ESG Insights 2022

Climate change

Associated British Foods plc

Why it is important

Climate change is a global emergency that goes beyond national borders. It is an issue that requires international cooperation and coordinated solutions at all levels.

As we consider the impacts of climate change, it is clear that transitioning to a low carbon economy presents both risks and opportunities for our businesses. We believe in the pursuit of a Just transition that protects the planet as well as the welfare of our employees and people in our value chain.

Our culture favours taking action today, wherever we can make a positive difference, instead of leaning on future promises based on imprecise assumptions. Long-term targets are not a substitute for short and medium-term actions. Our focus is therefore on delivering the 2030 commitments we have made.

Climate change is not a separate and parallel discipline; it is already part of the ordinary course of business, and we are working to understand and improve this further.

Our businesses and supply chains operate in many areas subject to climate risks and opportunities as we transition to a lower-carbon world. Our success depends on mitigating these risks and making the most of the opportunities.

We believe we can reach net zero by 2050, if not sooner, and we are committed to doing what we can to go further, faster. But we cannot do this alone. Much of what is needed will depend on system change at multiple points of the value chain, including a radical reshaping of national energy policies by governments.

Our commitments

We recognise that climate change represents a material risk throughout our supply chains and poses challenges to some of our businesses worldwide. We wholly support policies that are aligned with the goals of the Paris Climate Agreement to limit the rise in global temperatures to well below 2˚C above pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5˚C[1].

Several of our businesses have made greenhouse gas (GHG) reduction commitments. We have summarised those commitments in the table below and included links to further information.

ABF business/segment	Commitment	Alignment to external/internal initiatives
AB Sugar	30% reduction in Scope 1 and Scope 2 GHG emissions by 2030 against a 2018 baseline Committed to setting a near-term science-based reduction target in consultation with the Science-Based Targets initiative (SBTi)	AB Sugar Global Mind, Local Champions strategy The Science Based Targets initiative
Primark	50% reduction in Scope 1, 2 and 3 GHG emissions across Primark value chain by 2030, against a 2018 baseline Committed to setting a science-based emission reduction target in consultation with The Science Based Targets initiative (SBTi)	Primark Cares UNFCCC Fashion Industry Charter for Climate Action The Science Based Targets initiative
UK Grocery	50% reduction across Scope 1,2 and 3 GHG emissions by 2030, against a 2015 baseline	Courtauld Commitment 2030
Twinings	All tea and herbal infusions to be carbon neutral by 2030	Sourced With Care

Note: GWF achieved its commitment to reduce Scope 1 and 2 emissions per tonne of production by 20% by 2020 (baseline 2010/11) in line with the Australian Food and Grocery Council's Sustainability Commitment. A new commitment is still in development.

1. The Paris Agreement | United Nations

In the table below, we have summarised the material metrics and, where applicable, targets used by ABF and the relevant businesses to assess climate-related risks and opportunities.

TCFD metric category	Group /division	FY22 metrics	Target set	Linkage to climate risk/opportunity	Metric
Physical risks	AB Sugar	• Total sugar production (tonnes)	No	Climate impacts on sugar yields	3.1mt See ESG Insights
	Group	• Volume of water abstracted[Δ]	AB Sugar represents some 96% of the Group's water abstracted. It has a target to reduce its end-to-end supply chain water by 30% by 2030 vs a 2017/18 baseline	Climate impacts on sugar yields	See pages 13, 76
	Primark	• Proportion of cotton clothing sales (units) that contain cotton that is organic, recycled or sourced from Primark's Sustainable Cotton Programme (%)	Target 100% by 2027	Climate impacts on cotton yields	See pages 53, 89
	Primark	• Number of farmers trained in the Primark Sustainable Cotton Programme	275,000 farmers to be trained by the end of 2023. This includes farmers that are currently being trained and those that have completed training under the programme.	Climate impacts on cotton yields	See pages 13, 56
Transition risks	Group	• Percentage of renewable energy (%)[Δ] • Energy consumed[Δ]	No	Impacts of carbon pricing mechanisms on AB Sugar and Primark	See pages 13, 75
GHG emissions	Group	• Scope 1 and 2 emissions: absolute emissions[Δ] (000 tCO_2e) and tonnes of CO_2e per £1m of revenue	No	Impacts of carbon pricing mechanisms on AB Sugar and Primark	See pages 13, 74
	AB Sugar	• GHG emissions: absolute Scope 1 and 2 emissions (000t CO_2e)[Δ]	Target to reduce Scope 1 and 2 absolute emissions by 30% by 2030 vs a 2017/18 baseline	Impacts of carbon pricing mechanisms on AB Sugar	2,014 (000t CO2e) See ESG Insights and page 92
	Primark	• GHG emissions: Scope 1, 2 and 3 emissions (000t CO_2e)[Δ]	Primark is aligned with the UNFCCC Fashion Industry Charter goal of net zero emissions across all three Scopes by 2050. It also has an interim target to halve its absolute carbon footprint across all three Scopes by 2030 against a 2018/19 baseline	Impacts of carbon pricing mechanisms on Primark	See pages 13, 53
Climate-related opportunities	Primark	• Proportion of clothing sales (units) containing recycled or more sustainably sourced materials (%)	Target to ensure 100% of clothing sales contain recycled or more sustainably sourced materials by 2030		See pages 13, 53

Δ EY has provided limited independent assurance over this metric. See the ABF Responsibility Report 2022, page 56, for EY's assurance statement.

Our approach

Our businesses are facing into the challenge of climate change in four ways:

1. Improving our understanding and responses to climate-related risks and opportunities;
2. Reducing our own GHG emissions (Scope 1 and 2 GHG emissions);
3. Supporting our suppliers and partners to reduce their GHG emissions (Scope 3 GHG emissions); and
4. Providing products that help others reduce their GHG emissions.

In our 2021 Annual Report and Accounts, we outlined a 2022 action plan for more in-depth assessments on the identification, assessment and management of climate-related risks and opportunities. We have now conducted a comprehensive risk assessment, across the whole supply chain, focused on climate-related risks and opportunities at a divisional level, aligned with the risk management processes at ABF and our decentralised structure[2].

i) We conducted a high-level review of potential risks across the Group, and as a result, our TCFD efforts to date have been focused on AB Sugar, Primark and Twinings which account for 81% of the adjusted operating profit for the Group and some 70% of the Group's total Scope 1 and Scope 2 emissions.

ii) In these businesses:

   a. Cross-functional business teams worked with third-party experts (South Pole) to develop an initial list of climate-related physical and transition risks and opportunities that could impact these businesses in line with the TCFD framework and guidance.

   b. We held climate risk/opportunity workshops with key stakeholders to prioritise risks and opportunities for scenario analysis. Selection criteria included the importance of those risks and opportunities to the business, South Pole's judgement on how climate change may potentially change those risk and opportunities and the availability of appropriate models to assess impacts.

iii) We conducted high-level assessments across all our other businesses, involving relevant business segment leaders and third-party experts. These assessments ensured we not only understand the material climate risk and opportunities in those businesses but also identified risks and opportunities that could be material if accumulated across the Group. All identified risks were then reviewed, and those that could have the most significant financial impact on the Group were subject to scenario analyses.

iv) Following the scenario analyses and workshops, the most significant climate-related risks were identified and assessed by each business segment and incorporated into relevant risk registers, in line with their existing risk management processes.

v) Our Non-Executive Directors and PwC were then engaged to challenge our approach in identifying material risks and consider if we had missed anything material. We assessed the outcome of these challenges and adjusted our approach as considered appropriate.

While we have considered the principal climate risks, we recognise that there are wider climate impacts that are challenging to model. For example, socio-economic and geopolitical issues directly linked to climate change and other societal challenges that may be exacerbated by climate change. Our businesses will still capture these risks within their risk registers and consider actions they can take to mitigate their impact.

We have assessed the impact of climate risks and opportunities taking into consideration different scenarios including <2˚C and 4˚C scenarios to assess the resilience of the Group to climate change.

On the basis of our analysis, we believe that in the period to 2030, the risks the risks to the Group are not material. There is less clarity in the data.

further out to 2050. While there may be risks that will need to be managed by mid-century, these do not appear to be sufficiently substantive to require a material change to our business model or divisional strategies within the time horizons considered. That analysis has, however, confirmed the importance of many of the action plans already underway.

The Board is responsible for overseeing climate-related issues and reviews each business segment in depth every year, which will include a review of material ESG issues.

Climate risk is considered a material risk to the Group and is included in the principal risk recognising the impact it may have on the business in the short, medium and long term.

2. For further information see our Task Force for Climate-related Financial Disclosure statement in the ABF Annual Report 2022

The process for identifying, assessing and managing climate-related risks is the same as for other risks within the Group and sits with the business where the risk resides. These risks, including climate risks, are collated and reviewed at both a business and divisional level, and then reported to the Director of Financial Control who reviews the key risks with the Board. The Board also monitors the Group's exposure to risks as part of performance reviews with each business.

ABF operates a decentralised business model because we believe in giving the leaders of our businesses the scope and accountability to create and run the best businesses they can. They are therefore responsible for identifying and implementing strategies that both create value and ensure value is protected by taking action to mitigate or adapt to the impacts of climate change. Enabling decision-making by the people closest to these issues, with the closest relationships with the stakeholders affected, provides resilience, agility and flexibility in planning, allowing for quick action on impacts and opportunities.

As such we do not set a Group-wide climate-related target; instead, our businesses set targets that are appropriate to their operations and supply chains.

Based on our track record and plans up to 2030 we are confident that our businesses are well placed to make significant progress beyond 2030 and up to 2050. Further information about our current performance and key actions for 2022/23 can be found in the 'Our performance' and 'Outlook' sections.

We are now using a new methodology, Implied Temperature Rise (ITR), to frame and benchmark our carbon reduction plans. In simple terms, ITR provides a way to compare our plans with published global temperature pathways. Emissions projections are complex to model, with a high degree of uncertainty, so we have worked closely with external environmental advisers to collate data and modelling outcomes. Based on current plans in place across all of our businesses for scope 1 and 2 GHG emissions, our analysis indicates that our 2030 targets have an ITR of less than 1.8 degrees above pre-industrial levels by 2050 and therefore are in line with the 2015 Paris Agreement.

Carbon enablement is where our products or services assist others in reducing their carbon emissions. It is integral to several of our businesses' offer to customers, and a key focus for investment and innovation. Several ABF businesses – AB Enzymes, AB Agri and AB Sugar – have enablement at the core of their purpose. They each play a role in enabling others to reduce Scope 3 emissions.

We have also reported our approach to managing climate risks and opportunities and related energy performance via CDP[3] for more than ten years, and we were rated "C" for our 2021 annual disclosure.

We regularly review our methodologies, estimates and calculations for monitoring our carbon footprint to ensure that we align with latest protocols, that we use the best data available, and that we continually work to improve the accuracy of our reporting.

3. Reports, ESG insights and data – ABF

Our performance

This year, 63% of all our sites have applied internationally recognised standards or obtained external certification for the quality of their environmental management systems. The standards include ISO 14001 (environmental management) and ISO 50001 (energy management). These facilities are subjected to external audits to ensure sound environmental management. In addition, other sites are working towards certification to drive improvements in their approach to environmental responsibility.

In 2022, our total energy consumption was 21,046 GWh Δ, a 4% decrease compared with 2021. Our Sugar businesses were responsible for consuming 81% of that total, or 17,110 GWh Δ, which is a 5% decrease compared with the prior year. Of their total energy consumed in the year, 63% was from renewable sources. Our Sugar businesses have continually improved energy use over the last decade and have made significant reductions in energy used. The businesses continue to seek energy efficiencies and to do more with every unit of energy consumed. For example, as well as producing both core sugar products and a range of speciality sugars, the advanced sugar manufacturing sites produce more than 24 co-products, including molasses, sugar beet pulp and bioethanol. Furthermore, they exported 862 GWh Δ of surplus energy generated on their sites to their local grids or other organisations.

Of the total energy consumed across the Group this year, 54% came from renewable sources mainly generated on our sites. The majority of this, at 87%, comes from bagasse. This is the residual fibre that remains after the extraction of juice from the crushed stalks of sugar cane. Illovo Sugar Africa have a very efficient system of using the bagasse to generate steam and electricity to power their factories.

The other sources of renewable energy that we report are the on-site use of wood, biogas and solar and purchased renewable energy from national grids.

For our greenhouse gas data, we report Scopes 1, 2 and 3-transport emissions. Primark also report Scope 3 emissions (see Methodologies pages 12 – 14).

This enables us to analyse the emissions over which we have direct control as well as those generated in our supply chain. Our Scope 1 and 2 emissions (location-based), over which we have direct control, account for 78% of our total emissions (scopes 1, 2 and 3 – transport emissions); they have reduced by 2% this year to 3.11 million tonnes CO_2eΔ. These emission reductions are aligned with a reduction in product output and efficiencies in energy use and other on-site processes which emit greenhouse gas emissions.

We note that since 2015 we have reported annual emissions reductions. This is in part due to changes in product output, trading activity, and the emission factors used to calculate tonnes of CO_2e but also due to the commitment of our businesses to continuously improve energy efficiency across our manufacturing sites and retail stores.

We report our Scope 2 market-based emissions in addition to our Scope 2 location-based emissions. Our Scope 2 market-based emissions this year are 720,000 tonnes of CO_2e Δ compared with 777,000 tonnes last year. This data helps us, and our businesses make informed decisions on energy supply, with the aim to reduce emissions from our purchased energy.

Our total Scope 3 emissions increased by 35% compared with last year. This is primarily due to Primark's increase in trading activity during the year, resulting in increased materials and products brought into the business, increased days in operation and increased sales. Primark's Scope 3 emissions align with an approximate 35-40% increase in its trading activity.

54%
of the energy we consume comes from renewable sources[1]

7th
year we have reduced Scopes 1 and 2 emissions

2%
reduction in Scope 1 and 2 emissions

For our Group Scope 3 emissions from third-party transport movements only, we report a 3% increase in emissions from 621,000 tonnes CO_2e to 637,000 tonnes CO_2e Δ. Primark's third-party transport movements are not included in these figures as they are accounted for in their full Scope 3 inventory.

During 2020 and 2021, many of our transport movements were limited due to the global pandemic and so this year logistics have increased to move raw materials into our factories and our products out to customers. We have also seen significant increases in shipping and other transport movements for some of the businesses which contribute most to the Group's Scope 3 emissions.

Highlights

- This year the Group has complied with the requirements of listing rule 9.8.6.R by including climate-related financial disclosures consistent with the TCFD recommendations and the 11 recommended disclosures, published in 2017 by the TCFD, including the supplemental guidance for all sectors. These are set out in the ABF Annual Report 2022 on pages 83 to 93.
- Our Sugar division has set out a clear roadmap for improvements. It is running multiple projects to support its commitment to reduce its Scope 1 and Scope 2 emissions by 30% by 2030.
- Twinings' own operations, located in the UK and Poland, have been certified carbon neutral for Scope 1 and 2 emissions by the Carbon Trust.
- A number of our businesses, including AB Sugar, AB Agri, AB World Foods and Jordans Dorset Ryvita have commissioned in-depth reviews of their Scope 3 emissions and are currently establishing ways to ensure consistent data flows and reduction plans.
- Primark has a detailed plan to achieve a significant reduction in supplier emissions by the end of the decade. These will be net reductions in direct and indirect supplier emissions.
- Vivergo Fuels site in Hull reopened following an announcement by the UK's Department for Transport that E10 petrol (a cleaner, greener fuel) will be introduced in the UK. The biogenic fuel produced by Vivergo Fuels will help cut transport CO_2 emissions equivalent to taking 260,000 cars off the road per year.
- Our Intellync Sustain business also developed the world's first on-farm carbon footprint assessment tool, delivering data insights to inform improvement strategies. They have completed thousands of farm-level carbon footprints and currently support a range of retailers and food processors in their efforts to reduce Scope 3 emissions.

AB Enzyme's products helped to improve the efficiency of laundry detergent, allowing consumers to save energy by washing their clothes at a lower temperature and reducing GHG emissions.

1. The renewable energy is mainly generated on our sites from biogenic sources

Total GHG emissions – Scopes 1 and 2

000 tonnes CO_2e

2018	2019	2020	**2021**	**2022**
4,153	3,993	3,555	3,161	**3,107Δ**

GHG emissions – Scopes 1 and 2 by business segment

000 tonnes CO_2e

	2018	2019	2020	**2021**	**2022**
Grocery	541	543	495	492	**436Δ**
Sugar	2,548	2,397	2,055	1,999	**2,014Δ**
Agriculture	85	91	85	83	**79Δ**
Ingredients	816	801	787	468	**455Δ**
Retail	164	160	134	118	**124Δ**

GHG emissions – by scope

000 tonnes CO_2e

	2018	2019	2020	**2021**	**2022**
Scope 1: Combustion of fuel and operation of machinery	3,159	3,087	2,719	2,370	**2,336**
Scope 1: Generation and use of renewables	69	75	78	80	**72**
Total Scope 1	3,228	3,162	2,797	2,450	**2,408Δ**
Scope 2: Location-based	925	831	758	711	**699Δ**
Scope 2: Market-based	–	–	783	777	**720Δ**
Scope 3*: Third-party transport only				621	**637Δ**
Scope 3: Primark's Scope 3 emissions	813	753	764	4,606	**6,452Δ**
Scope 3: ABF total Scope 3 emissions	–	6,246	5,114	5,227	**7,089Δ**
Biogenic emissions	3,711	3,962	4,045	4,208	**3,879**

* From 2021 Primark's third party transport emissions are excluded from the Group Scope 3 third-party transport emissions. These emissions are captured within Primark's Scope 3 inventory. With Primark's third-party transport included the Group Scope 3 figure for 2021 is 799,000 tonnes of CO_2e and in 2022 901,000 tonnes of CO_2e.

GHG emissions intensity against revenue – Scopes 1 and 2

000 tonnes CO_2e per £m

	2018	2019	2020	**2021**	**2022**
	266	252	256	228	**183**

	2018	2019	2020	**2021**	**2022**
Grocery					
Scope 1	278	283	242	274	**235Δ**
Scope 2	263	261	252	218	**201Δ**
Scope 3	140	125	153	190	**167Δ**
Biogenic emissions	0.22	0.23	0.24	6.79	**7.72**
Sugar					
Scope 1	2,314	2,255	1,942	1,883	**1,891Δ**
Scope 2	234	142	112	117	**124Δ**
Scope 3	238	218	238	263	**316Δ**
Biogenic emissions	3,711	3,960	4,040	3,875	**3,537**
Agriculture					
Scope 1	55	56	51	51	**50Δ**
Scope 2	30	35	34	32	**28Δ**
Scope 3	100	91	89	84	**73Δ**
Biogenic emissions	0.00	0.12	0.02	0.05	**0.002**
Ingredients					
Scope 1	562	548	541	222	**211Δ**
Scope 2	253	253	246	246	**243Δ**
Scope 3	72	74	80	85	**80Δ**
Biogenic emissions	0.02	2	5	326	**334**
Retail					
Scope 1	19	21	20	20	**21Δ**
Scope 2	145	140	114	99	**103Δ**
Scope 3 (Indirect emissions from use of third-party transport)	263	255	204	177	**265Δ**
Scope 3 (Indirect emissions from extended inventory)	–	–	–	4,606	**6,452Δ**
Biogenic emissions	0.00	0.00	0.00	0.00	**0.00**

Total energy use

GWh

	2018	2019	2020	**2021**	**2022**
Renewable energy	11,511	12,211	12,462	11,856	**11,300Δ**
Total energy	23,216	23,566	22,877	21,990	**21,046Δ**

Renewable energy as share of total energy

	2018	2019	2020	**2021**	**2022**
Renewable energy %	50	52	55	54	**54Δ**

The renewable energy is mainly generated on our sites from biogenic sources.

Total energy use (GWh) – by business segment

	2018	2019	2020	**2021**	**2022**
Grocery	1,605	1,649	1,490	1,558	**1,400Δ**
Sugar	18,962	19,238	18,883	17,950	**17,110Δ**
Agriculture	227	267	246	241	**234Δ**
Ingredients	1,883	1,836	1,779	1,779	**1,762Δ**
Retail	540	575	480	461	**541Δ**

Total energy use – by business segment

GWh

Grocery	7%
Sugar	81%
Agriculture	1%
Ingredients	8%
Retail	3%

Renewable energy use – by business segment

GWh/% of business segment energy use

	2018	2019	2020	**2021**	**2022**
Grocery – GWh	12	12	12	1	**85Δ**
Grocery – %	1%	1%	1%	0%	**6%**
Sugar – GWh	11,377	12,078	12,327	11,744	**10,798Δ**
Sugar – %	60%	63%	65%	65%	**63%**
Agriculture – GWh	17	15	11	13	**27Δ**
Agriculture – %	7%	6%	4%	6%	**12%**
Ingredients – GWh	105	105	113	97	**288Δ**
Ingredients – %	6%	6%	6%	5%	**16%**
Retail – GWh	0	0	0	0	**103Δ**
Retail – %	0%	0%	0%	0	**19%**

In 2022 we expanded our scope for energy consumed from a renewable source to include on-site generated energy from renewable non-fuels e.g. solar and purchased electricity and steam from a renewable source. See Methodologies on pages 11-12 below.

2022 energy use – by source

	Electricity	Imported steam	Natural gas	Liquid fuels	Solid fuels	Renewables
Energy – GWh	1,501	146	6,053	402	1,644	11,300Δ
Energy – %	7	1	29	2	8	54Δ

Total energy exported (GWh)

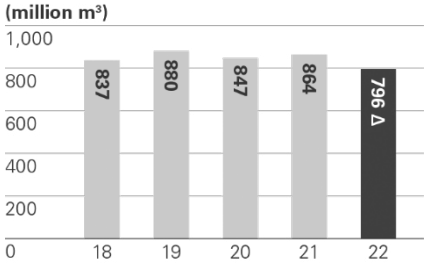
	2018	2019	2020	**2021**	**2022**
Grocery	0	0	0	0	**0.1**
Sugar	776	920	943	855	**862**
Agriculture	38	43	50	47	**50**
Ingredients	10	8	9	7	**16**
Retail	0	0	0	0	**0**
pt	825	971	1002	910	**929**

Climate-related risks and opportunities

The charts below illustrate our performance against the material metrics for climate-related related risks and opportunities as defined in our 2022 TCFD statement.

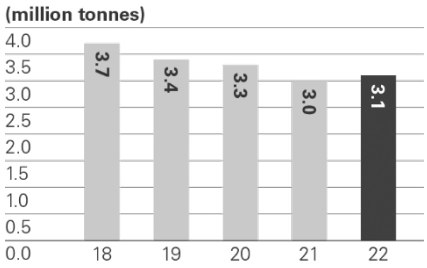
TCFD metric category: Physical risks

Group – Total water abstracted (million m³)

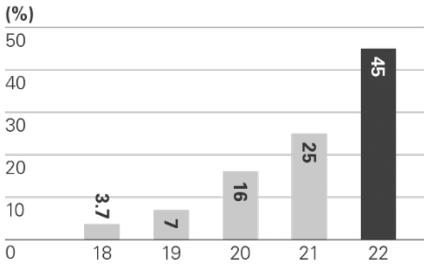


AB Sugar represents some 96% of the Group's water abstracted. It has a target to reduce its end-to-end supply chain water by 30% by 2030 vs a 2017/18 baseline

AB Sugar – Tonnes of sugar production

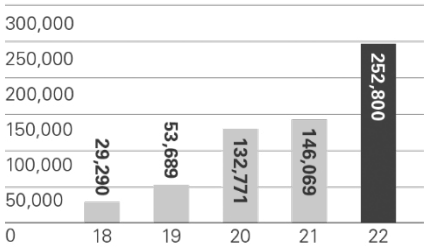


Primark – Proportion of clothing sales (units) containing recycled or more sustainably sourced materials (%)



Target – to ensure 100% of clothing sales contain recycled or more sustainably sourced materials by 2030

Primark – Number of farmers trained in the Primark Sustainable Cotton Programme

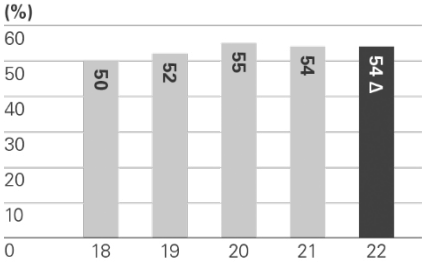


Target – 275,000 farmers to be trained by the end of 2023.

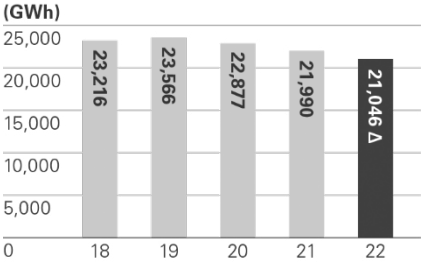
This includes farmers that are currently being trained and those that have completed training under the programme.

TCFD metric category: Transition risks

Group – Percentage of renewable energy (%)

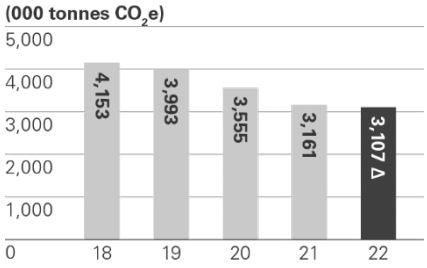


Group – Energy consumption (GWh)

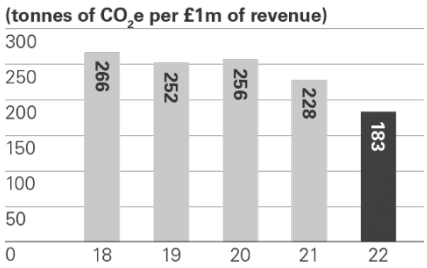


TCFD metric category: GHG Emissions

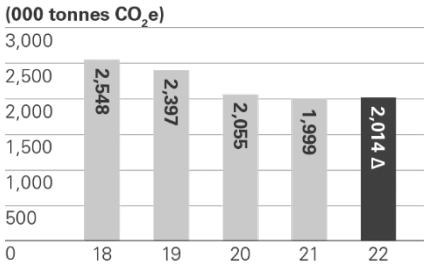
Group – Scope 1 and 2 emissions: absolute emissions (000 tonnes CO_2e)



Group – GHG emissions Intensity (tonnes of CO_2e per £1m of revenue)

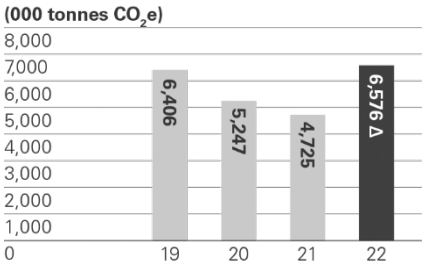


AB Sugar GHG emissions: absolute Scope 1 and 2 emissions (000 tonnes CO_2e)



Target – to reduce Scope 1 and 2 absolute emissions by 30% by 2030 vs a 2018 baseline

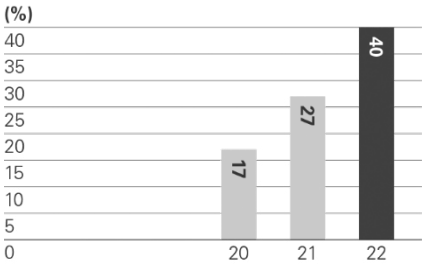
Primark GHG emissions: absolute Scope 1, 2 and 3 emissions (000 tonnes CO_2e)



Target – Primark is aligned with the UNFCCC Fashion Industry Charter goal of net zero emissions across all three Scopes by 2050. It also has an interim target to halve its absolute carbon footprint across all three Scopes by 2030 against a 2018/19 baseline.

TCFD metric category: Climate-related opportunities

Primark: Proportion of cotton clothing sales (units) that contain cotton that is organic, recycled or sourced from Primark's Sustainable Cotton Programme (%)



Target – 100% by 2027

Methodologies

Scope of reporting

Our Group emissions are from:

- the energy we use in our factories, offices, warehouses, distribution centres and stores (sites);
- the processes in our sites, which include bread baking, the production of bioethanol and enzymes, wastewater treatment and from electrical equipment;
- transportation of our goods and people for which we are responsible, in both owned and third-party vehicles; and
- agricultural and horticultural activities directly controlled by Associated British Foods.

Associated British Foods plc reports full GHG emissions in carbon dioxide equivalent (CO_2e) from those activities for which we are responsible.

For the current and prior reporting years, this applies to all companies over which the Group has full operational control or has financial control but does not fully own, and from joint ventures and associates where we do not have a majority shareholding but do have either joint control or significant influence.

This includes our most material joint ventures, measured in terms of net assets: Frontier Agriculture, UNIFERM, Czarnikow, Stratas Foods, and two sites jointly operated with Wilmar International. See note 29 in the Annual Report and Accounts for the full list of joint ventures and associates.

Due to rounding, business segment numbers presented throughout this document may not add up to precisely the Group totals reported.

Definitions of key performance indicators (KPIs)

Energy used: energy data is reported in line with our GHG reporting scope (see below). The total energy used includes energy used from electricity, natural gas, gas oil, coal, diesel, coke, anthracite, petrol, kerosene, heavy fuel oil, liquefied petroleum gas (LPG), imported steam and renewable sources.

The total is displayed as gigawatt hours (GWh) with a split between energy consumed from non-renewable and renewable sources. Energy consumption is calculated using country-specific conversion factors from physical quantities to kWh to provide an accurate representation of our energy consumption.

Energy used from renewable sources: includes energy that is generated on-site from renewable fuels which includes bagasse and its residue, biogas and wood; energy generated from non-fuel renewable sources on-site including solar and purchased electricity and steam supported by evidence of renewable source. The total is displayed as gigawatt hours (GWh). This year within our Group and Segment level data, we have included purchased electricity and steam from an evidenced renewable source. In addition, we have captured for the first time the energy generated and consumed from an on-site renewable non-fuel source such as solar panels and reported this data within our totals of energy consumed from a renewable source.

Number of farmers trained in the Primark Sustainable Cotton Programme: This includes farmers that are currently being trained and those that have completed training under the programme.

Proportion of clothing sales containing recycled or more sustainably sourced materials: Primark Cares clothing products are assessed against Primark's protocols regarding minimum content levels which will vary by material. These protocols have evolved during the year with products assessed against the protocols at the date of production.

How we calculate our emissions

All CO_2e emissions are reported in tonnes.

We have developed detailed reporting guidance including estimation methodologies, assumptions and calculation methodologies in line with the GHG Protocol Corporate Accounting and Reporting Standards (World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) 2004).

Emissions have been calculated using carbon conversion factors published by the UK's Department for Business, Energy and Industrial Strategy in June 2022, other internationally recognised sources and bespoke factors based on laboratory calculations at selected locations.

Reporting our GHG emissions

Scope 1 emissions include those from:

- the use of non-renewable fuels such as natural gas and coal in boilers and dryers, as well as fugitive emissions;
- our manufacturing processes such as the fermentation process to make bioethanol, as well as the management of on-site wastewater which this year includes more actual input data than estimates that had been applied in prior years;
- directly controlled agricultural activities including growing sugar beet and sugar cane, other crop production and CO_2 emitted from horticulture; and
- owned transport.

Scope 2 emissions are those from purchased electricity, heat or steam used on our sites. Scope 2 emissions are reported on both a location- and market-based approach in line with the GHG Scope 2 Guidance (WRI & WBCSD, 2015). Scope 2 location-based emissions reflect the average emissions intensity of grids from which the energy consumption occurs. Scope 2 market-based emissions are calculated using the emissions from the electricity that our businesses have purchased. Purchased renewable electricity, which is supported by appropriate evidence from the energy provider (i.e. renewable energy certificates, Guarantees of Origin or similar), and that meets the 'quality criteria' outlined in the GHG Protocol Scope 2 Guidance, is converted to CO_2e by applying supplier-specific emission factors. Where supplier-provided emissions factors are not available, we have applied the specific residual mix factor. Where the residual mix factor is not available, we revert to the location-based grid average emission factor.

Scope 3 emissions are those from transport operations carried out by third-parties under our direction and for which we are responsible. The data reported only includes journeys fully dedicated to the transport of our goods or materials in which the third-party invoices us directly. We exclude journeys in a sub-contracted mode of transport that is carrying other materials or goods for other customers in addition to our materials or goods. Examples of these non-dedicated transport movements are couriers, ferries, groupage operations and pallet networks. The data reported is the combustion of fuel for vehicles. Third-party vehicles' emissions are calculated using tonnes/km of movement and the latest DEFRA, or international equivalent emissions factors.

Biogenic carbon emissions are those from the combustion or fermentation of biomass/biofuels on our sites. Within our operations, the combustion of biofuels relates to the generation and use of renewable energy on our sites, including leased sites. In the main, the renewable energy we generate comes from bagasse, the renewable plant-based fibrous residue that remains after the extraction of juice from the crushed stalks of sugar cane.

In 2021, following a review of our reporting of emissions generated from the fermentation of yeast in our factories, we recategorized these emissions from scope 1 to our biogenic carbon emissions category. Biogenic carbon refers to carbon that is contained in biomass, whereby CO_2 is emitted from the combustion of the biomass/biofuel or its fermentation.

Primark's Scope 3 emissions

Primark completed a Scope 3 inventory for 2022, which was assured by EY. Only the following categories are included in Primark's Scope 3 emissions data as per the screening process. Unless otherwise stated, the UK Government's GHG Conversion Factors for Company Reporting (DEFRA) 2021 factors were applied.

Category 1 – Purchased goods and services. DEFRA 2012, 2014 and 2021 factors were applied and supplemented by specific emission factors for the type of activity (derived from The Higg Materials Sustainability Index version 2.0).

Category 2 – Capital goods (DEFRA 2012).

Category 3 – Fuel and energy-related activities (DEFRA 2020 and 2022).

Category 4 – Upstream transportation and distribution. Emissions from Primark's upstream transportation and distribution activities include the well-to-tank lifecycle emissions (DEFRA 2022).

Category 5 – Waste generated in operations (DEFRA 2022).

Category 6 – Business travel (DEFRA 2022).

Category 9 – Downstream transportation and distribution. Emissions from Primark's downstream transportation and distribution activities include the well-to-tank lifecycle emissions (DEFRA 2022).

Category 11 – Use of sold products (DEFRA 2020 and ECOSI 2018).

Category 12 – End-of-life treatment of sold products (DEFRA 2020, 2022 and WRAP 2012).

We have removed Primark's emissions from third-party transportation from the Group's consolidated Scope 3 data of 901,000 tonnes CO_2e so that there is no double-counting. We are therefore reporting a Group Scope 3 figure for third-party transport of 637,000 tonnes of CO_2e, as Primark has accounted for this activity within their extended Scope 3 inventory.

Outlook

Key actions during 2022/2023

- Disclose in line with the Financial Conduct Authority's additional guidance applicable to years beginning on or after 1 January 2022, including new guidance on metrics, targets and transition plans and an updated TCFD implementation annex (released October 2021).
- Undertake further work to understand the impact of climate change on people and productivity. We have completed analysis which considers how Wet Bulb Globe Temperature, a heat index taking into account humidity, temperature and solar radiation, could impact farmers in Bangladesh, India and Pakistan. The analysis suggests that excluding mitigating actions, heat stress impacts could be potentially significant, particularly under more extreme climate scenarios to 2050. Next year we will consider how to integrate local understanding into this analysis to enable us to report in more detail on risks and mitigation.
- Track and report on progress against external targets.

Read more about our approach

- 2022 Responsibility Report – for information about some of the ways in which we are reducing energy consumption and about our use of renewable fuels and energy.
- Environment Policy – our principles for being responsible stewards of the environment and minimising any negative impacts.
- ESG Investor Briefing – Environmental Factors
- AB Sugar Global Mind Local Champions
- Primark Cares
- Twinings Sourced With Care
- ABFI Reducing Emissions

Our impact on the Sustainable Development Goals

Affordable and clean energy

Seeking to improve energy efficiency (target 7.3) through energy management systems is considered to be 'business as usual' across the Group, and several businesses self-generate or procure renewable energy for their operations (target 7.2). Renewable energy is mainly generated on our sites from biogenic sources. Crop fibre from sugar cane, known as bagasse, accounts for the vast majority of biogenic sources in ABF. Several businesses also use by-products as feedstock for anaerobic digestion facilities to produce biomethane, which is then used in combined heat and power plants.

Climate action

There are many projects that seek to mitigate our contribution to climate change and assess and improve our capacity for adaptation (target 13.3). These include process developments to reduce GHG emissions through a mix of energy efficiency, lower-carbon fuels and renewables.