

# Environment, health and safety: Making progress, underlining our purpose

Our ingredients come largely from agricultural crops, principally corn and stevia. We produce them at manufacturing and blending facilities around the world. Wherever we are in the process, from field to customer, our priorities are safety, quality and consideration for the environment.

These priorities become increasingly important as we focus on growth. For us, growth must be purposeful; it must create value for all our stakeholders through our three purpose pillars of supporting healthy living, building thriving communities and caring for our planet. We're therefore working to make sustainability part of all we do across our value chain, from sourcing and production to innovation and reporting.

Across Tate & Lyle, our work in this area is supported by our Journey to Environmental, Health, Safety, Quality and Security Excellence (J2E) programme, a consistent approach which helps ensure everyone – including our new acquisitions – is working to the same high standards.

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# Our Journey to Excellence

**Our Journey to Environmental, Health, Safety, Quality and Security Excellence (J2E) programme helps us promote the safety of our people, our neighbours and the environment around our plants – and so is vital in helping us continue to live our purpose as we pursue our growth ambitions. J2E also helps show our customers that, whichever plant they come from, our products are the result of our people sticking to common processes that promote safety, quality and sustainability.**

The J2E programme involves each of our sites – whether plants, labs or offices – introducing standardised protocols and passing through a series of stages, or 'tollgates' (seven in total), helped by colleagues who champion a specific aspect of environment, health and safety (EHS) culture (element owners). The tollgates began in 2018 with sites establishing a baseline for their EHS culture alongside developing policies and a programme. Sites can only pass through a tollgate after a rigorous assessment carried out by internal EHS experts.

Despite two years of Covid-19 disruption to our plants, we've continued to make good progress with J2E, and, to support its ongoing implementation, we launched a professional development programme this year for employees working in EHS roles.

By the end of March 2023, 26 sites had passed tollgate 2; 22 sites tollgate 3; 21 sites tollgate 4; six sites tollgate 5; and three sites tollgate 6. We were particularly proud that our McIntosh, Alabama, US site became the first to pass the final stage, tollgate 7 (see page 53). We were also delighted that our stevia plant in Anji, China, which we acquired in late 2020, passed tollgate 2 during the year. This site is now working towards tollgate 3, while Quantum Hi-Tech, our most recent acquisition, also in China, is working towards tollgate 1.

As part of the culture we've created through J2E, we encourage our people to report any EHS concerns, however large or small, using our cloud-based Benchmark tool (formerly Gensuite). We were pleased to see an increase in the number of concerns flagged from 3,064 to 4,155, demonstrating people's openness and engagement. We were also pleased that, despite the increase, we still managed to address 76% of concerns inside our target of 30 days, on a par with 77% in 2021.

## J2E aims to...

- Build a strong, sustainable EHS culture
- Keep people safe and prevent loss of life and injuries
- Prevent business disruption
- Provide clarity about the behaviour we expect from those who work for us and with us
- Manage our operational EHS risks while ensuring compliance with applicable regulation
- Minimise our environmental footprint



## EHS governance, systems and reporting

### Governance

Our EHS Advisory Board oversees J2E and reviews performance. It meets quarterly and is made up of senior executives, including the Chief Executive. The Board of Directors receives updates on EHS performance at every meeting, and a more detailed review of progress twice a year. The governance process for overseeing environmental performance is on pages 62 and 63, as part of our report against the recommendations of the Task Force on Climate-related Financial Disclosures.

### Systems

J2E is supported by a global EHSQ&S management system, aligned with the requirements of international standards for the environment, occupational health and safety, and risk management (ISO 14001, ISO 45001 and ISO 22000). This feeds into our global Environment, Health, Safety, Quality and Security policy (available on [www.tateandlyle.com](http://www.tateandlyle.com)), which sets out a number of principles designed to keep our people safe, along with a consistent set of requirements and expected results.

We encourage all employees to share their ideas and report concerns via our cloud-based tool, Benchmark, which enables us to manage EHS data efficiently and consistently. Every week, the EHS team shares with a wide group of employees the latest EHS performance data, details of any incidents and corrective actions taken, and examples of good practice.

With pandemic restrictions lifted, senior executives have once again started to visit sites to meet employees and contractors to discuss EHS and identify key issues. Such first-hand insight helps us review and improve our EHS practices and address any specific concerns employees may have.

### Public reporting

We explain the scope, principles and methodologies we use to report our EHS performance in 'EHS Reporting Criteria' at [www.tateandlyle.com/purpose](http://www.tateandlyle.com/purpose). We report EHS data by calendar year.

### Assurance

Arcadis has independently verified selected environmental data on pages 54 to 57 and 60 and 61. Their limited assurance statement is at [www.tateandlyle.com/purpose/caring-for-our-planet](http://www.tateandlyle.com/purpose/caring-for-our-planet).

# Health and safety

Keeping people safe and well at our sites is our primary concern, whether they work for us or with us. Any site work comes with built-in risks, and so it's up to us to work together to identify these risks, manage them and own them. It's a shared responsibility and a collective effort by everyone, regardless of what they do.

To safeguard ourselves and everyone around us at our sites, we expect employees, contractors and third parties to take responsibility by:

- Complying with all safety rules and regulations relevant to their work
- Intervening to prevent unsafe conditions through our 'Stop Work Authority', which gives anyone the right to halt a procedure if they believe it's unsafe
- Respecting fellow workers and the communities where we work.

Our approach means more than just following the rules, however; it's about having a mindset that keeps us aware of, and allows us to eliminate or control, the risks we face every day. Key to that is openness – the desire by everyone to challenge each other, without judgement, to understand why accidents happen. It's at the heart of every good safety programme.

## Our 2022 safety statistics

In 2022, our lagging indicators – recordable incidents and lost time – both showed an increase. This is principally due to the inclusion, for the first time, of results from our new acquisition, Quantum, in China. We typically see this with new acquisitions which are just at the start of their J2E journey, and expect to see improvements in the years ahead. However, we also saw an increase from six to eight in potentially severe events (PSEs), our key leading indicator which helps us focus on areas of potential risk.

## Performance in 2022

We report safety statistics by calendar year. Statistics for previous years have been restated to exclude Primient.

Leading indicator – PSEs

8

(2021: 6)

Number of incidents

35

(2021: 30)

Number of lost-work and restricted work cases

27

(2021: 22)

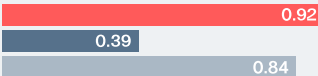
Potentially severe events (PSEs) are events or incidents which could have resulted in a major or severe incident.

Recordable incident rate<sup>1</sup>

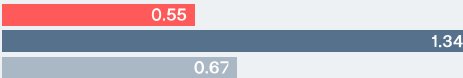
2022



2021



2020



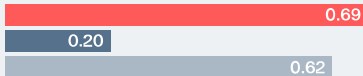
- Employees
- Contractors
- Combined

Lost-time rate<sup>2</sup>

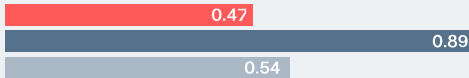
2022



2021

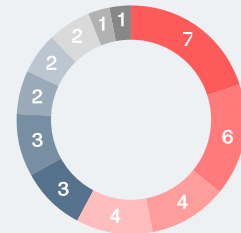


2020



- 1 Number of injuries requiring treatment beyond first aid per 200,000 hours.
- 2 Number of injuries that resulted in lost-work days or restricted work per 200,000 hours.

## Number and nature of accidents



- Struck by or against 20%
- Body position or posture – bend, lean or twist 16%
- Forceful exertion, pushing or pulling 11%
- Lowering, lifting or carrying 11%
- Caught in, under, on or between 9%
- Falls, same level 9%
- Contact with sharp object 6%
- Slip, trip or fall 6%

- Stepped on an object 6%
- Contact with a chemical or other substance 3%
- Exposure to noise 3%
- Total 100%

## Our Journey to Excellence

The big win for us this year was our contractors having no recordable injuries across the business. This is the result of engaging contractors even more closely in our safety programmes and risk-assessing activities, as well as listening to them to find out what we can do better.

Our McIntosh, Alabama, US site was the first to reach tollgate 7 in our J2E programme (see case study). Our challenge is now to maintain our safety culture as we bring new people into our operations. We were pleased that our Anji, China, site, one of our most recent acquisitions, had an excellent year, having really embraced the principles of our J2E programme. In Europe, our site at Koog, the Netherlands reached 1 million hours with no lost time, and was recognised by the industry association, Starch Europe.

### Learning from potentially severe events

When major, severe or potentially severe events (PSEs) happen, the site manager reports them to our Incident Review Board (IRB). This is led by the Senior Vice President, Global Environment, Health, Safety, Quality and Security, and is attended by senior leadership from Global Operations, as well as plant and site managers. The IRB is an open forum that asks:

- Do we understand what happened?
- Do we understand the root cause?
- Have we defined the right action to stop it happening again at this site?
- What do we need to do at other sites in a similar position and with similar equipment, processes, products or procedures?

The corporate EHS team tracks any actions decided by the IRB until they're complete. The IRB considered eight PSEs in 2022. One of the most significant was at our Gemacom plant in Brazil, where a starch tank malfunctioned, causing the slurry inside to overflow into the production area and outside the building. No one was hurt and our investigation showed that the tank, installed before we bought the facility, had manufacturing faults that were invisible to inspections. As a result, we're updating our inspection standards across all our plants and reinforcing tanks to prevent a similar incident elsewhere. This is in line with our principle of sharing the IRB's findings and action plans with all sites to make sure everyone learns the lessons.

## Health and safety

### Responding to Covid-19 in China

For most of the world, 2022 meant a return to at least some semblance of normality after the Covid-19 pandemic. But our teams in China faced ongoing challenges and lockdowns through to December 2022 when Covid-19 restrictions were lifted. The lifting of restrictions led to a rapid increase in cases of Covid-19, including for many of our own employees (although everyone recovered well). While each of our three plants in China experienced some disruption from absent or quarantined employees, the plants kept running and our teams ensured we continued to serve our customers.

### Supporting our people's wellbeing

Our J2E programme not only focuses on physical health but also mental health. Because of the importance of wellbeing to people's health, we track measures for wellbeing at every site as a core element of the J2E programme. The pandemic heralded a shift to hybrid working across the world, and, while this more flexible approach suits many people, it can leave others feeling disconnected from their teams. Many of our sites are still working to find the right balance between working from home and being in the office, while, of course, many in our plants cannot work from home because of the nature of their roles. See more about how we support our people's wellbeing on page 43.

### Looking ahead

Our overall focus remains unchanged – the ongoing, day-to-day work to keep each other safe at all our sites. As we look to grow our business, integrating new acquisitions will continue to be a key activity, as it has been over the last two years. We'll be looking at how we can enhance our M&A processes to help us integrate new acquisitions more smoothly, and further strengthen the emphasis on our people's safety, health and wellbeing.

We'll also continue to press on with J2E, taking advantage of the momentum we've been able to build since the pandemic. Our ambition for the year is for all sites to have passed tollgate 5, which will bring them under the umbrella of ISO certification, with the exception of small offices, labs and sites acquired within the last three years.

## Environment



### McIntosh reaches tollgate 7

Our sucralose plant in McIntosh, Alabama, US, has become the first to pass tollgate 7, the highest level in our J2E programme.

Our J2E assessment team looked at the plant's progress over the last four years and spoke to employees and contractors. Their verdict was that all employees are involved and engaged in J2E topics, and that they 'do things right all the time, including when no one is watching'. Managers make a point of being at the front line, talking to staff and reinforcing the value of J2E. And there's no hesitation to use the Stop Work Authority to halt work when something doesn't look right, regardless of whether an employee, contractor or visitor is involved.



**I'm very proud of our team and what we have accomplished throughout the J2E so far. Excellence is only possible in a team that truly cares about each other, the community and the success of our business, and this team cares deeply.**

**George Parten**  
Plant Manager, McIntosh, Alabama, US



# Environment: Introduction

**Nearly everything we make begins life in the natural world, whether it's a kernel of corn, a grain of tapioca or a leaf of stevia. This makes it all the more important that we take care of the planet for its own health and for the future health of our business – that's why caring for our planet is one of the three pillars of our purpose.**

Climate change is probably the biggest threat to the world's long-term future and we need to work together to minimise its impact now to protect our planet's natural resources for future generations. This is particularly important in the food industry, since food systems are responsible for around a third of global greenhouse gas (GHG) emissions. We must therefore think, plan for, and invest over a longer-term horizon – including setting ourselves on a path to net zero by 2050.

## Our 2030 targets

Across our operations, caring for our planet means investing in cleaner energy, reducing water usage and using our waste beneficially. And, given our reliance on nature's raw materials, it also means supporting sustainable agriculture. For all these areas, we have set ambitious targets for 2030, and this year we introduced a new target to purchase 100% renewable electricity across our operations by 2030.

To make our GHG targets more meaningful, they are based on absolute reductions and have been validated as science-based by the Science Based Targets initiative (SBTi). This means that, by meeting our GHG reduction targets by 2030, we will play our part in helping limit global warming in line with the goals of the Paris Agreement on Climate Change. Our commitment to supporting sustainable agriculture is fundamental to our overall ability to meet our emissions targets because of the significant proportion of our climate impact that comes from growing crops.

## Changes in regulation

Concern about the impact of climate change among legislators, investors and other stakeholders is leading to significant changes in corporate regulation and increasing requirements for sustainability disclosures. SBTi is currently strengthening its requirements for science-based targets, while the Greenhouse Gas Protocol is also revising its requirements for how businesses report on and account for their emissions. These changes, which come against a backdrop of the establishment of the IFRS's International Sustainability Standards Board, represent important steps in increasing stakeholders' and companies' focus on climate change.

## Embedding sustainability in everything we do

Changes in our asset base, supply chain and the nature of our business means we are constantly reappraising our environmental impact as our carbon footprint changes. We're rethinking our approach to sustainability across every aspect of our business, to make sure we embed it in all our plans and processes, from where and how we source our raw materials to how we develop, manufacture and distribute our products. It means designing sustainability into everything we do, so it becomes part of all our thinking, our investment decisions and our growth strategy. This includes building environmental improvements into our expansion projects and new acquisitions.

## How we manage environmental risk

Our global EHS management system includes:

- Identifying and measuring environmental risks to prevent and mitigate our impacts
- Planning, setting targets, measuring progress, and tracking actions to achieve our objectives
- Documenting all legal and other environmental obligations and their fulfilment
- Building a sustainable EHS culture
- Communicating internally and externally any changes in our environmental strategy, risks or opportunities

## Our targets

### Climate and carbon emissions

- By 2030, we'll have delivered a 30% absolute reduction in our Scope 1 and 2 GHG emissions.
- By 2030, we'll have delivered a 15% absolute reduction in our Scope 3 GHG emissions.
- By 2030, 100% of the electricity we purchase for our operations will come from renewable sources.
- By 2025, we'll have eliminated coal from our operations – this target was achieved in 2021.
- By 2050, we will reach net zero.

### Sustainable agriculture

- We'll maintain sustainable acreage equivalent to the volume of corn we use globally each year, and through partnerships we'll accelerate the adoption of regenerative agricultural practices.

### Water

- By 2030, we'll have reduced water use intensity by 15%.

### Waste

- By 2030, 100% of our waste will be beneficially used.



# Pathway to net zero

**In June 2022, we committed to becoming a net zero business by 2050, and to accelerate our environmental performance.**

## Making our commitment

We analysed in detail what a net zero pathway by 2050 would look like for our Scope 1, 2 and 3 GHG emissions. As part of this work, we carried out comprehensive Scope 1 and 2 decarbonisation assessments at our four largest production facilities, which together generate the vast majority of these emissions. We then looked at the impact on our Scope 1, 2 and 3 footprint of changes in policies by governments or other organisations, and decarbonisation commitments in our value chain including our customers. We also considered other issues outside our control which would affect our decarbonisation plans, such as the decarbonisation of electricity from the grid and the electrification of different types of transport, such as trucks and trains.

These assessments showed we could potentially achieve net zero by 2050 in terms of Scope 1 and 2 GHG emissions through a combination of electrifying our production facilities, using more efficient steam generation, buying more renewable electricity and benefiting from the development of new technologies like energy storage. We expect to largely eliminate our Scope 2 GHG emissions by the end of this decade given our target to purchase 100% renewable electricity across our sites by 2030. We expect to achieve this target by increasing the renewable electricity we purchase and investing with partners to create renewable infrastructure.

Overall, our analysis identified a pathway to reduce our total carbon footprint (Scopes 1, 2 and 3 GHG emissions) by around two-thirds by 2050 from our 2019 baseline. The emissions making up the remaining third, where we're still working to identify a pathway, are nearly all in Scope 3, and mostly from agriculture. That's why sustainable agriculture is so important for us, and partnerships to advance it will continue to be so in the years ahead. More information on our sustainable agriculture programmes for corn and stevia are on pages 58 and 59, respectively.

## Investing to accelerate our environmental performance

We expect the investments needed to meet our target of a 30% reduction in Scope 1 and 2 GHG emissions by 2030 will be within our annual capital and other expenditure programmes. Beyond 2030, we expect our plans to evolve as new technologies for low or zero carbon energy develop. Therefore, the investments required to deliver net zero Scope 1 and 2 GHG emissions after 2030 will depend on the speed of development, and cost, of these technologies. In that context, it is not yet feasible to put meaningful costs on our plans beyond 2030, although we will do so as soon as we can. Similarly, for Scope 3 emissions, the cost of our corn and stevia sustainable agriculture programmes are currently included in our operating costs. Over time, we expect costs for these programmes to increase, although it's difficult to know by how much.

## Evolving our plan with changing circumstances

We are committed to reaching net zero by 2050 by reducing our Scope 1, 2 and 3 GHG emissions to as close to zero as possible and neutralising residual emissions through limited external carbon offset purchases. But we cannot do this alone. Much of what is needed will depend on stakeholders across our value chain including our customers and suppliers delivering on their sustainability ambitions. There will also need to be structural changes at multiple points of the value chain to ensure the required infrastructure is put in place for companies to access sufficient low or zero carbon energy to run their operations. While changes in policy, advances in technology and many other factors will mean that our decarbonisation trajectory will change as we move towards 2050, what won't change is our determination to deliver on our targets by 2030, and to reach net zero by 2050.

## Our pathway to net zero by 2050<sup>1</sup>

	2017	2020	2022	2022	2025	2030	2050
<b>Milestone</b>	• Set Scope 1 and 2 GHG emissions target for 2020	• Set Scope 1 and 2 and Scope 3 GHG emissions targets for 2030 • Targets approved by the SBTi	• Separation of Tate & Lyle and Primint; baselines recalculated and 2030 targets reaffirmed	• New target to purchase 100% renewable electricity by 2030 • Net zero target announced		• Targets set in 2020 are due	• Net zero targets are due
<b>Target</b>		<b>2020 target:</b> -19% GHG emissions per unit of production			<b>2025 target:</b> Eliminate coal from operations	<b>2030 targets:</b> • Scope 1 and 2: -30% • Scope 3: -15% • Purchase 100% renewable electricity	<b>2050 targets:</b> • Scope 1: Net zero • Scope 2: Net zero • Scope 3: Net zero
<b>Delivery</b>		<b>Achieved</b> 25% reduction Baseline = 2008			<b>Achieved</b> Eliminated coal in October 2021	Baseline = 2019	

## We expect to deliver our pathway by a combination of:

### Scope 1 (11% of our footprint)<sup>2</sup>

- Electrifying our production facilities
- Use of more efficient steam generation
- More use of renewable energy
- Benefiting from the development of new technologies such as energy storage

### Scope 2 (5% of our footprint)<sup>2</sup>

- Purchase of renewable electricity (100% by 2030)
- Investment and partnership with, for example, utility developers to create renewable infrastructure

### Scope 3 (84% of our footprint)<sup>2</sup>

- Sustainable agriculture programmes (to be scaled up)
- Customers, suppliers and investments achieving their carbon reduction targets
- Decarbonisation of logistics and transportation supply chains

<sup>1</sup> Based on current expectations (assumptions subject to change based on future developments).

<sup>2</sup> Percentage of total carbon footprint at 31 December 2022.

# Climate and carbon emissions

In 2020, we set science-based targets to reduce our absolute greenhouse gas (GHG) emissions by 2030, against a 2019 baseline. Our reduction target for Scope 1 and 2 emissions is 30%, and for Scope 3 is 15%. We also committed to remove coal from our operations by 2025, which we achieved in 2021. During the year, we set a new 2030 target that 100% of the electricity we purchase for our operations will come from renewable sources.

## Recalculating our baseline

Following the sale of Primient on 1 April 2022, we recalculated the 2019 baseline for our GHG emission targets to reflect the significant change in our operational footprint. Prior to the sale, 28% of our total carbon footprint came from Scope 1 and 2 emissions (energy used in, or purchased for, our sites) with 72% coming from Scope 3 emissions (indirect emissions from across our value chain). Following the sale, 16% of Tate & Lyle's total carbon footprint now comes from Scope 1 and 2 emissions, with Scope 3 emissions increasing to 84%. In 2022, we updated our 2019 baseline further to include the carbon footprint of Chaodoe Modified Starch in Thailand, which we acquired in 2021.

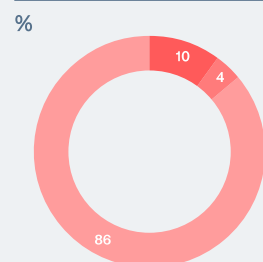
We account for over 90% of our Scope 3 GHG emissions in our reporting. Understanding where our Scope 3 emissions are generated enables us to target our reduction activities in those areas where they are most needed and can have the greatest impact.

## Progress in 2022

### Scope 1 and 2 GHG emissions

By the end of the 2022 calendar year, we had reduced our Scope 1 and 2 absolute GHG emissions by 6% compared to our 2019 baseline. In 2022, reductions were driven by the decommissioning

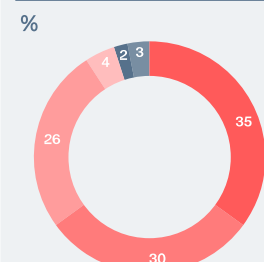
## Our carbon footprint (2019 baseline)<sup>1</sup>



Tonnes CO<sub>2</sub>e

- Scope 1 – 379,486
- Scope 2 – 166,968
- Scope 3 – 3,209,580

## Scope 3 breakdown (2019 baseline)<sup>1</sup>



Tonnes CO<sub>2</sub>e

- Purchased goods and services – 1,113,019
- Investments – 955,867
- Processing of sold products – 822,941
- Downstream transportation and distribution – 138,610
- Upstream transportation and distribution – 73,120
- Other Scope 3<sup>2</sup> – 106,023

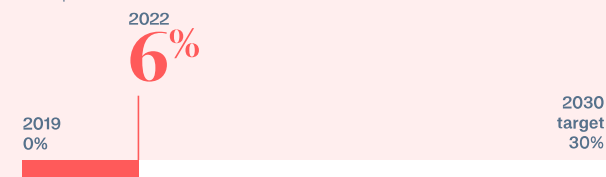
- 1 Baselines have been updated to reflect Tate & Lyle's continuing operations after taking into account the sale of Primient and the acquisition of Chaodoe Modified Starch.
- 2 Other Scope 3 includes: Fuel and energy related activities (not included in Scope 1 and 2); end-of-life treatment of sold products; waste generated in operations; business travel; and employee commuting.

of the steam turbine at our Koog, the Netherlands, facility which has increased its use of renewable energy, and at our Anji, China, and Sagamore, US, sites which both increased their use of biogas. All of our production facilities have annual carbon reduction targets, and our incremental continuous improvement projects also led to a reduction in emissions at a number of sites.

## Progress against 2030 targets

### Scope 1 and 2 GHG emissions

By 2030, we'll have delivered a 30% absolute reduction in our Scope 1 and 2 GHG emissions.<sup>1</sup>



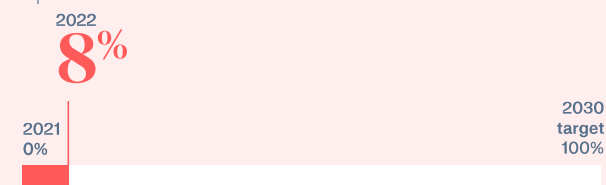
### Scope 3 GHG emissions

By 2030, we'll have delivered a 15% absolute reduction in our Scope 3 GHG emissions.<sup>1</sup>



### Renewable electricity

By 2030, 100% of the electricity we purchase for our operations will come from renewable sources.



<sup>1</sup> Approved as science-based by the Science Based Targets initiative, meaning they are in line with the goals of the Paris Agreement on Climate Change.

At the start of the year we set a new target that 100% of the electricity we purchase for our operations by 2030 will come from renewable sources. In 2022, we achieved 8%. This was driven mainly by our Koog, the Netherlands site which purchases 100% renewable electricity and by some of our smaller sites, in Brazil and Italy, which have started the transition towards 100% renewable electricity.

### Scope 3 GHG emissions

By the end of the 2022 calendar year, we had reduced our Scope 3 absolute GHG emissions by 13% compared to our 2019 baseline. This reduction came from two main sources – Primient and our sustainable agriculture programmes for corn and stevia.

Prior to the sale of Primient in 2022, Tate & Lyle invested over US\$150 million to eliminate the use of coal and reduce GHG emissions at our three largest corn wet mills in the US. These corn wet mills are now part of Primient. As a supplier to Tate & Lyle, the emissions for the products which we now purchase from Primient have moved into our Scope 3 emissions. As Tate & Lyle is a 49.7% shareholder in Primient, a proportion of its emissions are also included in our Scope 3 emissions. This means that the benefits of the capital investments previously made by Tate & Lyle in Primient's plants are now reflected in our Scope 3 emissions in the Investments category. This, together with a good performance by our sustainable agriculture programmes (see pages 58 and 59), led to a strong 13% reduction compared with our 2019 baseline.

### Energy use<sup>1,2,3</sup> Gigajoules

2022 <sup>4</sup>	8,828,992
2021 <sup>5</sup>	8,881,829
2020 <sup>6</sup>	8,754,051
2019 <sup>7</sup>	8,934,338

## Carbon footprint for the year ended 31 December 2022<sup>1,2,3</sup> (tonnes of CO<sub>2</sub>e)

### All scopes

	2022	2021	2020	2019 (baseline)
Scope 1 (direct emissions from our sites)	364,871	363,035	366,185	379,486
Scope 2 (indirect emissions from the energy we buy)	149,683	160,012	162,587	166,968
Scope 3 (all other emissions associated with our activities)	2,804,514	3,025,486	3,111,421	3,209,580
<b>Total</b>	<b>3,319,068</b>	<b>3,548,533</b>	<b>3,640,193</b>	<b>3,756,034</b>

### Scope 3 breakdown

	2022	2021	2020	2019 (baseline)
Purchased goods and services	960,401	1,109,274	1,097,108	1,113,019
Processing of sold products	813,649	822,941	822,941	822,941
Investments	715,227	781,363	876,593	955,867
Downstream transportation and distribution	138,494	134,036	137,100	138,610
All other Scope 3	110,936	106,023	106,023	106,023
Upstream transportation and distribution	65,807	71,849	71,656	73,120
<b>Total</b>	<b>2,804,514</b>	<b>3,025,486</b>	<b>3,111,421</b>	<b>3,209,580</b>

- 1 Baselines have been updated to reflect Tate & Lyle's continuing operations after taking into account the sale of Primient and the acquisition of Chaodee Modified Starch.
- 2 The scope, principles and reporting methodologies used to calculate our environmental data can be found in 'EHS Reporting Criteria' at [www.tateandlyle.com/purpose](http://www.tateandlyle.com/purpose). For greenhouse gas emissions, reporting methodologies used include the Greenhouse Gas Protocols, Environmental Reporting Guidelines: HM Government, 40 CFR Part 98 US EPA, and SBTi Criteria and Recommendations.
- 3 Global GHG emissions figures include our UK operations. In accordance with the UK's Streamlined Energy and Carbon Reporting (SECR) requirements, in the year ended 31 December 2022: Total global energy consumption was 2,452,498 MWh and energy consumption for UK operations was 996 MWh; the global intensity ratio was 0.37 tonnes of Scope 1 and 2 CO<sub>2</sub>e per tonne of production and for UK operations was 0.04 tonnes of Scope 1 and 2 CO<sub>2</sub>e per tonne of production; GHG emissions for UK operations were 192 tonnes of CO<sub>2</sub>e.
- 4 UK operations use (996 MWh) represents 0.04%.
- 5 UK operations use (1,361 MWh) represents 0.06%.
- 6 UK operations use (1,235 MWh) represents 0.05%.
- 7 UK operations use (1,257 MWh) represents 0.05%.



# Sustainable agriculture

Being in the food and beverage business, we are intrinsically linked to agriculture, and have an important role to play in helping the world feed a growing population responsibly. Our sustainable agricultural programme focuses on protecting the planet through regenerative agricultural practices, while improving the social and economic wellbeing of the farmers and local communities that make up our supply chain.

We're committed to supporting sustainable agriculture because agricultural raw materials constitute a significant part of our environmental impact and are therefore vital to us achieving our Scope 3 target, and to reaching net zero. Our sustainable agriculture programmes focus on the agricultural raw materials where we have the biggest opportunity to make a positive impact: corn and stevia.

For both raw materials, our programme focuses on regenerative agriculture: an approach to farming that seeks to improve natural resources, specifically soil health. This is essential for combating climate change because healthier soil increases the amount of carbon captured from the atmosphere; improves watershed quality; enables increased biodiversity; and improves the resilience of crops to climate change.

## Our commitment to sustainable corn

When we launched our sustainable agriculture programme in 2018, we focused on corn since, at the time, it was by far our largest agricultural raw material. We developed this programme in the US with Truterra LLC, the sustainability business of Land O'Lakes, a leading US resource stewardship solutions provider. Following the separation of the Tate & Lyle and Primient businesses in April 2022, management of this programme



## Progress against 2030 commitment

Acres of sustainable corn maintained, equivalent to the volume of corn we use globally each year.

# 439,000 acres

moved to Primient. Nonetheless, we continue to partner with both Primient and Truterra to initiate changes in agricultural practices at the more than 720 farms enrolled in the programme.

We remain committed to maintaining sustainable acreage equivalent to the volume of corn we use for our plants, some 439,000 acres. The corn used at our Sagamore plant in Lafayette, Indiana, US, and the corn-based ingredients we now buy from Primient are all enrolled in the Truterra programme. Our two corn wet mills in Europe – Koog, the Netherlands and Boleráz, Slovakia – are also still enrolled in the Truterra programme. However, looking forward, we want our sustainable agriculture programme to reflect our supply chain and we are working on a plan to

transition to a local solution in Europe, working with suppliers in those countries to procure sustainable corn. In the first year of this transition plan, 48% of our European corn was procured sustainably from European suppliers.

### Encouraging progress for sustainable stevia

Our agricultural footprint is now more diverse with stevia – used to produce low-calorie sweeteners – becoming more significant. For that reason, in 2021 we launched a sustainable agriculture programme for stevia in China in partnership with Earthwatch Europe and with support from Nanjing Agricultural University. The programme, informed by a life cycle analysis undertaken in 2019, focuses on helping stevia farmers decrease their impact on the environment, and gain greater economic benefit from growing stevia, and on building a stevia supply chain that is more resilient to the impacts of climate change.

We started the programme with a small number of growers in Dongtai, Jiangsu Province, focusing on fertiliser optimisation and helping them understand soil health through regular testing. In its first full year, we saw promising reductions in all of the nine impact categories we measured, including a reduction in GHG emissions and an improvement in metrics linked to local water quality. As a result, we decided to expand the programme to more of our Dongtai-based stevia suppliers and to explore impact reduction methods for stevia production in Gansu Province, where we also source stevia.

In its second full year, the programme in Dongtai, which focused on soil sampling and soil health, saw more farmers taking part. The programme includes a voluntary agreement to sign up to Tate & Lyle's Stevia Supplier Sustainability Commitment, a pledge to reduce the environmental impact of stevia farming. Growers are helped to understand better their environmental impact through sampling, assessments and participation in workshops, with a clear goal of reducing their environmental impact and improving productivity and profitability.

The impact of the expanded programme has been very encouraging with double-digit reductions in every category measured in the life cycle analysis<sup>1</sup> from the 2019 baseline, most notably:



The stevia on the left of the photo above was grown in Dongtai, China, using traditional farming practices. The stevia on the right was grown with more sustainable practices introduced by Tate & Lyle's pilot programme.

- A 55% reduction in GHG emissions
- A reduction in terrestrial and freshwater exotoxicity by 52% and 47%, respectively. Exotoxicity metrics measure the impact that farming inputs, such as fertiliser, have on land and freshwater dependent organisms and their environment
- A 50% reduction in freshwater eutrophication, a process in which a body of water becomes overly enriched with nutrients, therefore decreasing local watershed quality and biodiversity.

The programme continues to expand among our stevia suppliers. With the stevia agricultural sector at a relatively early stage in its adoption of more sustainable practices, this science-led programme is helping to build an evidence base and is demonstrating to the farming community the positive environmental, social and economic impacts associated with adopting more regenerative practices.

<sup>1</sup> Per pound of stevia rebaudioside A produced.



**Aiping**  
one of the  
Dongtai farmers  
we are helping to  
implement more  
sustainable  
practices



**I decided to get involved in Tate & Lyle's programme to extend my view of farming, realising that sustainability is an important part of production. I hope to learn about new technologies and environmentally friendly practices. Less inputs and more outputs! I hope my farm will continue to develop and that other growers will see and learn from the positive changes we're making.**

# Using less water

**We're mindful that water is a shared resource and that we must use it in a way that's sustainable not only for ourselves, but for the communities we work in, not least because many of our operations include water-intensive processes.**

Our 2030 target is to reduce our water use intensity by 15%. Developing plans to achieve our target has meant understanding the main ways we use water and the scope for using it more efficiently. As a producer of ingredients for the food industry, we quite rightly work to strict constraints on how we can recycle and reuse water. This means that an important part of our work is to pinpoint what we can and can't do with the water we recycle.

## Improving our methodology

In 2022, we changed our methodology for calculating water use intensity, which had previously been focused on corn wet milling – now a much less significant part of our manufacturing footprint following the sale of Primient. Our new methodology, the US Environmental Protection Agency's aggregated efficiency index, is specific to each site, so it reflects our water use intensity more accurately. We recalculated last year's results with our new methodology, and it had a positive impact, showing that we'd reduced water use intensity by 7% against our 2019 baseline, compared with the 3% increase we reported last year under the old methodology. This year, though, water use intensity increased so that, overall, we have now delivered a 2% reduction compared with our 2019 baseline. This is mainly due to increased water use intensity at our three corn wet mills in the US and Europe, despite lower water consumption in Koog, the Netherlands, and Boleráz, Slovakia.

## Highlights in 2022

Across the business we saw many good examples of reducing water use at our production facilities:

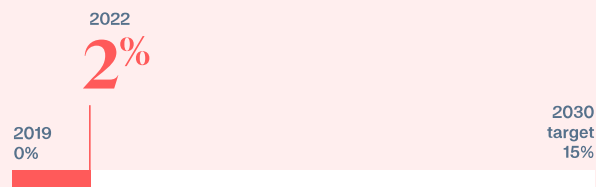
- In Koog, the Netherlands, we reduced water use through a more disciplined approach to maintenance including concerted efforts to repair leakages and refining processes to prevent tanks from overflowing.
- In Nantong, China, our team achieved a reduction in water use through a number of efficiencies, including changing their cooling system to use recycled water.
- In Noto, Italy, an area noted for water scarcity, our team introduced new processes for water purification, reducing water wastage by allowing water to be treated and re-used.
- In McIntosh, Alabama, US, our team made significant water savings by improving the utilisation of steam throughout the plant. They installed water meters, taking readings every day to control consumption and used this knowledge to implement more sustainable production practices.

## Planning for future improvements

During the year we carried out a detailed review of our water use to understand exactly how much we use across different parts of the production process, as well as in heating and boilers, in all our different plants. The results of this work will help us clarify what capital projects will move us closer to our target, while also making it easier to advise our people on how they can contribute to meeting our site-specific targets in practical ways.

## Progress against 2030 target<sup>1</sup>

By 2030, we'll have reduced water use intensity by 15%.



<sup>1</sup> Baseline has been updated to reflect Tate & Lyle's continuing operations after taking into account the sale of Primient and the acquisition of Chaodde Modified Starch.



Our team of Water Guardians at our facility in Guarani, Brazil.

## Water Guardians lead the way in Brazil

Saving water is as much about mindset as it is about investment. During the year, our team in Guarani, Brazil, set up a group called 'Water Guardians', whose main goal is to reduce water consumption across the plant. The group, which includes representatives from all areas of production, maintenance, warehouse and facilities, focuses on three areas – water leakage, equipment efficiency, and new water-saving ideas – and has developed a checklist to monitor progress. Every month they meet to discuss progress and to work on suggestions raised by colleagues across the plant.



# Using waste beneficially

**Most of our waste is organic matter that comes from our manufacturing processes; this can be beneficially used, for example as nutrients for local farms, or to generate energy. Using our waste in this way allows us to improve not only our own environmental impact, but that of the communities around us too.**

## Progress in 2022

Following the significant improvement we have made over the last two years, increasing our beneficial use of waste from 65% to 91%, it's not surprising that progress has slowed as we move closer to our 100% target. In the 2022 calendar year, 92% of our waste was beneficially used.

A highlight came in Brazil, at our blending facility at Guarani. In 2021, under 8% of its waste was beneficially used. From September 2022 onwards, the site scored 100%, by forming a new partnership to use its waste to produce a natural and organic compost, while recycling other waste like plastic, paper and glass. This shows how fast we can achieve improvements with the right partners. But it also illustrates that we'll need good waste infrastructure to achieve our 100% goal. Elsewhere, our site at Koog, the Netherlands, reached 99% waste used beneficially, while Ossona in Italy and Mold in the UK have already reached 100%, Sycamore, in the US, and Boleráz, in Slovakia, are approaching it.

## Managing waste at our largest plants

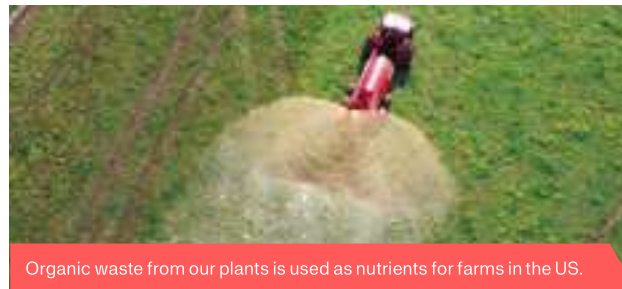
The main way we manage the organic waste we generate at our large corn wet mills in the US, the Netherlands and Slovakia is by working with the right local partner who can help us find environmentally responsible solutions. With our two European plants already close to 100% beneficial use, this year we focused on addressing wastewater sludge from our Sagamore, Indiana, plant in the US. Our local waste partner now uses most of the waste from this plant to produce energy and for composting.

## Progress against 2030 target<sup>1</sup>

By 2030, 100% of our waste will be beneficially used.



<sup>1</sup> Baseline has been updated to reflect Tate & Lyle's continuing operations after taking into account the sale of Primient and the acquisition of Chaodex Modified Starch.



Organic waste from our plants is used as nutrients for farms in the US.

## Promoting a waste reuse mindset

All our sites, no matter what their size, have a role to play in achieving our environmental targets. Each site has an annual target for the beneficial use of waste. Some already beneficially use nearly all the waste they generate, while many have taken other small actions to improve their environmental performance. Key to this is engaging employees – encouraging them to keep waste front of mind in their day-to-day work, and to come up with ideas for improving their own sites. Many of our teams are also thinking of waste beyond our sites, getting involved in projects to clean up their local areas.

## Our top five sites for beneficial use of waste

Ossona, Italy

**100%**

Mold, UK

**100%**

Koog, the Netherlands

**99%**

Sycamore, Illinois, US

**96%**

Boleráz, Slovakia

**96%**