vestedImpact

IMPACT REPORT
Hemphuis

52
Positive Impact

Overall Net Impact Rating

47

Medium Positive Impact

5
Negative Impact

Most positively impacted SDG's:

- 6 CLEAN WATER AND SANITATION
- 13 CLIMATE ACTION
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- 2 ZERO HUNGER

Assessment provided by vestedimpact.co.uk

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About Vested Impact's Methodology
Vested Impact's data quantifies holistic external material value creation and impact of companies. It details the positive, negative and secondary impacts a company has on the environment, health of people, society and over 169 sustainable development goal targets. The data is produced by Vested Impact's Impact Methodology, which is a mathematical model of the impact of individual company activities against the 169 United Nations Sustainable Development Goal targets, across each country, and produces continuously updated estimates of the net impact of companies by means of an information integration algorithm. The data is primarily sourced from open databases published by the World Bank, United Nations, IMF, WHO, OECD, IPCC, and EuroStat. Other sources of data regarding companies and their activities; include Financial Modelling Prep and Africa Markets.

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GPT Analysis

The below summary is AI-generated, and is designed to summarise the main points of the detailed report. The summary is produced by our trained GPT-3 model, which is trained off our own data to understand Vested's impact methodology, to pull on all our underlying calculations, the raw data, and what the results imply. This summary should always be read in conjunction with the full detailed report.

What is Hemphuis's positive impact?

Hemphuis has a positive impact on 3 UN Sustainable Development Goals, with the most significant positive impact on combating desertification and restoring degraded land and soil through its hemp farming activities.

Does Hemphuis have any negative impacts?

Hemphuis has no medium negative impacts, however small production emission impacts are likely from their operations.

How can Hemphuis improve its impact?

Hemphuis addresses very important issues like land degredation and restoration, however their solution value and overall effect is limited by their small size. To increase positive impacts, Hemphuis should significantly scale and expand their activities.

Impact Summary

Company Impact Overview

According to Vested Impact, which measures holistic external value creation and impact of companies products and services;

- Hemphuis has an overall impact rating of 47, indicating an overall medium positive impact company
- Hemphuis has a direct positive impact on 8 United Nations Sustainable Development Goals; including Water, Climate, Waste & Consumption
- Hemphuis has a direct negative impact on 2 United Nations Sustainable Development Goals; including Climate, Water

Overall Impact

Overall Net Impact

47

-100 100

Medium Positive Impact

Negative Impact: 5 Positive Impact: 52

#13 out of 111

in Agricultural Inputs

+26 vs average

in Agricultural Inputs

Human Lives Impacted not available

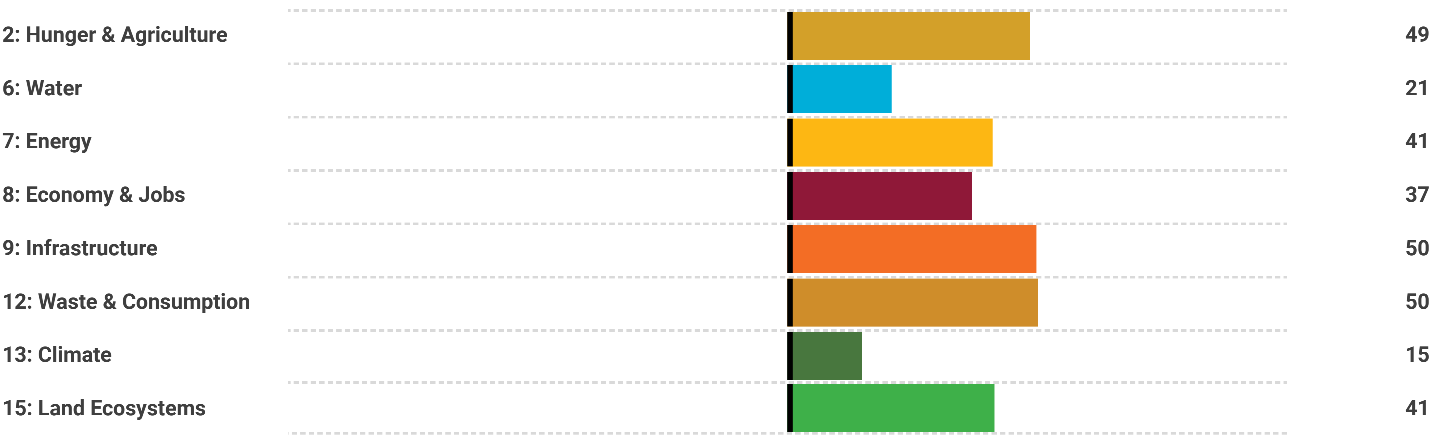
Most Positively Impacted SDGs

Most Negatively Impacted SDGs

SDG Impact Summary

SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. This agenda consists of 17 sustainable development goals (SDGs) and 169 targets that are in need of solutions that the private sector can deliver. The following graph details the net impact of the company against each measured SDG goal.



Industry Peers

Vested Impact's ratings are absolute and not relative to the sector or industry. However, for ease of benchmarking against similar peers, Vested Impact has identified the below peers from our database.

Peers are assigned by finding companies within the same industry and sorted by the closest in revenue from the company's latest available financial information.

Company	Positive Impact	Negative Impact	Net Impact
Equippp Social Impact Technologies Limited	41	-21	20
Kropz plc	29	-23	6
Karnalyte Resources Inc.	36	-8	28
Save Foods, Inc.	28	-23	5
Yield10 Bioscience, Inc.	47	-9	38
Eden Research plc	45	-16	29
Fertoz Limited	40	-31	9
Harvest Minerals Limited	49	-49	0
Arcadia Biosciences, Inc.	45	-12	33
Plant Health Care plc	55	-6	49

Impact Pillars

Vested's impact methodology assesses impact leveraging 4 key Impact Pillars, that are applied across each and every SDG Target a company's activities contribute to, in each country; positively or negatively. The following sections of this report show the details of this data. The algorithm pulls on over 100,000,000 data points from over 250 organisations to validate the impact across each metric and a list of the underlying data applied to assess and quantify impact is included at the end of this report.

Vested's Impact Pillars are the basis of the methodology; intended to assess if a company is serving the right people, in regards to the social or environmental issues that are most important/needed to those people, with a solution/services that delivers value, and how much change are they creating; in line with their own growth. There are over 122 calculation points underpinning the pillars. Below is the average ratings for the company.

People

The extent of impact on most in-need populations and geographic areas

Impact Score

32 / 100

A MEDIUM score suggests that the company's activities primarily affect people who have a significant need for solutions related to the relevant SDG target. To increase their impact, the company should consider expanding it's activities to markets and customers with a higher need for such solutions.

Country Score	(35)
Status Score	(26)
Trend Score	(19)

Importance

The importance of the impact area/s the company impacts

Impact Score

67 / 100

A HIGH score indicates that the activities of the company are addressing the social needs that are deemed of high importance within the geographic market and as expressed by the consumers/customers.

Global Importance Score	(45)
Societal Importance Score	(39)
Supporting Score	(50)

Value

The amount of value the company's activities deliver towards the impact area/s

Impact Score

46 / 100

A MEDIUM score indicates that the activities of the company have a significant contribution to progressing the social issues it is impacting; taking into account the depth of impact, how immediate the impact is felt, and long-term sustainability of the impacts.

Depth Score	(52)
Immediacy Score	(91)
Irremediability Score	(12)
Sustained Impact Score	(81)

Effect

The scale at which the company contributes to overall change

Impact Score

16 / 100

A LOW score indicates that the company has a low overall effect on the social issues and/or their business growth is decoupled from impact progress. This can be due mostly to the scale of the company and/or the company's growth going against progress of the social issues.

Scale Score	(0)
Change Score	(48)

To view the methodology and definitions of each factor, please refer to the Vested Impact Methodology contained in the appendix to this report, or available online.

SDG Analysis

A company's impact on global challenges can take various forms, either positive or negative, both directly and indirectly, whether intended or unintended. The data presented below highlights the specific global challenges affected by the company's activities in the countries it serves.

To determine the overall impact on each Sustainable Development Goal (SDG) target, we apply the four impact pillars to every business activity that relates to the SDG target in each respective country. These individual scores are then averaged to produce the final rating for the SDG target. The following list outlines the SDG targets influenced by the company's activities.

Notes are generated and supported leveraging over 200 million academic articles, journals, and publications. To view the references for each SDG Target relevant to the company activities, please view the list of Indicators and Academic references in the appendix of this report.

2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Negative Impact: 0 Positive Impact: 49

2.3: Increase agricultural productivity

Negative Impact: 0 Positive Impact: 37

Activities that impact the SDG Target

Negatively

Positively

Biochar Production - Hemp

- Researchers have found that application of biochar has the ability to improve soil nutrient status, increase crops yield, improve water retention, encourage carbon sequestration, decrease nitrogen, and able to reduce toxicity in contaminated soils (Islami et al., 2011, Feng et al., 2012, Dejene and Tilahun, 2019).

2.4: Sustainable and resilient food production

Negative Impact: 0 Positive Impact: 60

Activities that impact the SDG Target

Negatively

Positively

Biochar Production - Hemp

- In 2021, a review of about 300 biochar studies found it increased average crop yields from 10 to 42 percent, reduced concentrations of heavy metals in plants by 17 to 39 percent, and cut nitrous oxide emissions from soil by 12 to 50 percent.

6: Ensure availability and sustainable management of water and sanitation for all

Negative Impact: 32 Positive Impact: 53

6.4: Increase water-use efficiency

Negative Impact: 32 Positive Impact: 53

Activities that impact the SDG Target

Negatively

Industrial Hemp

Positively

Biochar Production - Hemp

- Industrial hemp (Cannabis sativa L.) does use significant water, with a water consumption of 353 mm over a growing season (Thevs 2022). However, its water use efficiency can be optimized through appropriate irrigation, with a 6-day interval being identified as potentially the best frequency (Kumar 2019). Despite its significant water use, hemp's water footprint is lower than that of cotton, making it a more sustainable option for textile production (Averink 2015).
- Biochar increases soil porosity and surface functionality, allowing the soil to retain water better. This is due to biochar's porous internal structure that increases soil surface area, allowing water to better penetrate the soil.

7: Ensure access to affordable, reliable, sustainable and modern energy for all

Negative Impact: 0 Positive Impact: 41

7.1: Access to affordable, reliable and modern energy services

Negative Impact: 0 Positive Impact: 37

Activities that impact the SDG Target

Negatively

Positively

Biomass

- Biomass infrastructure and services provide access to reliable and modern energy services

7.2: Increase renewable energy

Negative Impact: 0 Positive Impact: 42

Activities that impact the SDG Target

Negatively

Positively

Biomass

- Biomass is a renewable energy source, generated from burning wood, plants and other organic matter, such as manure or household waste. However it does have significantly more negative environmental impacts than other forms of renewable energy.

7.3: Improve energy efficiency

Negative Impact: 0 Positive Impact: 45

Activities that impact the SDG Target

Negatively

Positively

Biomass

- The production of bioenergy is highly efficient, yielding eight times more energy than is put in

8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Negative Impact: 0 Positive Impact: 37

8.1: Sustain economic growth

Negative Impact: 0 Positive Impact: 26

Activities that impact the SDG Target

Negatively

Positively

Biomass

8.4: Decouple economic growth from environmental degradation

Negative Impact: 0 Positive Impact: 48

Activities that impact the SDG Target

Negatively

Positively

Biomass

- Renewable energy consumption can significantly promote the decoupling of economic growth and environmental pollution.

9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Negative Impact: 0 Positive Impact: 50

9.4: Upgrade infrastructure and retrofit industries to make them sustainable

Negative Impact: 0 Positive Impact: 50

Activities that impact the SDG Target

Negatively

Positively

Biomass

- Upgrades and provides an environmentally sound power alternative

12: Ensure sustainable consumption and production patterns

Negative Impact: 0 Positive Impact: 50

12.2: Sustainable management and efficient use of natural resources

Negative Impact: 0 Positive Impact: 52

Activities that impact the SDG Target

Negatively

Positively

Biomass

- Biomass reduces requirements on fossil fuels and provides an alternate energy source

12.5: Reduce waste generation through prevention, reduction, recycling and reuse

Negative Impact: 0 | Positive Impact: 49

Activities that impact the SDG Target

Negatively

Positively

Biomass | Biochar Production - Hemp

- Biomass is a focus on reusing, recycling, and upcycling of many materials.
- Hemp biochar has been shown to have a positive impact on waste reduction and productivity in various applications. Maroušek (2014) presents a breakthrough in biochar cost reduction, making its production more economically viable.

13: Take urgent action to combat climate change and its impacts

Negative Impact: 38 | Positive Impact: 53

13.1: Climate adaptation (incl. reduced emission) and resilience

Negative Impact: 38 | Positive Impact: 53

Activities that impact the SDG Target

Negatively

Biomass | Biochar Production - Hemp

Positively

Biomass | Biochar Production - Hemp

- Emissions from burning of materials, where energy-related emissions from the production of energy from other fuels including electricity and heat from biomass contributes to 7.8% of global emissions.
- To bring climate benefits, biomass needs to come from low-value wood residues or smaller trees coming from timber harvests.
- Different source materials offer variable rates of carbon sequestration and the process of growing biomass and heating it to produce biochar itself creates variable levels of emissions.
- Some studies stated that the findings on biochar carbon sequestration is inconsistent because there were many contributing factors such as soil type, environmental conditions, time or period of biochar applied to soil and other variables (Spokas and Reicosky, 2009, Zimmerman et al., 2011). The success of using biochar as a carbon sequester is dependent largely on the type of biochar, temperature of pyrolysis and the duration of pyrolysis.

15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Negative Impact: 0 | Positive Impact: 41

15.1: Conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems

Negative Impact: 0 | Positive Impact: 43

Activities that impact the SDG Target

Negatively

Positively

Industrial Hemp

- Industrial hemp (Cannabis sativa L.) has shown promising potential for groundwater remediation through phytoremediation. It has been found to effectively remove organic contaminants, heavy metals, and other pollutants from soil and water, making it a sustainable and environmentally friendly remediation option (Wu 2021, Shumin 2013, Husain 2019). Additionally, the plant's ability to grow in contaminated soils and its enhanced tolerance to heavy metals further support its use in remediation efforts (Husain 2019).

15.3: Combat desertification and restore degraded land and soil

Negative Impact: 0

Positive Impact: 40

Activities that impact the SDG Target

Negatively

Positively

Industrial Hemp

- Industrial hemp (Cannabis sativa L.) has shown promising potential for phytoremediation, particularly in the removal of organic contaminants and heavy metals from soil (Wu 2021, Placido 2022). It has been found to be effective in remediating abandoned mine land soil, with certain varieties displaying enhanced tolerance to heavy metals and increased expression of cannabinoids (Husain 2019). The remedial capacity of industrial hemp can be further improved with the use of nitrogen fertilizer, which enhances plant growth and lead accumulation in contaminated soil (Deng 2021). These findings highlight the potential of industrial hemp as a sustainable and cost-effective solution for soil remediation.

Geographic Analysis

Different geographic regions and territories have vastly different needs and challenges, thus business activities in different geographies can have significantly different impacts on addressing the sustainable development goals; relative to how in need and how important progressing certain sustainable development goals are for the customers and recipients in those respective geographies.

The below scores are not solely reflective of weighted revenue generation in each geography, but rather the assessment of the degree of impact experienced in each geography. An SDG can be both positively and negatively impacted within a region, as is reflected as such.

Europe & Central Asia

Negative Impact: 37 Positive Impact: 45

Belgium

Negative Impact: 37 Positive Impact: 45

SDG Goals which are impacted by company activities in this country

Negatively

13: Climate, 6: Water

Positively

8: Economy & Jobs, 7: Energy, 12: Waste & Consumption, 9: Infrastructure, 13: Climate, 15: Land Ecosystems, 6: Water, 2: Hunger & Agriculture

Belgium is rated below World average for Climate adaptation (incl. reduced emission) and resilience and progress is plateauing

Environment is rated 7/11 in importance as needed for a better life, by people surveyed in Belgium

Activity Analysis

Different business activities can have vastly different impacts on addressing the Sustainable Development Goals, depending on who they serve, how directly they address solving the related SDGs, and the immediacy and long-term effects of the products and services.

The below scores are not solely reflective of the weighted revenue generation of each activity within the company, but rather the assessment of the degree of impact generated from each activity.

Biomass

Negative Impact: 38 Positive Impact: 44

SDG Goals which are impacted by this activity

Negatively

13: Climate

Positively

8: Economy & Jobs 7: Energy 12: Waste & Consumption 9: Infrastructure 13: Climate

Industrial Hemp

Negative Impact: 32 Positive Impact: 41

SDG Goals which are impacted by this activity

Negatively

6: Water

Positively

15: Land Ecosystems

Biochar Production - Hemp

Negative Impact: 38 Positive Impact: 53

SDG Goals which are impacted by this activity

Negatively

13: Climate

Positively

6: Water 2: Hunger & Agriculture 13: Climate 12: Waste & Consumption

CSRD Impact Materiality Report

A key component of the EU CSRD is the requirement for the undertaking of a Materiality Assessment - a comprehensive and detailed review of the social and environmental issues impacted on by a company's activities, products, operations, relationships and value chain, and the social and environmental issues that conversely impact on the company's financial factors.

Impact materiality and financial materiality assessments are inter-related and the interdependencies between these two dimensions needs to be considered. In general, the starting point is the assessment of impacts, which is what the detail of this report covers.

A sustainability impact may be financially material from inception or become financially material when it becomes investor relevant, including due to its present or likely effects on cash-flows, development, performance, and position in the short-, medium- and long-term time horizons. Irrespective of their being financially material, impacts are captured by the impact materiality perspective.

In identifying and assessing the impacts, risks, and opportunities in the company's value chain to determine their materiality, the focus is on areas where they are deemed likely to arise, based on the nature of the activities, business relationships, geographies or other risk factors concerned.

A sustainability matter is material from an impact perspective when it pertains to the undertaking's material actual or potential, positive, or negative impacts on people or the environment over the short-, medium- and long-term time horizons. Impacts include those caused or contributed to by the undertaking and those which are directly linked to the undertaking's own operations, products, or services through its business relationships. Business relationships include the undertaking's upstream and downstream value chain and are not limited to direct contractual relationships.

For example, an electronics enterprise may flag enterprises it sources from which operate in the extraction of minerals in conflict-affected and high-risk regions as being “high-risk” despite the fact that the electronics enterprise does not have direct contractual relationships with these business relationships.

Impact Risks

Irrespective of their being financially material, impacts are captured by the impact materiality perspective.

Some business operations, products or services are inherently risky because they are likely to cause, contribute to, or be directly linked to adverse impacts on RBC issues. In other contexts, business operations may not be inherently risky, but circumstances (e.g. rule of law issues, lack of enforcement of standards, behaviour of business relationships) may result in risks of adverse impacts.

An enterprise should be able to adequately respond to potential changes in its risk profile as circumstances evolve (e.g. changes in a country's regulatory framework, emerging risks in the sector, the development of new products or new business relationships).

Potential Adverse Negative impacts

For actual negative impacts, materiality is based on the severity of the impact, while for potential negative impacts it is based on the severity and likelihood of the impact. Severity is based on:

(a) the scale;

(b) scope; and

(c) irremediable character of the impact.

In the case of a potential negative human rights impact, the severity of the impact takes precedence over its likelihood.

Overall Risk Rating	SDG Target	Framework Ref	Activity	Location	Risk Type	Value Chain	Time Horizon	Scale	Scope	Irremediable Character	Likelihood	Risk Description
Medium Negative Impact	13.1: Climate adaptation (incl. reduced emission) and resilience	SDG 13.1; ESRS E1; ESRS E4; SFDR; EU Taxonomy; EBA Pillar 3	Biomass	Belgium	Policy & Legal; Market/Operational; Reputational; Nature	Product/service use	< 1 Year and/or immediate	Medium	Medium	Highly remediable	Very unlikely	Emissions from burning of materials, where energy-related emissions from the production of energy from other fuels including electricity and heat from biomass contributes to 7.8% of global emissions.- Emissions have an immediate and cumulative impact on contribution to climate warming. Once emitted, emissions stay in the atmosphere. Given the lack of carbon capture technologies, emissions themselves are considered irremediable. However certain strategic, product and operational approaches can be taken by the company to prevent future and continued impact Once emitted, emissions stay in the atmosphere.

Opportunities - Positive Impacts

For positive impacts, materiality is based on:

(a) the scale and scope of the impact for actual impacts; and

(b) the scale, scope and likelihood of the impact for potential impacts.

Overall Impact Rating	SDG Target	Framework Ref	Activity	Location	Value Chain	Time Horizon	Scale	Scope	Note
Medium Positive Impact	8.1: Sustain economic growth	SDG 8.1	Biomass	Belgium	Operations	1 - 3 Years	Low	Low	The sensitivity of economic growth is time-varying, usually based on cyclical business cycles, so impacts are felt after each cycle Economic growth impacts from market contributions or activities, can be remediated over time, usually within a short to medium term timeframe. However its worth noting that some immediate effects can be considered to be irremediable. Economic growth and impacts are cyclical, so the direct and immediate impacts do not usually last significant amounts of time if the causing activities/factors are remediated or ceased.
Medium Positive Impact	7.3: Improve energy efficiency	SDG 7.3; ESRS E1; SFDR; EU Taxonomy; EBA Pillar 3	Biomass	Belgium	Operations	1 - 3 Years	Medium	Medium	The production of bioenergy is highly efficient, yielding eight times more energy than is put in
Medium Positive Impact	7.2: Increase renewable energy	SDG 7.2; ESRS E1; SFDR; EU Taxonomy; EBA Pillar 3	Biomass	Belgium	Product/service use	< 1 Year and/or immediate	Medium	Medium	Biomass is a renewable energy source, generated from burning wood, plants and other organic matter, such as manure or household waste. However it does have significantly more negative environmental impacts than other forms of renewable energy.
High Positive Impact	12.5: Reduce waste generation through prevention, reduction, recycling and reuse	SDG 12.5; ESRS E2; ESRS E5	Biomass	Belgium	Operations	< 1 Year and/or immediate	Medium	High	Biomass is a focus on reusing, recycling, and upcycling of many materials.
Medium Positive Impact	9.4: Upgrade infrastructure and retrofit industries to make them sustainable	SDG 9.4	Biomass	Belgium	Operations	< 1 Year and/or immediate	Medium	High	Upgrades and provides an environmentally sound power alternative
High Positive Impact	12.2: Sustainable management and efficient use of natural resources	SDG 12.2; ESRS E5	Biomass	Belgium	Operations	< 1 Year and/or immediate	Medium	High	Biomass reduces requirements on fossil fuels and provides an alternate energy source Limiting or ceasing consumption and/or extraction of natural resource has an immediate impact. The impacts on natural resources are cumulative, so the impact can/will be felt long-term
Medium Positive Impact	7.1: Access to affordable, reliable and modern energy services	SDG 7.1; ESRS E1; SFDR; EU Taxonomy; EBA Pillar 3	Biomass	Belgium	Product/service use	< 1 Year and/or immediate	Medium	Medium	Biomass infrastructure and services provide access to reliable and modern energy services
Medium Positive Impact	8.4: Decouple economic growth from environmental degradation	SDG 8.4	Biomass	Belgium	Operations	< 1 Year and/or immediate	Low	Medium	Renewable energy consumption can significantly promote the decoupling of economic growth and environmental pollution.

Medium Positive Impact	13.1: Climate adaptation (incl. reduced emission) and resilience	SDG 13.1; ESRS E1; ESRS E4; SFDR; EU Taxonomy; EBA Pillar 3	Biomass	Belgium	Product/service use	< 1 Year and/or immediate	Medium	Medium	To bring climate benefits, biomass needs to come from low-value wood residues or smaller trees coming from timber harvests.- Emissions have an immediate and cumulative impact on contribution to climate warming. Once emitted, emissions stay in the atmosphere. Given the lack of carbon capture technologies, emissions themselves are considered irremediable. However certain strategic, product and operational approaches can be taken by the company to prevent future and continued impact Once emitted, emissions stay in the atmosphere.

Indicators, Academic Reference & Underlying Data

Indicators and science-based data and references are essential to objectively measuring and quantifying the progress toward achieving social and environmental goals.

While the United Nations has official indicators against all SDG Targets, there is a significant lack of detailed, up-to-date, and private-sector-relevant indicators and data. Vested Impact solves this by integrating over 40,000 indicators and 100,000,000 data points from additional data sources. Each indicator has been manually mapped by an analyst against relevant SDG Targets and company activities to strengthen the accountability, monitoring, and attribution of impact.

Vested Impact also leverages over 200,000,000 academic articles to provide science-based evidence for the attribution link of company activities against the SDG Targets they impact. Vested Impact is constantly integrating new data sources, relying on reputable and independent sources. Below is a list of the specific underlying indicators and data sources applicable to assessing and calculating impact for this company.

Indicators

SDG Target	Indicator	Source	Country	Trend	Description
8.1	Annual growth rate of real GDP per capita (%)	United Nations (DESA_UNSD)	Belgium	4.692	Annual growth rate of real GDP per capita
8.1	Industry (including construction), value added (% of GDP)	World Bank	Belgium	-0.07	Sourced from World Bank national accounts data, and OECD National Accounts data files.
8.1	GDP per capita growth (annual %)	World Bank	Belgium	1.953	Sourced from World Bank national accounts data, and OECD National Accounts data files.
7.2	Renewable energy share in the total final energy consumption (%)	United Nations (International Energy Agency)	Belgium	0.042	Renewable energy share in the total final energy consumption
12.5	Municiple waste treatment, % Landfill, Percentage	OECD	Belgium	-0.2408207343	Sourced from OECD (2022), Environment Database - Municiple waste, Generation and Treatment
12.5	Municipal waste generated, Tonnes, Thousands	OECD	Belgium	-0.0042934781	Sourced from OECD (2022), Environment Database - Municiple waste, Generation and Treatment
9.4	Carbon dioxide emissions per unit of GDP (kilogrammes of CO2 per constant 2010 United States dollars)	United Nations (International Energy Agency)	Belgium	0.026	CO2 emission per unit of value added
9.4	Carbon dioxide emissions from fuel combustion (millions of tonnes)	United Nations (International Energy Agency)	Belgium	-4.082	CO2 emission per unit of value added
9.4	Carbon dioxide emissions per unit of manufacturing value added (kilogrammes of CO2 per constant 2010 United States dollars)	United Nations (International Energy Agency)	Belgium	0.084	CO2 emission per unit of value added
12.2	Renewable energy consumption (% of total final energy consumption)	World Bank	Belgium	0.042	Sourced from World Bank, Sustainable Energy for All (SE4ALL) database from the SE4ALL Global Tracking Framework led jointly by the World Bank, International Energy Agency, and the Energy Sector Management Assistance Program.
7.1	Getting electricity: Cost to get electricity (% of income per capita)	World Bank	Belgium	0.029	Sourced from World Bank Indicator Database
15.3, 2.3	Agricultural land, Organic farmland, Thousand hectares	OECD	Belgium	0.0459870823	Sourced from OECD (2022), Agricultural land (indicator). doi: 10.1787/9d1ffd68-en
2.3	Agricultural land, Total, Thousand hectares	OECD	Belgium	0.0058866814	Sourced from OECD (2022), Agricultural land (indicator). doi: 10.1787/9d1ffd68-en

Underlying Indicators

Indicator	Source	Description
United Nations Standard Country or Area Classification	United Nations Statistics Division (UNSD)	Standard Country or Area Codes for Statistical Use (M49) of the United Nations Statistics Division (UNSD)
World Bank country classifications by income level: 2022-2023	World Bank	The World Bank assigns the world's economies to four income groups—low, lower-middle, upper-middle, and high-income countries. The classifications are updated each year on July 1 and are based on GNI per capita in current USD (using the Atlas method exchange rates) of the previous year (i.e. 2020 in this case).
OECD Better Life Survey	OECD.Stat	The Better Life Index involves citizens in measuring the well-being of societies, materializing as an open contiuous survey recording local perceptions of wellbeing and quality of life.

OECD How's Life? Well-being - Current Well-being (average and deprivation)	OECD.Stat	How's Life? Well-being is 80+ indicators providing information on current well-being outcomes, well-being inequalities and the resources and risks that underpin future well-being
OECD How's Life? Well-being - Current Well-being (vertical inequality)	OECD.Stat	How's Life? Well-being is 80+ indicators providing information on current well-being outcomes, well-being inequalities and the resources and risks that underpin future well-being
OECD How's Life? Well-being - Resources for Future Well-being	OECD.Stat	How's Life? Well-being is 80+ indicators providing information on current well-being outcomes, well-being inequalities and the resources and risks that underpin future well-being
Individual Deprivation Measure (IDM) Model	Australian National University (ANU) and the International Women's Development Agency (IWDA)	The Individual Deprivation Measure (IDM) is a new individual-level, gender-sensitive, measure of multidimensional poverty. It measures deprivation in relation to 15 key dimensions of life, making it possible to see who is poor, in what ways and to what extent.
2022 SDG Index Score	Cambridge University	Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F., (2022). From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond. Sustainable Development Report 2022. Cambridge: Cambridge University Press.
2022 SDG Index Rank	Cambridge University	Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F., (2022). From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond. Sustainable Development Report 2022. Cambridge: Cambridge University Press.
SDG Tracker	Global Change Data Lab	Ritchie, Roser, Mispy, Ortiz-Ospina. "Measuring progress towards the Sustainable Development Goals." SDG-Tracker.org

Academic References

SDG Target	Reference	URL
8.1	Mucahit Aydin, (2019), The effect of biomass energy consumption on economic growth in BRICS countries: A country-specific panel data analysis, Renewable Energy	https://doi.org/10.1016/J.RENENE.2019.02.001
8.1	Taner Güney et al., (2020), Biomass energy consumption and sustainable development,	https://doi.org/10.1080/13504509.2020.1753124
8.1	M. J. Blair et al., (2021), Contribution of Biomass Supply Chains for Bioenergy to Sustainable Development Goals, Land	https://doi.org/10.3390/LAND10020181
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