the quality and consistency of the answers. Indeed, CARREFOUR answered with a lot of details over more than 55 pages when COLRUYT and AHOLD DELHAIZE are answering with very few details to questions, skipping some entire paragraphs (W5. Facility-level water accounting for instance).

Last, the apparent misalignment between the results can significate that 34/100 and 29/100 are not very different according to the BIA - Sustainability framework but can appear very different according to the quality of the data provided to the CDP Water Security questionnaire.

⇨ **The results from BIA - Sustainability framework cannot be regarded as inconsistent with the results obtained to the CDP Water questionnaire mainly because of the low precision of the answers provided by AHOLD DELHAIZE and COLRUYT to the CDP Water Security Questionnaire.**

- **Biodiversity:**

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
BIA Sustainability Category biodiversity	33/100	33/100	37/100	33/100	67/100
CDP Forest	D	-	D	-	A-

Here, we compare the answers provided by the companies in the category Biodiversity of the BIA - Sustainability framework and in the CDP Forest questionnaire.

Both results of the BIA - Sustainability framework (category Biodiversity) and of the CDP Forest questionnaire are fully aligned since CARREFOUR's score in the BIA - Sustainability framework was increased by the answers provided to the CDP Forest questionnaire. Again, the quality and consistency of their answer allowed CARREFOUR to score more point.

This analysis emphasizes that **a comparison between different Sustainability frameworks must be done very carefully**: number of answers is important but also the quality and quantity of the provided information. Even more when the provided data to answer one framework are used as an input for the second framework, which is our case in this analysis.

As a conclusion, the combination of the DJSI score and of the quality and quantity of the answers to the CDP questionnaires tend to confirm that CARREFOUR is ahead of the other assessed companies in term of sustainability commitments disclosure. This result is confirmed by the fact that CARREFOUR gets the highest score with the BIA - Sustainability frameworks.

Critics and strengths of the BIA - Sustainability framework

During the implementation of the BIA - Sustainability framework, several **critics** appeared regarding the framework itself but also regarding the exercise of comparing commitments. This tool also revealed several **strengths** during the implementation process.

2 main categories of critics could be emphasized: critics and comments that refer directly to the tool and its implementation and critics that can be addressed through a specific presentation of the results. Those critics lead us to make recommendation to improve this tool.

Critics and comments that refer directly to the tool and its implementation:

- **Definitions and description of indicators:**

  It appeared in this analysis that the companies were not always using the same definitions (Food loss and waste for instance) or were not using standardized definitions (water withdrawals vs. water consumption). To make implementations of the BIA framework more consistent, more specific definitions should be included in a dedicated protocol. Likewise, it is very important to state in this protocol that all commitments associated with Energy must refer to all final energies, and not only electricity.
- Furthermore, it appears that the description of the indicators was not always precise enough: what does relevant recovery pathways refer to (packaging category), can the sourcing of labelled commodities or organic products be considered as a commitment to reduce impact on biodiversity (biodiversity category), is expanding "non-animal based" products range equivalent to "reducing animal-based products" (reducing animal based products category) or are the specific objectives referring to the overarching commitment or to the global action plan (Corporate Sustainability strategy category)?

  Last the scoring of some of the indicators must be explained further and maybe reviewed. Indeed, in the Environmental compliance section, disclosing fines could reward more points than not having any fines to disclose…

⇨ **A protocol describing how to implement the BIA - Sustainability framework shall be prepared including the definition of the different terms used in the indicators, a precise description of the indicators as well as the rules to allocate points to the different criteria.**

- **Alinement between companies' practices and commitments.**

  This assessment is only scoring companies' commitments and it can't be considered as an absolute notation of actions taken by companies:
  - A company which would do a lot but wouldn't communicate about it properly could get a bad scoring.

- A company doing very few but talking a lot could obtain a very good score.

Furthermore, a company could be tempted to disclose one very "small" commitment just to check one box. Thus, it is very important that company provide examples of what they do to realize their commitments.

To assess transparency, the CRRA (Corportate Responsibility Reporting Award) could be a source of inspiration. Indeed, it includes a category focusing on transparency stating: "It's sometimes difficult to tell the whole truth. It's easy to highlight the good news and ignore the bad. Whether performance is poor or excellent is less relevant for this award. This award is for the report which 'comes clean', tells both the good and the bad news, and which convinces us that this is a balanced picture." (https://www.corporateregister.com/crra/help/).

⇨ **It will be important in the following of the project to find a way to assess companies' practices alongside commitments.** Example of requirements may be to encourage (and reward in the scoring) the companies to publish relevant example of their efforts to fulfill their commitments or to publish historical data to help the readers to understand the ambition of the target and if the company is putting enough efforts in place to reach this target. Another requirement could be to be transparent on past targets and if they were reached or not. **We recommend introducing criteria or indicators to score the disclosure of examples, of relevant historical data and to reveal achieved (or not) past targets.**

- **Comparing sustainability commitments:**

The different attempts we have made to compare commitments (energy, emissions, water) of one company with another confirm that a comparison cannot be done easily and automatically. Each company's specificity must be considered if a comparison must be made. Furthermore, origin of data's and scope of calculation for KPI (intensity or absolute value) are very important and should be very clear to the reader of the report.

⇨ **This comment encourages us to keep focusing on the commitments even if sometimes some reduction targets can be very different. Some further investigation shall be performed to assess relevancy of comparing commitments.**

- **Assessment of Commitments, not ambition:**

We have seen in several examples that comparing ambitions of commitments can be very difficult. For instance, a low ambition can mean many efforts already performed in the past. Yet, it has also been revealed earlier that committing to reduce energy intensity is a much lower commitment for a retailer that committing to reduce absolute value. And it is very easy for the reader of a sustainability report to check whether the commitment sets a target based on an absolute value or an intensity.

⇨ **For each indicator assessing a reduction commitment, we recommend adding a criterion providing points if the commitment is focusing on absolute value.**

- **Implementation of the indicators in the frameworks:**

  It is important to be very strict on the lecture and implementation of the indicators. Indeed, being too soft can lead to two negative effects:

  - Companies with very small commitments will obtain the same scores (or almost the same scores) than companies with full commitments.
  - Companies could be tempted to mention one small example in their documentation for each indicator just to make sure they will get a good score at the end.

  The water discharge treatment indicator illustrates this comment. Indeed, the indicator's question is: "Does the company and its suppliers have a commitment to ensuring that any water discharge has been treated appropriately?". In this question, the word "any" must be applied in a very strict way. If only on part the water discharge is considered, then a company cannot get a high score to this indicator. Likewise, in the packaging category, the information provided by the suppliers must describe a specific ambition to increase the use of recycled material.

⇨ **A protocol describing how to implement the BIA - Sustainability framework shall be prepared and describe precisely how the indicators shall be calculated.**

- **Score of commitments regarding suppliers:**

  It seems that all the efforts that the retailers make to put pressure on their suppliers to improve their sustainability practices should be rewarded with higher scores. Indeed, in any of the commitment's indicators, putting pressure on the suppliers only rewards 1 point. If you consider that 90% of the emissions generated by the retailers come from Scope 3 or if you take into consideration that only 5% of the food loss and wastes happen in the retailers' operations (45% at the customers' and 45% in the supply chain), then it confirms the idea of rewarding better the efforts of the retailers.

⇨ **Increase the number of points rewarding commitments involving suppliers.**

- **Additional sources:**

  Most of the information assessed in this study come from the retailer' sustainability reports. Yet, it was sometimes necessary to use additional sources such as answers to Carbone Disclosure Project or to Plastic Economy Global Commitment. During the last exchanges we had with the retailers, it appeared that some other information could be found on the SBTi database which had not been analyzed yet. Hence, it seems important that methodology described in the protocol also emphasized the main

additional sources as well as to encourage to engage with the companies to present the results of the implementation.

> ⇨ **The main additional sources should be described in the BIA - Sustainability framework protocol. Engaging with companies to discuss the results should also be considered as part of the implementation.**

- **Categories weighting:**

  In the actual scoring grid, all the categories are based on a score of 100. As revealed in Appendix I in the paragraph referring to the Dow Jones Sustainability Index, a weighting can be implemented. But will it reflect the consideration of all the companies, and how to make sure that this weighting emphasizes the good categories?

> ⇨ **A dedicated benchmark on integrated indicators could allow to assess what are the existing weighting used for integrated sustainability indicators and to investigate the relevancy of a weighting.**

Critics which can be addressed through an adapted presentation of the results:

- **Use of a global scoring:**

  Global scores are ranging from 447/100 (COLRUYT) to 629/100 (CARREFOUR), the maximum possible score being 1000 points. But what does this absolute notation tell us about the sustainability commitments of the companies? Is 629 points over 1000 an excellent, a good or a medium score?

  Furthermore, all the companies are not putting their efforts in the same categories. For instance, LIDL is getting a score of 100/100 points in the emissions category (highest possible score) but scores 0 in the Water category when ALDI is scoring 80/100 in the emissions category and 16/100 in the water category. How can we compare both results in a global score?

> ⇨ **An adapted presentation based on categories shall be disclosed to the retailers.**

- **Some commitments are not captured by the grid:**

  As already mentioned in this report, it happens that some commitments are not considered by the BIA framework, yet they can be important ones. For instance, in the energy category, LIDL and COLRUYT are committing to increase their auto-consumption of renewable energy. This is a very interesting commitment on the road to carbon neutrality that is not captured by the grid.

> ⇨ **The presentation of the result shall leave space for those commitments as good practices.**

- **Use of the results by the assessed company:**

  When receiving the result of such an assessment, a company will try to understand how it positions itself according to its competitors and how it can improve. At this stage, the BIA - Sustainability framework, even providing a score in each category, cannot help a company position itself and improve its practices. Yet, this comparison exercise provides all the information to identify and share the best practices.

> ⇨ **The presentation of the result shall help a company position itself according to its competitors and to identify how to improve its results.**

In addition to all those critics, it is important to emphasized what appeared as **strength of the BIA - Sustainability framework:**

- All the categories assessed in the main sustainability standards and frameworks are assessed by the BIA Sustainability framework.
- The BIA sustainability framework is also covering categories that are not assessed in other Sustainability Frameworks (Animal-based products).
- The BIA framework is allowing companies to benchmark themselves with other companies.
- Retailers considered the indicators and associated criteria as very robust and consistent.

We can also add that the retailers appreciated the following adapted presentation which allowed them to position themselves according to the best one in each category as well as according to the highlighted best practices.

It can also be interesting to notice that the BIA - Sustainability framework allow to monitor commitments which could mitigate impact on 7 of the 9 planet boundaries as described by the Stockholm Resilience Center.

Commitments from … categories can mitigate	the company's impact on the planetary boundaries…
Packaging	Chemical pollution
Emissions	Ocean acidification and climate change
Biodiversity	Biodiversity loss and Land-Use-Change
Energy	Climate change
Water	Freshwater use
Food Loss and Wastes	Land-Use-Change, biogeochemical flows,
Reducing Animal-based products	Biodiversity loss and Land-Use-Change

Table 7: Comparison between BIA - Sustainability framework categories and Planetary Boundaries.

ii. Adapted presentation of the results of the BIA framework

Based on the above-mentioned critics and comments, we suggest a shifting of the initial BIA - Sustainability framework's ambition from ranking companies with an absolute global score to comparing their performance in different sustainability categories with a harmonized score for each category.

To do so, we propose to introduce a different presentation for the results of the BIA - Sustainability framework. This presentation will not be based on a global scoring but will focus on each category, will emphasize good practices and will position each company according to the best ones.

The following tables are presenting two type of presentations for the category Packaging. The first one allows to visualize all the companies in a single picture when the second one emphasizes the results for one company:

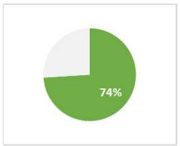
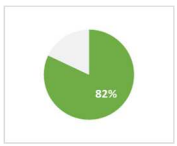
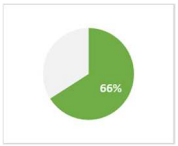
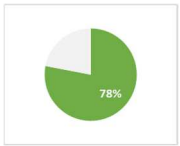
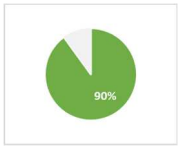
	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 90%					
Best Practices: - Disclose explicit, publicly available, specific, measurable and time bounded targets - Reduce amount of packaging - Clearly favor the use of recycled material and reduce virgin plastic use - Prioritize the use of renewable sources - Explain how wastes produce by stores can be recovered or eliminate locally - Engage suppliers in reducing their packaging - Become signatory of the Ellen MacArthur Foundation PEGC					
Where all companies could improve: - Engage suppliers in targets and commitments					

Figure 16: Adapted presentation of the results for all the assessed companies

Category : Packaging	Best company score : 90%
Company : COLRUYT	**Score : 66%**
Indicators	**Best practices and ways for improvement:**
Does the company and its suppliers have a commitment to **reducing packaging**?	**Comment :** Commitments to **prioritize the use of recycled materials** and **renewable materials** in packaging's are explicit and time bounded. **Locally relevant recovery pathways** for packaging is tackled through a recycling rate (target: 85%, the rest being incinerated). **Commitment to reduce packaging** is not specific nor time bounded. **Suppliers** are not involved in the commitments. **Way to 100%:** Disclose explicit, publicly available, specific, measurable and time bounded target to reduce amount of packaging Engage suppliers in reducing their packaging **Best practices :** Being signatory of Ellen Mac Arthur PEGC.
Does the company and its suppliers have a commitment to **prioritizing the use of recycled materials** in their packaging?	
Does the company and its suppliers have a commitment to **prioritizing the use of renewable sources** in their packaging?	
Does the company and its suppliers have a commitment to **locally relevant recovery** pathways for packaging?	

Figure 17: Adapted presentation of the results for one company

This adapted presentation allows to answer many of all the critics made to the BIA Sustainability index. It was presented to some of the assess retailers and it received a positive feedback. Indeed, they appreciated the presentation of the results category per category and the possibility to compare its score to the best company score. Yet, some of them also felt concerned about the apparition of a new assessment frameworks in a landscape with already many existing solutions.

We decided at this stage not to implement this adapted presentation for category Environmental compliance. Indeed, as explained earlier in the discussion, this category and its scoring must be clarified.

The results for the 9 categories are presented in appendix VI.

E.Conclusion

Sustainability is a very complex domain embarking many dimensions which must be considered all at the same time and involving all the main actors of a modern society (Governments, Companies, Individuals, NGOs, …). The visible and tangible effects of climate change and the alarming calls for action from activists and transnational organizations have put sustainability issues at the forefront of most of those actors' concern. Amongst those actors, **companies have a major role to play to make our society a more sustainable one**. Indeed, their activities have a major impact on all the dimensions of sustainability: GHG emissions, Water use, Chemical pollutions, Use of raw materials, Biodiversity loss, etc.

Companies are communicating more and more about the role they want to play in this fight against climate change. In this study, we could emphasize **3 main drivers for companies to disclose sustainability commitments**. First, they were mainly protecting their financial interests and complying with the law. Then, stakeholders pressure increased to become the main driver for companies to take sustainability commitments. Following those 3 drivers, CSR communication became very abundant and all disclosed sustainability commitments were **presented in sustainability reports**. To answer the growing stakeholder pressure, those documents were first prepared under a voluntary basis. They are now mandatory in many regions and countries.

Amongst all companies, **retailers have a very special position**. First, as gatekeeper between producers and consumer they can influence our consumptions norms on the one hand and put pressure on their suppliers to engage them into sustainability practices on the other. Then, being the place where the food system is concentrating most of its sales, they can be considered as responsible for the major part of its GHG emission. As revealed by (Tubiello et al. 2021), the food industry is responsible today of 1/3 of the GHG emissions in the world.

An external intervention became necessary **to keep the global picture on all those commitments** and to make sure that communication about sustainability didn't fall into greenwashing. This external intervention took the form of sustainability standards and sustainability reporting frameworks, of third-parties external audits of sustainability reports or even of analysis of the documentation by NGOs or external research center.

Many frameworks exist to assess sustainability commitments of companies. Most of them are converging towards standardized indicators such as United Nation Standard Development Goals indicators and Global Reporting Initiatives indicators.

The **BIA - Sustainability framework** is a new sustainability reporting initiative. It is currently under development and the implementation performed in this memoire on the 5 major Belgian retailers is a first test which objective was mainly to criticize the tool to make it more consistent in a future version.

We could first demonstrate that **the BIA - Sustainability framework is covering most of the main categories of indicators assessed in the literature**. We could also reveal that the main GRI categories of indicator were also covered. It can also be interesting to notice that the BIA - Sustainability framework allow to monitor commitments acting on most of the planet boundaries. For instance, commitments in the packaging category

mitigate impact on chemical pollution; commitments in the Emissions category mitigate impact on Ocean Acidification and climate change; commitments in the biodiversity category mitigate impact on Biodiversity loss and Land-Use-Change.

Based on **a detailed analysis of sustainability commitments of the Belgian retailers**, and after implementing the BIA - Sustainability framework in its initial version, we were able to make recommendations to improve this framework and to make it more consistent. Addition of new indicators and criteria (reward ambition of absolute targets, reward information on how past targets were achieved, …), drafting of a detailed protocol to describe in detail the indicators and what is exactly expected from the retailers' commitments are example. We also proposed an adapted presentation of the results to make it more useful for retailers (provide information on how to improve the score) and to increase its impact (challenge retailers providing the score of the best retailers and present best practices).

An important part of our research question was about **how to best compare sustainability commitments**. We revealed in this report the main reason why it is difficult to compare sustainability commitments. Yet, difficult do not mean impossible or useless. In our efforts to compare sustainability commitments, we raised and confirmed a certain number of difficulties: precision, scope and consistency of the data, units used in the KPI, specificities of each company. All those reasons were raised in different studies in the literature review and appeared also when we tried to calculate the water intensity or the energy intensity of the 5 retailers for instance. The large variation of the results was very difficult to explain. Many of those difficulties could be circumvented when we decided not to compare commitments but to compare harmonized performance of companies in each category. The adapted presentation of the results allowed us to do that.

The BIA - Sustainability framework can provide not only a good overview of the sustainability commitments but can also help **to highlight the best practices**. And the later can have major impact since retailers are very integrated and hence can transfer very easily best practices from one country to another.

Some difficulties were encountered during this study. One of them is the question of how to keep up to date the results of the BIA implementation. Indeed, under the course of this study, some retailers updated their sustainability reports. The sources used for the implementation of the BIA - Sustainability framework will have to be as up to date as possible and will have to be clearly revealed. To be relevant, this benchmark will have to be updated on a regular basis (every 2 years seems a minimum). Another difficulty was to find the right information and to be as consistent as possible on the disclosed sustainability commitments. Indeed, many sources had to be assessed to make sure that no commitments were left aside. The definition seemed also not clear enough. This is the reason why we recommend preparing a proper implementation protocol to be released with the next version of the BIA - Sustainability framework.

It is interesting to mention **how the retailers reacted when we presented them the results the implementation of the BIA - Sustainability framework**. Four of them answered our request for a presentation meeting and all the four declared to be very interested in such a benchmark. Our main recommendations about preparing a clear protocol with precise definition was also raised. Yet, they all mentioned that many initiatives were already

existing and they also all highlighted how time consuming it was to answer those initiatives. The BIA - Sustainability framework appeared to be a very good tool to benchmark retailers' sustainability practices. Thus, we also revealed that comparisons were very useful for retailers themselves to improve their practices and that benchmarks could participate to create a positive emulation between companies.

The BIA - Sustainability framework will have to **find its own place in a landscape already full of Sustainability initiatives**. An assessment of the existing initiatives could help in identifying what differentiates the BIA - Sustainability framework from all other initiatives.

This study brings insight on why companies and especially retailers are disclosing so many commitments and highlights also the fact that **sustainability frameworks and benchmarks are essential** to put pressure on the companies to constantly improve their practices and to communicate about what they really do and thus avoid greenwashing.

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Figures in the report

Tables in the report

Appendix I: Presentation of the integrated and non-integrated indicators mentioned in this report

Non-Integrated Indicators

UNSDG Indicators

In 2015, member states of the UN committed to the 2030 Agenda. In a multi-stakeholder approach, involving not only governments, but also businesses and civil society organizations, 17 Sustainable Development Goals providing directions and targets on crucial issues for humanity and the planet were published. (Olivier E. Malay, 2021). SDG goals are used at both macro (states, regions) and micro (businesses) level to reports and steered sustainability performance. In order to help coordination between all stakeholders at both macro and micro level, **UN developed 232 UN SDGs indicators** (Malay 2021). The 17 SDGs are presented in appendixes I.

As an example, if we consider SDG 12, one of the associated indicators considers the number of companies publishing sustainability reporting.

Goal 12. Ensure sustainable consumption and production patterns	
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	12.6.1 Number of companies publishing sustainability reports

SDGs are used by all the assessed companies in this report.

Global reporting Initiative (GRI)

GRI was **founded in Boston in 1997** following public outcry over the environmental damage of the Exxon Valdez oil spill. The aim was to create the first accountability mechanism to ensure companies adhere to responsible environmental conduct principles, which was then broadened to include social, economic and governance issues. In 2015, GRI adopted the SDGs framework, targeting the 12.6 objective and its call for corporate transparency.

GRI presents a list of categories for which companies must report on. It covers a large spectrum of domains including **economic** (GRI 201 to GRI 207 indicators), **environmental** (GRI 301 to GRI 308 indicators) and **social** impacts (GRI 401 to GRI 418 indicators).

Main categories regarding environmental impacts are the following: Materials (GRI 301), Energy (GRI 302), Water and effluent (GRI 303), Biodiversity (GRI 304), Emissions (GRI 305), Waste (GRI 306) and supplier environmental assessment (308).

In each of the above-mentioned categories, a set of indicators is defined with recommendations and guidance to report them. As an example, Appendix II describes how to disclose GRI 302-3 Energy Intensity.

All the assessed companies in this study are using GRI indicators as reference for their sustainability reporting.

AHOLD DELHAIZE, LIDL, ALDI and CARREFOUR are participating in the GRI.

Integrated Indicators

Dow Jones Sustainability Index (DJSI)

The **Dow Jones Sustainability Index was launched in 1999**. It was the first global index to track the financial performance of leading sustainability-driven companies worldwide. Companies are asked every year to update their answers, hence it is a declarative index. The results can be analyzed under a company perspective, a sector perspective or a regional/country perspective. The process is ensured by Deloitte's Assurance.

The DJSI is **a weighted index covering 3 dimensions**: **Governance & Economic** (36%), **Environmental** (24%) and **Social** (40%). The Environmental dimension is assessing the following criteria's: Environmental Reporting (2%), Environmental Policy & Management Systems (3%), Operational Eco-Efficiency (7%), Climate Strategy (5%), Food Loss & Waste (2%), Packaging (3%) and Biodiversity (2%).

Around 1400 companies are participating.

AHOLD DELHAIZE and CARREFOUR are participating in the DJSI.

Carbon Disclosure Project (CDP)

CDP is a not-for-profit charity that runs a global environmental disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. **CDP is providing 3 dedicated frameworks**: **Climate Change**, **Forests** and **Water Security**. For each of them the respondents can get a score from A to F, A being the higher notation. More than 2400 companies, 150 cities and 50 states and regions are using the CDP frameworks. All the documentation provided by the respondents is accessible on the CDP website.

Companies are providing answers to a questionnaire; hence it is a declarative index.

AHOLD DELHAIZE, COLRUYT and CARREFOUR are providing data to CDP.

Reporting Frameworks

Ellen Mac Arthur Foundation PEGC

Ellen Mac Arthur Foundation declares itself as "a charity committed to creating a circular economy". It aims to "eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature". This foundation works with businesses, international institutions, governments, cities, universities, non-governmental organizations and innovators and engage them into the Plastic Economy Global Commitment (PEGC). Companies and other stakeholders are invited to answer to a questionnaire, results are publicly accessible on the Ellen Mac Arthur Foundation website.

6 different type of questionnaires exist for Packaging producers and users, Raw material producers (non-compostable plastics and compostable plastics), collecting, sorting and recycling companies, suppliers to plastic packaging industry and governments. All published information is provided by the respondents; hence it is a declarative sustainability framework.

The following picture is presenting examples of key metrics collected and published on EMF website for AHOLD DELAIZE in 2021.

AHOLD DELHAIZE, LIDL and CARREFOUR are signatory of the PEGC of Ellen Mac Arthur Foundation.

EcoVadis

EcoVadis is a private company providing a “holistic sustainability ratings service”. The EcoVadis Rating is covering **4 non-financial dimensions**: **Environmental**, **Labor & Human Rights**, **Ethics** and **Sustainable Procurement** impacts. All information used in the rating are provided by assessed companies, hence it is a declarative sustainability framework. EcoVadis is used by large multinational corporations to assess their suppliers on those 4 dimensions.

These evidence-based assessments are refined into easy to read scorecards, providing zero to one hundred (0-100) scores, and medals (bronze, silver, gold), when applicable. The platform is providing also benchmarking tools to engage all the assess suppliers in a “"race to the top," in which whole industries compete to achieve global best practice.”

Additionally, the scorecards provide guidance on strengths and improvement areas on which the rated companies may focus their sustainability efforts.

Like CDP rating, EcoVadis rating fits both in the Integrated Indicator category and in the Reporting framework and Platforms category.

LIDL is using EcoVadis platform to assess the sustainability performance of its supply chain and to engage suppliers in improving their sustainability performances. LIDL is aiming at assessing suppliers representing 25% of all purchases by 2020.

Appendix II: Theoretical perspectives on Sustainability Reporting (Boiral et Henri 2017)

Table 1. Main Theoretical Perspectives on Sustainability Reporting and Interfirm Comparability.

	Functionalist perspective	Critical perspective	Postmodernist perspective
Basic assumptions about organizations	Ordered systems that can be objectively controlled, measured, and improved	Social structure shaped by power relations, ideology, and economic interests	Chaotic and narrative-based systems that cannot be grasped from normative perspectives
Sustainability reporting	Transparently describe sustainability performance when similar standards are followed	Quite superficial mechanism that tends to hide the fundamental unsustainability and contradictions of organizations	Spectacle or simulacrum that tells an idealized story to make people believe that sustainability can really exist and be achieved
Implicit assumptions about measurability and comparability	Sustainability performance can be measured and compared from rigorous and verified reports	Sustainability performance can be measured in theory but cannot be compared as long as information is controlled by organizations	Sustainability performance is based on the illusion that it can be rationally defined, measured, compared or achieved
Possible causes of noncomparability	Lack of standardization and technical and noncompliance issues	Deliberate greenwashing, managerial capture of reporting process, economic interests	Discursive and chaotic nature of sustainability issues, unrealistic expectations
Relevance for exploring new research perspectives	Limited by the mainstream and dubious assumption on the measurability and comparability of sustainability performance	Relevant to question the functionalist and mainstream literature, sheds light on power relationships; more empirical research is needed	Underexplored and promising perspective which questions the very notion of sustainability and its supposed measurability; calls for new theoretical and empirical research

Appendix III: The BIA – Sustainability Framework

BIA - Sustainability Draft Indicators		
Domain		**Scoring**
Packaging	Does the company and its suppliers have a commitment **to reducing** packaging?	(max 20 pts) 2: company commitment 2: minimum one supplier commitment 4: publicly available commitment 4: specific 4: measurable 4: time-bound
	Does the company and its suppliers have a commitment **to prioritising the use of recycled materials** in their packaging?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Does the company and its suppliers have a commitment **to prioritising the use of renewable sources** in their packaging?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Does the company and its suppliers have **a commitment to locally relevant recovery pathways** for packaging?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
Domain	**Indicator**	**Scoring**
Energy use	Does the company and its suppliers **measure** their energy consumption?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g., GRI) 2: audited externally
	Does the company and its suppliers have a commitment to **reducing** energy consumption?	(max 20 pts) 2: company commitment 2: minimum one supplier commitment 4: publicly available commitment 4: specific 4: measurable 4: time-bound
	Does the company and its suppliers measure their breakdown of **energy consumption based on renewable and non-renewable sources**?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g., GRI) 2: audited externally
	Does the company and its suppliers have a commitment to **sourcing its energy from renewable sources**?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable

		2: time-bound
Domain	**Indicator**	**Scoring**
Water and discharge	Does the company and its suppliers **measure** their water withdrawal?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g., GRI) 2: audited externally
	Does the company and its suppliers have a commitment to **reducing** water withdrawal?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Does the company and its suppliers **measure** their water withdrawal from areas of water stress?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g., GRI) 2: audited externally
	Does the company and its suppliers have a commitment to **reducing** water withdrawal from areas of water stress?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Does the company and its suppliers **measure** their water consumption?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g. GRI) 2: audited externally
	Does the company and its suppliers have a commitment to **reducing** their water consumption?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Does the company and its suppliers **measure the quality of their water discharge**?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g. GRI) 2: audited externally
	Does the company and its suppliers have a commitment to ensuring that **any water discharge has been treated appropriately**?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
Domain	**Indicator**	**Scoring**
Biodiversity		(max 10 pts) 1: measurement of company

	Does the company and its suppliers **measure their impact on biodiversity**?	1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g. GRI) 2: audited externally
	Does the company and its suppliers have a commitment **to reducing the negative impact of activities, products, and services on biodiversity**?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Does the company and its suppliers have **a commitment to protecting and restoring habitats**?	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
Domain	**Indicator**	**Scoring**
Emissions	Does the company and its suppliers **measure their greenhouse gas emissions?**	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g. GRI) 2: audited externally
	Does the company and its suppliers **measure the breakdown of greenhouse gas emissions**?	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system (e.g. GRI) 2: audited externally
	Does the company and its suppliers have **a commitment to avoiding and/or reducing their greenhouse gas emissions?**	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
Domain	**Indicator**	**Scoring**
Climate change adaption	Does the company have **a commitment to protecting farmers and growers in their supply chain against the effects of climate change?**	(max 10 pts) 1: company commitment 1: minimum one supplier commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
Domain	**Indicator**	**Scoring**
Food loss and waste	Does the company **measure food loss and waste in their supply chain?**	(max 10 pts) 1: measurement of company 1. measurement of minimum one supplier 2: annual (or more frequent) reporting 2: report is publicly available 2: using external reporting system with a food waste hierarchy (e.g. Food Loss and Waste Accounting and Reporting Standard) 2: audited externally
	Does the company have a commitment **to reducing food**	(max 10 pts) 1: company commitment

	loss and waste in their supply chain?	1: minimum one supplier commitment 2: publicly available commitment 2: measurable 2: time-bound 2: prioritises food loss and waste higher in food waste hierarchy
Domain	**Indicator**	**Scoring**
Environmental compliance	Has the company disclosed significant fines or non-monetary sanctions for non-compliance with environmental laws and regulations?	(max 6 pts) 2: publicly available declaration 2: declaration is of national-level activity 2: no fines or sanctions for non-compliance
Domain	**Indicator**	**Scoring**
Relationships with other organisations	Does the company **disclose relevant relationships with external organisations?**	Not scored
	Does the company disclose funding for scientific research?	Not scored
	Does the company make political donations, and are these disclosed?	Not scored
	Is the company a member of a sustainable business council, UN Global Compact signatory, or similar?	Not scored
Domain	**Indicator**	**Scoring**
Corporate sustainability strategy	Does the company have an overarching commitment to reducing environmental impact articulated in strategic documents (e.g., mission statement, strategies, or overarching policies)?	(max 6 pts) 2: publicly available commitment 2: specific objectives 2: measurable targets
	Does the company have a commitment to screening new suppliers using environmental criteria?	(max 6 pts) 2: publicly available commitment 2: specific objectives 2: measurable targets
Domain	**Indicator**	**Scoring**
Reducing animal-based products	Does the company measure the percentage of animal-based products in their product range?	(max 8 pts) 2: measurement 2: annual reporting 2: report is publicly available 2: audited externally
	Supermarkets: Does the company have a commitment to expanding and/or promoting the range of meat-alternative protein products?	(max 10 pts) 2: company commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Quick service restaurants: Does the company have a commitment to providing plant-based meal choices?	(max 10 pts) 2: company commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound
	Manufacturers: Does the company have a commitment to diversifying away from animal-based products?	(max 10 pts) 2: company commitment 2: publicly available commitment 2: specific 2: measurable 2: time-bound

Appendix IV: synthesis of some of the disclosed relationships with other organizations

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Relationship with external organizations	Food Marketing Institute Dutch Food Retail Association European Retail Round Table Eurocommerce		In our partnership with SIFAV Bio-Planet is the proud partner of the large-scale Flemish study 'CurieuzeNeuzen in de Tuin' by the University of Antwerp and De Standaard newspaper.	We are engaged in dialogue in all ALDI countries with NGOs and other organizations either personally or through sector and multistakeholder initiatives. In Spain, for example, there is a constant dialogue with certifiers (for example MSC, ASC, GLOBALG.A.P.).	Synerb Venture Catalyzer Association, Civitas,Fondation Civitas, MiiMOSA, Round Table for Sustainable Palm Oil Marine Stewardship Council Retailer Cocoa Collaboration Association NOé, Global Declaration on Plastics & New Plastics Economy (signée en décembre 2018) Pacte national sur les emballages plastiques pour 2025 (signatairefondateuren2019) (RE)SET Signataire du French Business Climate Pledge Science Based Target Initiative (SBT) Climate Disclosure Standard Board (CDSB) Carbon Disclosure Project (CDP) Reporter Services Membership Pacte Transition Alimentaire ...
Funding of scientific Research	An example was the "inclusive store" initiative Delhaize Serbia continued to develop in 2020. After doing extensive research, along with external partners,		European ICEBERG project H2Haul project - The H2Haul project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 826236. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe Research.	institutions (for example IRTA) and universities on topics such as animal welfare, plastic reduction or sustainability.	CIRAD
Political donation	-			-	
Sustainable business council	Consumer Goods Forum (CGF), One Planet Business for Biodiversity, UNGC			UNGC - Greenpeace detox campaign	WWF France Consumer Goods Forum, Pacte Too Good To Go,

Appendix V: An example of GRI Indicator _ GRI 302-3

Disclosure 302-3 Energy intensity

REQUIREMENTS

The reporting organization shall report the following information:

a. Energy intensity ratio for the organization.

b. Organization-specific metric (the denominator) chosen to calculate the ratio.

c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all.

d. Whether the ratio uses energy consumption within the organization, outside of it, or both.

Compilation requirements

2.5 When compiling the information specified in Disclosure 302-3, the reporting organization shall:

2.5.1 calculate the ratio by dividing the absolute energy consumption (the numerator) by the organization-specific metric (the denominator);
2.5.2 if reporting an intensity ratio both for the energy consumed within the organization and outside of it, report these intensity ratios separately.

RECOMMENDATIONS

2.6 When compiling the information specified in Disclosure 302-3, the reporting organization should, where it aids transparency or comparability over time, provide a breakdown of the energy intensity ratio by:

2.6.1 business unit or facility;
2.6.2 country;
2.6.3 type of source (see definitions for the listing of non-renewable sources and renewable sources);
2.6.4 type of activity.

GUIDANCE

Guidance for Disclosure 302-3
Intensity ratios can be provided for, among others:
- products (such as energy consumed per unit produced);
- services (such as energy consumed per function or per service);
- sales (such as energy consumed per monetary unit of sales).

Organization-specific metrics (denominators) can include:
- units of product;
- production volume (such as metric tons, liters, or MWh);
- size (such as m^2 floor space);
- number of full-time employees;
- monetary units (such as revenue or sales).

Background
Energy intensity ratios define energy consumption in the context of an organization-specific metric.

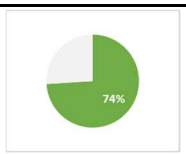
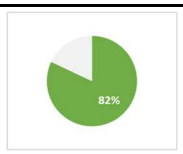
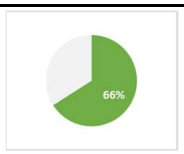
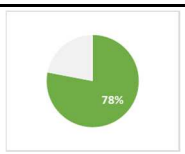
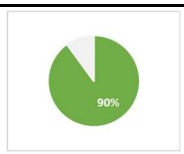
These ratios express the energy required per unit of activity, output, or any other organization-specific metric. Intensity ratios are often called normalized environmental impact data.

In combination with the organization's total energy consumption, reported in Disclosures 302-1 and 302-2, energy intensity helps to contextualize the organization's efficiency, including in relation to other organizations.

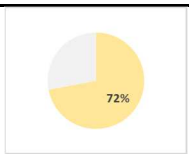
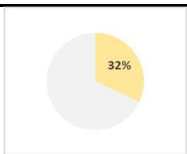
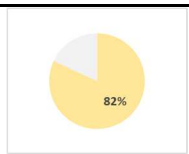
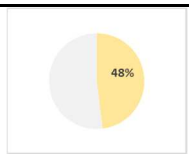
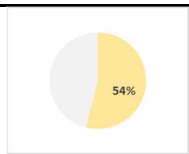
See references [1] and [3] in the Bibliography.

Appendix VI: Adapted presentation of the BIA Sustainability results for 9 categories

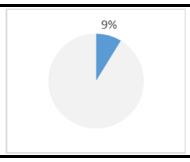
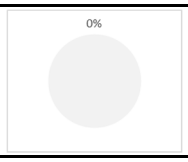
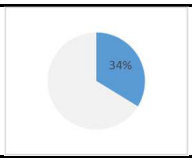
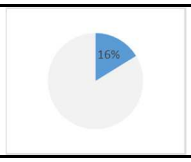
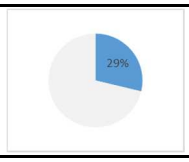
Packaging

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 90%					
Best Practices: - Disclose explicit, publicly available, specific, measurable and time bounded targets - Reduce amount of packaging - Clearly favor the use of recycled material and reduce virgin plastic use - Prioritize the use of renewable sources - Explain how wastes produce by stores can be recovered or eliminate locally - Engage suppliers in reducing their packaging - Become signatory of the Ellen MacArthur Foundation PEGC					
Where all companies could improve: - Engage suppliers in targets and commitments					

Energy

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 82%					
Best Practices: - Consider all energies in your commitments and targets (not only electricity) - Reveal absolute energy consumption data (not only energy intensity) based on GRI 302 indicators and audited externally - Disclose explicit, publicly available, specific, measurable and time bounded targets - Disclose breakdown between renewable and non-renewable energy based on all energies (not only electricity) - Increase own-renewable production capacities - Favor auto-consumption - Participate in Carbon Disclosure Project (answer Climate Change questionnaire)					
Where all companies could improve: - Engage suppliers in targets and commitments					

Water consumption

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					

Best company scores: 34%

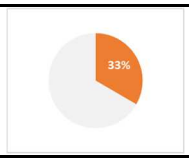
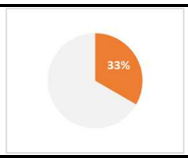
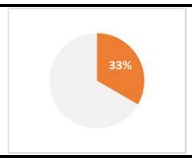
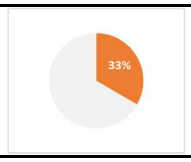
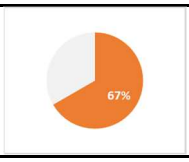
Best Practices:

- Apply OECD and GRI definitions for water withdrawals, water consumption and water discharge in reports
- Disclose explicit, publicly available, specific, measurable and time bounded targets
- Measure and disclose water withdrawal using GRI 303 standard, make disclosure audited externally.
- Reduce water withdrawals collecting and treating rainwaters or waste waters
- Consider separately water withdrawals from water stress area.
- Set as ultimate target to “close the water loop”
- Measure and explain quality of water discharge
- Engage suppliers to report on their water use, risk and management.
- Participate to Carbone Disclosure Project (answer Water Security questionnaire)

Where all companies could improve:

- Explain how water discharge is treated

Biodiversity

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					

Best company scores: 67%

Best Practices:

- Favor labeled commodities in the product range.
- Set targets for sourcing of labeled commodities
- Set targets for sourcing of organic products
- Consider biodiversity in new buildings construction programs (fauna and flora)
- Prepare and launch an action plan dedicated to reducing deforestation
- Participate to Carbone Disclosure Project (answer Forests questionnaire)
- Engage suppliers in actions to protect biodiversity

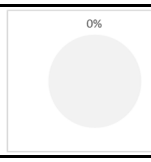
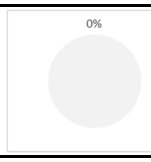
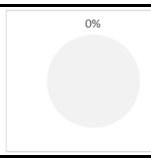
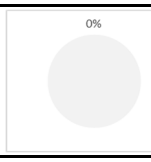
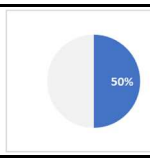
Where all companies could improve:

- Assess impact of services and activities on biodiversity

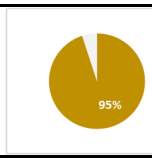
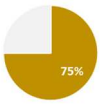
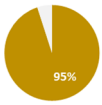
Emissions

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 100%					
Best Practices: - Measure and disclose Scope 1, 2 and 3 emissions using an internationally recognized protocol. - Measure and disclose the breakdown of emissions for Scope 1, 2 and 3. - Have the results audited externally. - Set targets for Scope 1, 2 and 3 indicating reference year, targeted reduction, targeted year and historical data. - Participate in Carbon Disclosure Project (Climate Change questionnaire)					
Where all companies could improve: -					

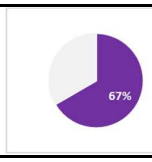
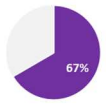
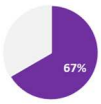
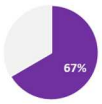
Climate change adaptation

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 50%					
Best Practices: - Propose growers financing solutions to help them implement adaptation projects.					
Where all companies could improve: - Define an action plan with associated targets.					

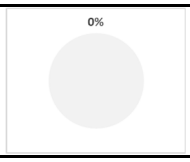
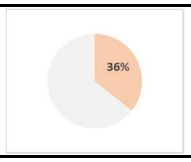
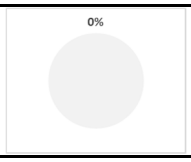
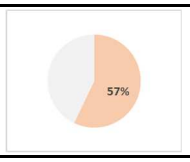
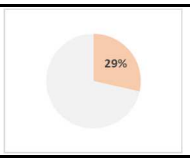
Food loss and Wastes

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 95%					
Best Practices: - Clearly define what is considered as food loss in the documentation. - Disclose a figure describing food loss: absolute figure or food loss intensity. - Use of an external reporting system to measure food loss such as the Food Loss and Waste Protocol - Ensure external audit of results. - Set a target for Food Loss and Waste Reduction - Engage suppliers through 10x20x30 initiative - Participate into Consumer Good Forum program - Describe clearly the company's ambition according to Food Loss and Waste pyramid.					
Where all companies could improve: - Engage suppliers in reporting their own Food Loss and Wastes					

Corporate sustainability strategy

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					
Best company scores: 95%					
Best Practices: - Clearly express in the company's strategy / vision / raison d'être an ambition to engage into sustainable development. - Engage to assess new suppliers based on environmental criteria's					
Where all companies could improve: - Reveal specific and measurable targets associated with the screening of new suppliers.					

Reducing animal-based products

	DELHAIZE	LIDL	COLRUYT	ALDI	CARREFOUR
Results					

Best company scores: 57%

Best Practices:

- Identify and disclose the number of vegetarian / vegan references in the product range.
- Set a clear commitment to expend vegan and vegetarian products' sales or number of references with an associated target.

Where all companies could improve:

- Include in external audit the indicators and targets associated with this category.